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Diplomová práce

# Multiple Intelligences and Development of English Language Skills at Lower Secondary School

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# Abstract

The role of the teacher has multiple possibilities, respective theoretical frameworks, and philosophical and technical foundations to pursue the objectives of the educational system. The first part of the thesis presents a brief investigation of the theory of multiple intelligences, starting from the traditional framework of intelligence, the proposal that previously provided a different approach to this subject until reaching Howard Gardner's proposal and each of the eight categories of intelligence. It is intended to give an introduction of how teachers can integrate the proposal into their daily educational work, thus favouring the formation of learners. At the same time, it seeks to demonstrate that the theory of multiple intelligence is an excellent way to develop language skills, as it works with the natural abilities and therefore the talent of each learner. The second part is dedicated to the implementation and development of language skills with the help of Gardner's theory. For this research, the qualitative method was used, which made it possible to see the learners' progress in terms of the development of language skills. Different activities are included which activate and highlight each of the intelligence categories aforementioned, in addition to various language skills and using them as a means of accessing the contents of the English language.



**Keywords:** Howard Gardner, Thomas Armstrong, language skills, English language, multiple intelligences, verbal-linguistic, visual-spatial, interpersonal, intrapersonal, logical-mathematical, musical, bodily-kinesthetic, naturalistic

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# Introduction

Education is the stage of comprehensive training in which thinking skills and basic skills are developed to promote systematic and continuous learning, as well as the dispositions and attitudes that regulate the future life of learners. The teaching of English is a way of attending to diversity and multiple intelligences intend for the learner to transform and develop all their abilities or skills through the implementation of appropriate strategies, designed by the teacher, that helps them to have self-confidence and to be able to learn with pleasure.

It was previously believed to be unidirectional, that is, intelligence in people was measured in a single area of reasoning through tests, but consistent with multiple intelligences that opened the doors to a different criterion, where it is shown that they act as a group dependent on each other. Multiple intelligences have facilitated the understanding that everyone has a certain intellectual capacity in a specific field. It is pertinent to mention that the basic competencies present a considerable number of components in charge of perfecting learners, stimulating them to learn, that is, to be able to relate to learning in an autonomous, independent and self-regulated way.

The practical part reflects on possible ways to improve language skills through multiple intelligences that affect the teaching of English. The relevance of this research lies in the fact that by managing to develop language skills in learners at lower secondary school. It is to demonstrate that when learners know their predominant intelligence, they can easily take charge of generating individual learning in their language skills.

The objective of this diploma project is to improve the development of language skills based on a strategy that is based on the theory of multiple intelligences, which grants the possibility of studying the benefits that the use of different intelligences can bring in the design of the activities. Concerning the above, the aim for learners is to be able to generate meaningful and useful learning for their future life, by exercising and developing language skills based on their particular way of knowing the world. The specific objectives are:

1. To develop language skills through exercises based on the precepts of multiple intelligences.
2. To show the effects of using multiple intelligences in the development of language skills.

The desired results of this research support the idea that the best way to reach the levels of performance is to start by occupying the predominant intelligence. That is to say, exercises designed for each intelligence favour the use of the same knowledge, skills, attitudes, and values in daily life.

Finally, it is believed that the constitution of the dominant intelligence of each learner, as a means of accessing the content in the area of the English language, can lead to an increase in successful experiences in all learners. In this way, a greater motivation of learners towards learning the English language would be achieved. Confidence in one's abilities in learning and communicative use of English can also be promoted.

# Theoretical part

The theoretical part is divided into four chapters. The first chapter focuses on the subject of intelligence. It shows that intelligence has been studied by many psychologists and developed for a long time. It was something innate and immovable. People were born smart or not, and education could not change this fact. On the contrary, Gardner leads us to accept and respect individual differences because each person tends to learn, understand and memorize in different ways. The second chapter shows that each person develops a specific intelligence at a certain level according to their way of acquiring and applying knowledge. A learner can be influenced by various factors and modelled with the use of an effective set of strategies and techniques that allow immediate results. The third chapter delves into detail into each of the multiple intelligences: verbal-linguistic, visual-spatial, interpersonal, intrapersonal, logical-mathematical, musical, bodily-kinesthetic, and naturalistic. The fourth chapter aims to explain the concepts of language skills, and multiple intelligences, and how both are related to achieving meaningful learning in the classroom, all based on the study and analysis of different texts that explain in detail the implications of these and complement the theoretical framework of the research.

# 1 Background of the Gardner's theory

The theory of multiple intelligences was developed in 1983 by Howard Gardner, a psychologist, and professor at Harvard University. It shows that human intelligence has different dimensions, as opposed to the unitary conception of intelligence that prevailed at the time and that, derived from the psychometric approach, describes intelligence as a general mental ability or set of capacities.[1] In this sense, Shaffer reviews the concept of intelligence throughout history and points out that the unitary idea has been defended since the beginning of the 20th century by various authors, including Charles Spearman, one of the first to use factor analysis to determine the existence of a general capacity.[2] Other notable authors within this current are Jean Piaget, then Alfred Binet, and Théodore Simon, precursors of current intelligence tests, who in 1904 developed the first intelligence test that measured the mental age of children. This test was revised and improved later by Lewis Terman, from the University of Stanford, known as the Stanford-Binet intelligence scale that used the IQ to measure the development of intelligence establishing the correlation between mental age and chronological age.[3]

It is important to note that Gardner is not the first to establish a pluralistic conception of intelligence. Louis Thurstone, for his part, raised in 1938 seven factors of the mind, which he referred to as primary mental capacities. J. P. Guilford, in 1967, proposed up to one hundred and eighty basic mental abilities.[4] David Wechsler, on the other hand, developed different intelligence tests including performance subtests, in addition to verbal ones. The latest revision of the tests for school-age children is the WISC-V dating from 2014. These tests, along with the Stanford-Binet intelligence scale, are the most used today in the educational field to measure IQ.[5]

Gardner criticizes the use of standardized intelligence tests as the only instrument to determine the intellectual potential of learners, considering that they focus

[1] GARDNER, Howard, *Multiple Intelligences: New Horizons in Theory and Practice*, p. 6.
[2] SHAFFER, David and Katherine KIPP, *Developmental Psychology: Childhood and Adolescence*, p. 12-17.
[3] Ibid., p. 19-24.
[4] Ibid., p. 32-34.
[5] KAUFMAN, Alan S., Susan Engi RAIFORD and Diane L. COALSON, *Intelligent Testing with the WISC-V*, p. 9.

almost exclusively on mathematical and linguistic skills. Gardner advocates a multidimensional assessment of intelligence.[6]

[6] GARDNER, Howard, *Multiple Intelligences: New Horizons in Theory and Practice*, p. 8.

# 2 Concept of intelligence according to Gardner

From Gardner's theory, intelligence is conceived as a set of capabilities that can be improved with practice and experience. Gardner emphasizes the dynamic nature of the intellect. He defines intelligence as "the ability to solve problems or create products that are valuable in one or more cultural settings".[7] He later redefines it by pointing out that it is "a psychobiological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value to a culture".[8]

Gardner does not deny the genetic component but insists that intelligences can be activated or inhibited depending on the opportunities offered or not offered to a subject in question. These opportunities depend on the environment, education and culture, hence the importance of school, family, and society in general so that all individuals can fully develop their intellectual abilities.[9] Considering the relevance that school has in the educational and training process of learners, it is evident that teachers must seek the best way to promote the comprehensive development of their learners.[10] There is no doubt that the fact of working with multiple intelligences can be a good strategy when it comes to enhancing the capacities of each one since it is a model that helps to understand the way of thinking of children and how to teach them in school.[11]

[7] Ibid., p. 10.
[8] GARDNER, Howard, *Intelligence Reframed: Multiple Intelligences for the 21st Century*, p. 45.
[9] FOGARTY, Robin and James BELLANCA, *Multiple Intelligences: A Collection*, p. 19-21.
[10] Ibid., p. 23
[11] Ibid., p. 26.

# 3 Multiple intelligences

According to Gardner, "the human being has at least eight different intelligences, each one developed in a certain way and at a particular level".[12] Each person has an intelligence profile that develops throughout life, showing an inclination towards specific intelligences from an early age. For this reason, intelligence helps to consider people more broadly from their knowledge.[13] Those intelligences over time have been detailed as follows: verbal-linguistic, visual-spatial, interpersonal, intrapersonal, logical-mathematical, musical, bodily-kinesthetic and naturalistic intelligence, which was added in 1995.

Thomas Armstrong, an educator and psychologist, was among the first to write about the Gardner's theory.

> It is of the utmost importance that we recognize and nurture the full range of human intelligences, all combinations of intelligences. We are all different, largely because we all have different combinations of intelligences. If we recognize that, I think we will at least have a better opportunity to adequately handle the many problems that confront us in the world.[14]

Before explaining each intelligence proposed by Gardner in the following subchapter, it is important to clarify that teachers should not dedicate themselves to pigeonholing or labeling learners with this or that intelligence. Teachers should dedicate themselves to developing learners' intelligence that is not present in them, so that teachers contribute to forming learners that are capable of approaching any problem from different perspectives, giving them a solution using various methods to approach the problem posed.

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[12] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 3.
[13] FLEETHAM, Mike, *Multiple Intelligences in Practice: Enhancing Self-esteem and Learning in the Classroom*, p. 10-12.
[14] As cited in ARMSTRONG, Thomas, *You're Smarter Than You Think: A Kid's Guide to Multiple Intelligences*, p. 33.

## 3.1 Gardner's eight intelligences

Gardner examined each possible intelligence against "a set of criteria drawn from the biological sciences, logical analysis, psychological research, and developmental psychology".[15] Thus, only eight abilities deserve the name intelligence because they satisfy most of the criteria.

Teachers should put into practice diverse methods and strategies that make it possible to reach all learners with the same efficiency.[16] In this sense, Ernst-Slavit, a doctor from the University of Florida and associate professor at Washington State University, affirms that it is important to understand and accept individual differences. This means that teachers must recognize intellectual diversity and offer learning experiences where each intelligence is valued, stimulated and developed.[17]

### 3.1.1 Verbal-linguistic intelligence

Language has helped us survive and evolve, by being able to communicate dangers, advise, explain how to eat, and transfer knowledge from one person to another. The function of language is universal, and its development in learners is surprisingly similar across cultures.

The development of verbal-linguistic intelligence begins with the babbling of babies, in the first months of life. Towards the beginning of the second year, the window of this intelligence seems to open with force and the child not only develops an expressive vocabulary but also links words and phrases with clear meanings.[18] At the age of three, the word becomes a transmitter of thought, and by the age of four or five the child is capable of expressing himself or herself with a fluency that is closely identified with adult speech, although in many cases, bodily-kinesthetic intelligence (see Subchapter 3.1.7) helps with facial expressions and gestures in search of clarity in that verbal expression and continues to expand until the age of ten.[19] Children often invent their manual language and use it surreptitiously. Thus, intelligence can operate independently of a certain stimulus modality or a certain output channel.[20]

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[15] GARDNER, Howard, *Intelligence Reframed: Multiple Intelligences for the 21st Century*, p. 51.
[16] GOTTLIEB, Margo and Gisela ERNST-SLAVIT, *Academic Language in Diverse Classrooms: English Language Arts, Grades 6-8: Promoting Content and Language Learning*, p. 125.
[17] Ibid., p. 128-131.
[18] O'BRIEN, Patrick, *Gardner's Multiple Intelligences and the Counselling of Children*, p. 23.
[19] Ibid., p. 24-27.
[20] Ibid., p. 29-32.

According to Gardner, verbal-linguistic intelligence is the ability involved in spoken and written language.[21] Armstrong was one of the first to work with this intelligence. He emphasizes that verbal-linguistic intelligence implies having adequate semantic, syntactic, and linguistic knowledge. At the same time, has sensitivity in the use of language, linguistic connotations, and sound.[22]

Learners with high verbal-linguistic intelligence have a particular facility to learn languages, the management of words or the organization of language, and common talents in cultivators of the oral or written word.[23] According to the contributions of authors Fogarty and Stoehr, fifth skills involved in this intelligence can be identified. First, understanding of meaning allows understanding the exact meaning of each word, being able to differentiate very similar words. Second, understanding of word order. This is called grammar, but people who develop this do not have to study it. Third, understanding intuitively from a very young age, when children begin to speak. With the development of their skill, they can even afford to violate the rules of grammar, thereby creating creative and beautiful figures of speech.[24] Fourth is the ability to choose the right words for good use of them. This ability has to do with the perception of sound patterns and rhythms, something that it shares with other types of intelligence. Fifth and final is the effective use of language as a tool. It allows to provoke reactions in others with the words used, it can trigger emotions, convince, stimulate, transmit information or simply have fun with what one says or writes.[25]

This type of intelligence is observed in learners who like to write essays on comics, study, conjugate rhymes, tongue twisters, and in learners or people who easily learn different languages.[26] It is established according to the theory that supports it that verbal-linguistic intelligence is the ability to adequately manipulate and combine the meanings and specific functions of sentences and language itself.[27]

The stimulation of verbal-linguistic intelligence is noticeable in English language lessons that make great use of words that allow learners to interact in multiple

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[21] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 77-78.
[22] ARMSTRONG, Thomas, *Multiple Intelligences in the Classroom*, p. 43.
[23] FOGARTY, Robin J. and Judy STOEHR, *Integrating Curricula with Multiple Intelligences: Teams, Themes, and Threads*, p. 85.
[24] Ibid., p. 95-100.
[25] Ibid., p. 137-162.
[26] PAULSTON, Christina Bratt, *Linguistic and Communicative Competence: Topics in ESL*, p. 61-62.
[27] Ibid., p. 66.

conversations. In the classroom, linguistic skills and exercises such as reading stories, word games, working with books and reading materials, writing stories and tales, and others should be practiced that will show in a short time the need to expand the vocabulary and that allow the growth of the learners' ability to elaborate images with words.[28] The benefits of developing this intelligence are in improving imagination and creativity, quickening the mind, good understanding, increasing spelling, facilitating thinking, and exposing learners to new experiences and interests.[29]

### 3.1.2 Visual-spatial intelligence

This type of intelligence was described by Gardner as an aptitude of the human being to differentiate shapes and objects, even from different angles, distinguish and manage the idea of space, know how to make and use maps, plans, and other forms of representation.[30] Likewise, these people are characterized by accurately identifying themselves and locating themselves in the visual world, carrying out transformations on perceptions, and imagining a movement or internal displacement between the parts of a configuration.[31]

As stated by Armstrong, they are capable of recreating aspects of the visual experience, even without relevant physical stimuli. This intelligence allows orientation in different locations to recognize particular places or signs when working with graphic representations, maps, diagrams, and geometric shapes.[32]

> It is the ability to accurately perceive the visual world in relation to the space around us. It is associated with the facility to orient oneself, to think in three dimensions and to make mental images that are transformations and modifications to the initial perceptions of the experience of each individual. It is the ability to visualize

[28] PANDOLPHO, Beth, *I'm Listening: How Teacher-Student Relationships Improve Reading, Writing, Speaking, and Listening*, p. 36-40.
[29] Ibid., p. 42.
[30] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 181.
[31] Ibid., p. 56.
[32] ARMSTRONG, Thomas, *Multiple Intelligences in the Classroom*, p. 45.

> scenes, daydream. It involves sensitivity to coloring, aligning, shaping, spacing, and managing the ties between these elements.[33]

The author Frey establishes that it is an intelligence of enormous utility and value to understand and function in the world around us, such as locate, direct, orient, and recognize the shape, size, position of people and objectives, of the same person and object in different places and with different positions.[34]

By the previous definition, it can be said that all learners have visual-spatial intelligence due to the ability they have to visualize the things that happen around them and how learners orient themselves in space. However, it should be noted that not all learners easily develop this type of intelligence but in the remaining seven intelligences it can stand out better. An explanation for this may be due to the development learners had since childhood in which their cultural and natural environment did not influence much to develop such intelligence.[35]

According to Retschitzki, the development of visual-spatial intelligence has been little studied in children, because despite recognizing its centrality, the abilities it carries are more difficult to prove than the verbal-linguistic or logical ones.[36] That is to say, the perception of the world by each person is different and more complex. It is an intelligence that cannot be defined in its entirety by an exam, a summary, or a verbal test, demonstrating that there should not necessarily be a connection between spatial agility in drawing or any other related aptitude.[37]

Visuo-spatial intelligence today is taken into account in early childhood education centers since teachers need to provide quality teaching and warmth.[38] Teachers help to develop and to enhance learners' skills and cognitive abilities, that is, their cognitive processes, which are perception, attention and memory, which provide the ability to communicate, process information, make decisions, and know and understand the world around them.[39]

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[33] As cited in ARMSTRONG, Thomas, *You're Smarter Than You Think: A Kid's Guide to Multiple Intelligences*, p. 64.
[34] FREY, Nancy and Douglas FISHER, *Teaching Visual Literacy*, p. 35.
[35] ARMSTRONG, Thomas, *Multiple Intelligences in the Classroom*, p. 47.
[36] RETSCHITZKI, Jean et al., *Moves in Mind: The Psychology of Board Games*, p. 70.
[37] Ibid., p. 72-74.
[38] O'BRIEN, Patrick, *Gardner's Multiple Intelligences and the Counselling of Children*, p. 32.
[39] Ibid., p. 33-35.

> From early childhood, it is already possible to distinguish the various abilities that each boy or girl presents, in this case, infants who present visuo-spatial intelligence have a better development when it comes to designing, combining colors, drawing and ordering objects, they also have good sense of orientation, skillful in the interpretation of graphs, puzzles, mazes and map reading.[40]

Therefore, in the classroom, teachers can identify learners who show visual-spatial skills as they respond well to images, are fascinated by the computer, make murals to represent their work, and have fun presenting work that contains colours and codes.[41]

To enhance the evolution of visuo-spatial intelligence, classrooms should be adapted to environments enriched with images and representations where information is transmitted visually. Teachers can use tools such as posters, drawings and photographs where stories related to said intelligence are shown. Teachers need to allow these learners to sit close to the whiteboard when explaining or showing work.[42]

Wright, who works as a teacher educator, establishes work to strengthen the development of visuo-spatial intelligence and strategies that are appropriate to apply in the classroom. It is important to help learners develop strategies so that they can apply their learning strength to all areas of knowledge.[43] Wright recommends supporting the writing and speaking skills with visualization of images, videos, crossword puzzles, interpretation of maps, designing greeting cards, diagrams, photographs, charts, flashcards and other visual materials to facilitate information.[44] Creating flashcards as visual prompts so that complicated concepts can be broken down. Flashcards can include key words or sentences or even images that can trigger information.[45]

Teachers should use different coloured markers on the whiteboard when writing notes and allow learners to colour and underline text as a visual support because

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[40] As cited in O'BRIEN, Patrick, *Gardner's Multiple Intelligences and the Counselling of Children*, p. 37.
[41] Ibid., p. 39-40.
[42] ZHENG, Robert Z., *Examining Multiple Intelligences and Digital Technologies for Enhanced Learning Opportunities*, p. 94.
[43] WRIGHT, Andrew, *Pictures for Language Learning*, p. 36.
[44] Ibid., p. 37-40.
[45] Ibid., p. 43.

it distinguishes ideas, directs attention and improves recall. This intelligence can be supported by using projectors, presentations and pictures to complete contents in the classroom.[46]

### 3.1.3 Intrapersonal intelligence

Intrapersonal intelligence together with interpersonal intelligence (see Chapter 3.1.4) are part of what Gardner's theory calls personal intelligences, which are basic affective socio-personal competencies. That is, they are the set of actions in relationships that represent the relationship with oneself and with others, which are influenced by social and emotional aspects formed in the culture.[47]

It is the intelligence of self-knowledge, self-esteem and self-motivation capacity, which are carried out from within the person. Likewise, intrapersonal intelligence means introspective knowledge of oneself, which allows the analysis and management of one's own emotions, feelings, interests, abilities and motivations.[48] In this way, it allows people to observe their neurological states and processes both at a cognitive and affective level and they can guide their behaviour appropriately, according to what is proposed.[49]

As Armstrong explains from his perspective, the concept is the potential to capture, reflect, understand and communicate all information related to one's abilities, the development of attitudes, effort and perseverance, and also to identify and select the means and value the consequences of decisions.[50] This same author points out that this type of intelligence can be observed in everyday life by maintaining attention and effort in the development of different types of actions in situations such as classes, conversations, written work, movies, games and sports, that is, despite being an internal intelligence, its identification is possible.[51]

Another reference for this term is the one proposed by Gardner, who describes intrapersonal intelligence as the affective side of intelligence. In this way, people who possess it are more likely to have more self-confidence, develop independence,

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[46] KAFANABO, Eugenia, *Multiple Intelligences and Performance of Learners in Digital Tasks*, p. 232.
[47] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 289.
[48] O'BRIEN, Patrick, *Gardner's Multiple Intelligences and the Counselling of Children*, p. 43-44.
[49] Ibid., p. 46-50.
[50] ARMSTRONG, Thomas, *Multiple Intelligences in the Classroom*, p. 68-70.
[51] Ibid., p. 73-75.

and intrinsic motivation, are open to expressing a variety of feelings and love their sense of self.[52]

Goleman states that intrapersonal intelligence could be considered the most important of the other intelligences, since the constant exercise of reflection allows learners to be aware of their own way of learning, their strengths and weaknesses, and be aware of what they need to achieve the goal they set for themselves.[53] In this way, subjective well-being is developed in the learner. However, regarding what is mentioned above, for complete well-being, intrapersonal intelligence must interact with interpersonal intelligence.[54]

The same author also explains that to develop this intelligence in a classroom, it is important that a teacher first act as a model of behaviour. In this way, the influence of teachers models a learner's personality, and it is what forms intrapersonal intelligence.[55] Appropriate activities to strengthen this intelligence are giving questions about feelings, questionnaires to become aware of their own processes and strategies, readings that encourage taking a stand or facing a problem, or self-appraisal.[56]

In this way, as can be seen, all the authors above emphasize the importance of the social environment and its role in the formation of self-concept in learners, since the role of the family and the school in emotional development is essential, which offer feedback for the configuration of the learner's self-concept.[57]

For all the above, it can be affirmed that the school influences the integral development of the learner since it not only intervenes in the transmission of scientific knowledge but also influences the socialization and individualization of the learner. All this is reflected in affective relationships, the ability to participate in social situations, such as games, group work, conversations, emotional expression and strengthening of self-esteem. Communication skills are essential to make use of language, which allow learners to express their emotions. Further, beneficial social behaviours and increase the reinforcement of the concept of one's own identity.[58]

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[52] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 290-291.
[53] GOLEMAN, Daniel, *Emotional Intelligence: Why It Can Matter More Than IQ*, p. 22.
[54] Ibid., p. 24-26.
[55] Ibid., p. 31.
[56] Ibid., p. 33.
[57] Ibid., p. 35-36.
[58] GOODNOUGH, Karen, *Exploring Multiple Intelligences Theory*, p., p. 135-140.

### 3.1.4 Interpersonal intelligence

Interpersonal intelligence can be noticed at school with learners who are especially communicative and participate in all conversations. They are not afraid to express their opinions and stand out when it comes to speaking on behalf of a group. They have born qualities to be leaders and they like group work, where they can collaborate with other learners.[59]

According to the author Goswami, interpersonal intelligence is one of the most fundamental resources of the human intellectual equipment, both because of its age and because of its functionality.[60] It played an essential role in the adaptation process of the first humans. This allowed them to establish and learn socialization guidelines, which in turn allowed a community organization.[61] Currently, it continues to play a fundamental role in the processes of adaptation of individuals to their cultural contexts.[62]

Then, this intelligence consists of relating to and understanding others, harmonizing and recognizing the differences between learners and appreciating their perspectives by being sensitive to their motives and intentions. It implies recognizing adequate strategies to interact effectively with one or more people, learners, friends and family. As well as sensitivity and understanding of the feelings, points of view and emotional states of other people, such as the ability to maintain good relationships. And finally, taking leadership to solve problems.[63] When in an individual, with this intelligence has reached more advanced structures, it allows the person skillfully to read the intentions and desires of others, even if they try to keep them hidden.[64]

Gardner affirms that interpersonal intelligence encompasses two fundamental aspects for its development, the first is a joyful and prolonged childhood with a close company of the mother, and the other is the appropriate social interaction for their environment. The need for group cohesion, leadership, organization and solidarity arises naturally from these two aspects.[65]

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[59] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 253-255.
[60] GOSWAMI, Parul R, *Multiple Intelligence*, p. 24.
[61] Ibid., p. 26.
[62] Ibid., p. 27-30.
[63] HAVIGEROVÁ, Jana Marie, *Pět pohledů na nadání*, translated, p. 63-68.
[64] RIGGIO, Ronald E. et al., *Multiple Intelligences and Leadership*, p. 173-177.
[65] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 273.

Taking into account the above, it can be affirmed that both interpersonal and intrapersonal intelligence is of great importance in the life of any individual. Armstrong states that learners who have this intelligence enjoy interacting with others, play leadership roles in groups, are sensitive, and are interested in the feelings and problems of others.[66]

Finally, and taking everything previously exposed to the pedagogical field, it can be observed that if interpersonal intelligence is strengthened among learners in an educational community, their relational dynamics may be strengthened and therefore school coexistence.[67] However, before starting the work of developing interpersonal intelligence, there must be a group of learners willing to work collaboratively to achieve this goal. For this, it is essential to plan the intervention correctly and ensure an optimal school climate, for this it is necessary to take into account conditions and actions that promote equity, reliability, truthfulness, responsibility and community.[68] It is recommended to determine from the beginning how the teaching-learning process of interpersonal intelligence will be evaluated. The evaluation can be done through questionnaires or direct observation.[69] It is important to present learning to learners in such a way that they can apply it to life itself and their everyday lives.

### 3.1.5 Logical-mathematical intelligence

Gardner's studies on this intelligence are based on Piaget's model of cognitive development, which ranges from sensory interaction activities to formal operations.[70] Piaget describes the progress of logical-mathematical intelligence in the observation of individuals who go from beginning to know their environment through interaction, the manipulation of concrete objects, to the consideration of formulas through their relationships.[71]

Piaget's works served as a basis to argue that logical-mathematical intelligence is one of the intelligences with a strong foundation in empirical studies, in early

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[66] ARMSTRONG, Thomas, *You're Smarter Than You Think: A Kid's Guide to Multiple Intelligences*, p. 66-69.
[67] CANNY, Alex, *Interpersonal Intelligence: Importance of Relating Well to People*, p. 50.
[68] ARMSTRONG, Thomas, *You're Smarter Than You Think: A Kid's Guide to Multiple Intelligences*, p. 72-74.
[69] Ibid., p. 76.
[70] PIAGET, Jean, *The Child's Conception of Number*, p. 67.
[71] Ibid., p. 69.

childhood and primary education, from which valuable applications and educational implications have been extracted.[72] Gardner mentions that this intelligence encompasses three large fields of broad and interrelated thought, such as mathematics, science and logic. In daily life, logical-mathematical intelligence is used to organize the budget expenses, make decisions and solve problems.[73]

From the multiple intelligences' proposal, logical-mathematical intelligence is defined as "the ability to build solutions, solve problems, logical schemes and relationships, structure elements to make deductions, logical judgments and support them with solid arguments"[74]. Logical-mathematical intelligence in the learning process requires changing the didactic approach so that the learner is the center of the process. The new role of learners as active subjects of their learning is defined, and it is described that learning should achieve the intellectual and physical development of learners.[75]

Logical-mathematical intelligence, like the others, is present in all individuals, however, in some people it predominates. Piaget's studies lead to the fact that logical-mathematical intelligence manifests itself from the moment the child in his cradle experiences forms expectations and analyzes what happens in the world around him.[76] It is evident that in some individuals this intelligence is predominant, that even without adequate stimuli it manages to develop. However, more significant results are obtained when learners are in environments that encourage the stimulation of intelligence.[77]

When it comes to the educational field, logical-mathematical intelligence manifests itself in learners when they experience, classify, categorise, analyse and look for patterns. Creating learning environments that encourage the development of logical-mathematical intelligence results in promoting the resolution of situations with critical and logical thinking.[78] Garnder mentions that when learners build knowledge, they improve logical-mathematical intelligence to make sense of new knowledge that will support them in solving new problems.[79]

Logical-mathematical intelligence in the learning process contributes to the progress of learners who like to investigate problem solutions and requires them

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[72] Ibid., p. 70-72.
[73] CAMPBELL, Linda C et al., *Teaching and Learning Through Multiple Intelligences*, p. 122.
[74] Ibid., p. 123.
[75] KHAN, Sumayya, *Teaching Mathematics using Multiple intelligence approach*, p. 98-101.
[76] PIAGET, Jean, *The Child's Conception of Number*, p. 74.
[77] CAMPBELL, Linda C et al., *Teaching and Learning Through Multiple Intelligences*, p. 130.
[78] Ibid., p. 131-132.
[79] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 142.

to use critical and divergent thinking. They show excellent inductive and deductive reasoning skills and are interested in providing solutions and overcoming complex logical-mathematical challenges.[80]

Undoubtedly, the stimulation of this intelligence is considered important to enhance the learning of young people, increase self-esteem in learners, develop cooperation and leadership skills, and increase interest and dedication to learning. It is essential to keep in mind that the teacher at first must do a little exploration among learners to realize what is the nature and quality of the intelligence to work on. Likewise, it is convenient that teachers know and use strategies that favour their intelligences, therefore, they will use their own knowledge to develop and stimulate this intelligence in the learner.[81]

The teacher must recognize that logical-mathematical intelligence can be strengthened if the teaching focuses on competencies, not limitations. Then, it implies emphasizing the development of cognitive skills and the use of activities that favour mathematical analysis and reasoning, to build solutions and solve problems, and using information and communication technologies to search for content that encourages reflection, criticism and decision-making in solving mathematical problems.[82]

Learners who show an adequate stimulation of the logical-mathematical intelligence especially enjoy numbers and their relationships, they are fascinated by generalizing and using formulas even outside the classroom, they experiment, ask questions and find solutions to logical problems and assume opposing points of view. Further, these learners need to explore and think, as well as finding materials and objects that they can manipulate.[83] Learners highly gifted in this type of intelligence are always asking about natural phenomena. They like riddles, logic puzzles, and games like chess that require reasoning, sequencing, such as putting sentences or pictures in the correct order and filling in the gaps exercises.[84]

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[80] Ibid., p. 145.
[81] Ibid., p. 147-149.
[82] CAMPBELL, Linda C et al., *Teaching and Learning Through Multiple Intelligences*, p. 133.
[83] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 105-108.
[84] Ibid., p. 110-114.

### 3.1.6 Musical intelligence

Musical intelligence is the first to manifest in individuals, although researchers are not entirely clear why this happens. It may seem that musical intelligence is a gift that only some people have, but Gardner admits that there is part of what he calls core talent. The environment of development and the cultural environment in which each child is found is essential to determine the degree of development and manifestation of this intelligence.[85]

Gardner establishes a hierarchy of these elements, placing melody and rhythm first, followed in importance by timbre, defined by the author as the characteristics of a melody.[86] At this point, it should be noted that both this hierarchy and the relative importance that the rest of the components may have depends on different circumstances, both cultural and personal. Hearing is another of the essential elements that allow individuals to participate in music and that influence the development of this intelligence.[87]

As Garnder states, "perhaps it is fair to say that certain aspects of the musical experience are accessible even to individuals who cannot appreciate their auditory aspects".[88] This quote is of great importance because it reflects a reality that one may find in classrooms, and that is that the diversity of learners should not prevent from developing musical skills.

Another important factor that makes up this intelligence is the affective dimension of music. Gardner determines a series of investigations that mix two models. An analysis of the reactions of individuals to different pieces or fragments carried out from top to bottom and another one carried out from bottom up.[89] From this evidence, it is deduced that all individuals are sensitive to different aspects of the work related to the tone and to different rhythmic patterns, such as the music speeds up or becomes dramatic, which generates in them a series of reactions.[90]

At two months of age, children begin to use their voice for musical purposes, they sing at the same time that they try to express themselves with characteristic babble,

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[85] Ibid., p. 117.
[86] Ibid., p. 123.
[87] *Children's Understanding of Rhythm: The Relationship Between Development and Music Training*, Psycnet.apa.org.
[88] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 119.
[89] Ibid., p. 120-124.
[90] Ibid., p. 126.

trying to imitate in part the melodies that their mothers sing to them.[91] In the second year of life, one of the milestones of children's musical development according to Gardner occurs. Children begin to consciously emit spontaneous songs in which they explore different intervals and are already able to reproduce small sections of the songs they hear in their environment.[92] Between three and four years of age, this ability to explore is lost, useful for fostering creativity, since the child begins to limit himself or herself to reproducing the melodies of the songs.[93] All this happens before entering school. At this point, Gardner affirms that the musical development that occurs or is promoted in school is relatively scarce. Learners learn some basic concepts of notation, rhythm and form. This creates a tolerance for musical illiteracy that devalues the subject even more.[94]

In addition to Gardner, other authors worked with musical intelligence, such as Deutsch, who asserts that musical intelligence mixes well with some other intelligences. It can be combined with verbal-linguistic intelligence for a better understanding of the message that comes from a song since both intelligences rely in part on the human auditory-oral channel.[95] The most immediate combination that musical intelligence establishes after its combination with verbal-linguistic, is with bodily-kinesthetic intelligence. This is easily observable, since when a child sings, auditions or plays an instrument, the child is carrying out a physical activity, such as tapping the rhythm with the foot or rocking slightly.[96]

Gardner's collaborator Hargreaves, who was inspired by psychologists mentioned in Chapter 1, states that a teacher cannot fully understand how the learner's musical intelligence is going to develop since the teacher does not know the point it will reach when the individual is an adult.[97] This view differs from Gardner's in that according to Hargreaves, it is difficult to create a framework in the classroom that allows the teacher to fully accurately assess musical intelligence abilities of each learner.[98]

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[91] PAPOUŠEK, Hanuš et al., *Nonverbal Vocal Communication: Comparative and Developmental Approaches*, p. 236.
[92] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 127.
[93] Ibid., p. 129.
[94] Ibid., p. 130-133.
[95] *The Organization of Short-term Memory for a Single Acoustic Attribute*, Researchgate.net.
[96] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 134.
[97] HARGREAVES, David and Alexandra LAMONT, *The Psychology of Musical Development*, p. 189.
[98] Ibid., p. 192.

Hargreaves' point of view illustrates well the complicated and complex process that takes place in the minds of learners through which they acquire a complete development of musical intelligence since for this they have to interrelate a series of skills that in turn interrelate with each other. At this moment is where the ability of the teacher comes in to be able to correctly manage at a pedagogical and methodological level the phases of assimilation and accommodation that, according to this author, the learners experience. For this, it is necessary to adjust the difficulty of activities to ensure that the skills of learners do not get stuck on one level.[99]

Thanks to this intelligence, learners can practice their listening skills. Teachers should include music in their lessons in form of songs to teach grammar and new vocabulary or to practice learners' pronunciation and listen to or interpret songs or listen to each other in form of reading text aloud.[100]

All the pedagogical possibilities this intelligence offers due to its enormous artistic and aesthetic variety should encourage teachers to explore further with learners in the classroom, playing and experimenting with activities and factors that are finally capable of integrating all intelligences.

### 3.1.7 Bodily-kinesthetic intelligence

Bodily-kinesthetic intelligence is when one can control the body in coordinated physical activities such as dance, manual skills, manipulation of objects, body movements, competitive and collaborative movement sports. Learners who possess this intelligence learn better when doing something physically, they tend to remember things through their body than from words or photographs.[101]

According to Dávila, learners who have developed this intelligence usually have significant learning when they perform activities through body movement. It is easy for them to express what they think or what they feel, they speak through body movements.[102]

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[99] Ibid., p. 193-197.
[100] BRUNER, Jerome, *The Process of Education*, p. 57-58.
[101] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 219.
[102] DÁVILA, Cristina Albuja, *Gamification in the Development of Bodily Kinesthetic Intelligence*, p. 42.

As Patterson states, the essential characteristic of this intelligence is the ability to use one's body for purposes that represent problem-solving.[103] Likewise, this author manifests the development factors associated with this intelligence, such as strength and flexibility that are noticeable from birth, but evolve until the beginning of adulthood, and depend on the stimulation received.[104]

The authors rely on knowledge of Piaget, who glimpsed some initial stages of bodily behaviour. Within the observations, there are simple physical behaviours such as the extension of the hand in request of an object or the crying of basic characteristics in the oral movement.[105] Narratives of tests at later ages reveal behaviours reinforced with kinetic complements in favour of the same need previously exposed. In this way, from the earliest years, people have been perfecting their body language skills. The key skills to make a bodily-kinesthetic capacity known are not at all simple, especially since most of the activities that represent it require a large number of complements that differ in some way from the main activity.[106]

This intelligence can be better appreciated in learners who excel in sports activities and dance. It also consists of the ability to use body movements as a means of self-expression, to carry out activities. In addition, these learners learn better through direct experience and participation, they remember more easily what they have done and not what they have heard, seen or observed.[107]

In the stimulation of bodily-kinesthetic intelligence in the classroom, teachers can use material resources, such as objects to throw and pick up. Learners can train the body-mind relationship by combining the learning of the subject with games with movement.[108] There are many games to develop bodily-kinesthetic intelligence that teachers can practice in their classrooms, such as guessing movies through gestures, viewing and analysing of gestures in interactions between native speakers, dancing, role-play, board games with various mime tests, as well as Simon says, and charades to practice learners' speaking skills. In addition to simply raising their hand to participate, learners could clap their hands or make movements with their arms.[109]

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[103] PATTERSON, Marilyn N., *Every Body Can Learn: Engaging the Bodily-Kinesthetic Intelligence in the Everyday Classroom*, p. 26.
[104] Ibid., p. 28-32.
[105] SUGARMAN, Susan, *Piaget's Construction of the Child's Reality*, p. 35.
[106] Ibid., p. 45-50.
[107] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 301.
[108] BERMAN, Sally, *A Multiple Intelligences Road to a Quality Classroom*, p. 75.
[109] Ibid., p. 77-80.

It is a way of acquiring experience and involving it with knowledge of a more theoretical nature, but with a prior bodily experience, which makes learning much more enriching and fun for learners.

### 3.1.8 Naturalistic intelligence

Gardner affirms that naturalistic intelligence uses the capacities of observation, collection, ordering, classification and recognition. To get closer to the tangible and close world of nature and look for practical and everyday applications.[110] These applications are intended to seek the active participation of people, aimed at finding solutions to a specific problem. Part of these environmental problems is presented by the lack of knowledge of the physical and natural processes of the environment. With the approach to the natural world, it is possible, in part, to have said knowledge and with it the understanding of it and generate awareness of anthropic actions in the face of environmental problems.[111]

The human being manages to identify the natural environment, as well as the existence of various species and habitats that are part of nature, managing to exploit the abilities he or she possesses. In a positive way, interact appropriately with it and achieving in this way, that people understand and comprehend the natural world to generate responsible and coherent decisions in the face of the physical and social dynamics of their territory.[112]

Gardner argues that the skills of this intelligence can enrich learning in all disciplines and subjects, taking into account that they use observation, reflection, the establishment of connections, classification, integration and communication of perceptions about the natural and human world.[113] Taking into account that these skills are also necessary for the development of learners in any natural environment since it manages to establish a relationship with the environment without harming it, thus strengthening the ties with nature and with it the appropriation of the environment territory.[114]

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[110] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 302.
[111] Ibid., p. 303.
[112] Ibid., p. 304-305.
[113] CAMPBELL, Linda C et al., *Teaching and Learning Through Multiple Intelligences*, p. 167-168.
[114] Ibid., p. 170-172.

Learners who develop this intelligence attain thinking skills, which manage to strengthen interaction with the environment. The exploration is developed from the use of the senses, such as the observation and contemplation of nature, allowing, in turn, the discovery of natural spaces that surround the local context, managing to develop important aspects to achieve environmental significance, since these discoveries allow the interest and inquiry on the part of the learners.[115]

The interaction with the environment helps to potentiate affective aspects since it includes feelings, emotions, interests, values, sensitivity and adaptation capacity.[116] It allows learners to know and distinguish specific and important aspects of the natural environment, achieving the identification and recognition of other habitats and species, generating in the same way, autonomous learning from the interpretations that they can unfold in the subject-nature interrelation. These experiences can be significant for the analysis and reflection that lead to responsible decision-making in the face of the environment.[117]

In the classrooms, for its didactic transposition, naturalistic intelligence is taken into account, and its wide potential allows the development of different skills in learners, such as analyzing, caring, classifying, reviewing and understanding the needs and behaviour of fauna, semantic maps of vocabulary related to nature and imagine, describe or evoke landscapes or natural scenes. Given the range of possibilities that the development of this eighth intelligence allows, there are numerous strategies to carry out, starting from the fact that, according to its definition, the basic strategies of naturalistic intelligence are classification and observation. Further, making trips to the natural environment, carrying out experiments and awareness of environmental care and protection.[118]

Multiple intelligences offer teachers indispensable tools that open up the possibility of doing various activities in the classroom, not only limiting themselves to dictation or the use of the whiteboard but also introducing new activities and games, where learners can acquire knowledge of the various fields and make it easier for learners to capture the knowledge that the teacher wants to transmit.

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[115] GARDNER, Howard, *Frames of Mind: The Theory of Multiple Intelligences*, p. 306.
[116] GLOCK, Jenna et al., *Discovering the Naturalist Intelligence: Science in the Schoolyard*, p. 55.
[117] Ibid., p. 57.
[118] Ibid., p. 59-64.

# 4 Impact of multiple intelligences on learning

Learning as the foundation of education represents a very important focus point on which a variety of both positive and negative criteria have been exposed. However, a common objective of these is to decipher the path towards lasting and significant learning.[119]

The school is a place where learners discover their intelligence and their potential and can develop it to the fullest. A place where they learn to solve problems, create, discover themselves and face real situations, full of possibilities and novelties, where learners develop critical and creative thinking.[120]

Zachary argues the strategy of learning to learn is presented as an alternative to face many of the challenges of school. Learning consists of a broad receptive and analytical process of information that generates knowledge in individuals, whether induced or discovered personally, these are related to various aspects, among them are the environment, methodology, implementation and the skills that are ultimately developed.[121]

> Human beings are born as blank sheets of paper, that from the experiences generated in their environment, they begin to imitate their peers, and then the child adopts and improves these skills, thus showing both physical and cognitive development, so social interaction is essential. On the other hand, each individual is born appropriate to these multiple intelligences, which are latent but must go through a development process.[122]

Gardner's theory makes its most important contribution to education by suggesting that teachers should expand their repertoire of methods, tools and strategies beyond the traditional and unconstructive methods that take place in classrooms. It is a framework where teachers and learners learn from each other,

[119] ZACHARY, Oliver, *Multiple Intelligences and Learning Environments*, p. 23.
[120] DHABA, Ebbissa, *Addressing Learner Diversity Through Multiple Intelligences Theory*, p. 69-71.
[121] ZACHARY, Oliver, *Multiple Intelligences and Learning Environments*, p. 33-37.
[122] As cited in ZACHARY, Oliver, *Multiple Intelligences and Learning Environments*, p. 38.

significantly building their knowledge. This learning, therefore, involves the following guidelines.[123]

Firstly, it allows knowing two fundamental conditions of the teaching and learning processes like the interests and the cognitive structure of learners, such as strengths and gaps. This knowledge helps individualize teaching according to the six main levels of the different areas of learners' development, such as physical, psycho-emotional, social-interactive, cognitive-intellectual, language and moral, along which it progresses.[124]

Secondly, the theory broadens the framework of the traditional school, which mainly emphasises the monotonous teaching, since this theory recognises the importance of other types of skills and learning, such as musical, interpersonal and intrapersonal relationships, and bodily-kinesthetic.[125] The educational project called Spectrum, has been designed to provide a cognitive curriculum that allows for the evaluation and teaching of the different skills, knowledge, habits and values implicit in the different curricular areas.[126]

Thirdly, use project work to promote discovery learning. The learning projects included in the cognitive curriculum are aimed at stimulating the use of a wide range of skills, encouraging meaningful learning through discovery and teaching strategies for problem solving and decision making.[127]

Lastly, it encourages both individual and cooperative work. For example, in project work, the responsibility lies with the group, but each learner makes an individual contribution and is held accountable. In this way, learners demonstrate their interpersonal skills and also value the intelligences of their peers.[128]

Multiple intelligences are characteristic because they are latent in each of the learner, and these come to the fore once a stimulus is presented, that is, they develop due to a motivational action or interest, positively influencing learning. It allows giving learners what they need and allows them to develop their intelligences to the fullest. The teacher is in charge of working in their classes, providing

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[123] RICHARDS Jack C. and Theodore S. RODGERS, *Approaches and Methods in Language Teaching*, p. 167-168.
[124] Ibid., p. 170-171.
[125] Ibid., p. 171-173.
[126] *Project Spectrum*, pz.harvard.edu.
[127] RICHARDS Jack C. and Theodore S. RODGERS, *Approaches and Methods in Language Teaching*, p. 175.
[128] Ibid., p. 178-179.

the opportunity for all learners to learn at their own pace and with their own abilities, without forgetting to design learning situations that favour the development of those intelligences that are not present.[129]

## 4.1 Multiple intelligences in the English classroom

Gardner generates a pluralistic vision of the mind based on the eight intelligences, from which he intends to achieve both the vocational and hobby goals of all learners. The application of multiple intelligences in the English classroom can contribute to the minimization of behavioural problems, the increase of self-esteem, the development of cooperation, the increase in the number of positive leaders, the growth of interest and affection for school and study, the constant presence of humour and the increase in knowledge, among other aspects. The teaching of multiple intelligences in the classroom makes it possible to build links between the learners' curiosity and the ordinary school curriculum. It is important to know, on the one hand, the strengths of learners and the intellectual and performance demands of schools, and the other hand, what is practised and taught in and outside the classroom, where teaching and learning of the different intelligences take place through a rich and wide range of tasks.[130]

English is a language and therefore is naturally related to verbal-linguistic intelligence. However, it is important to be aware that not all learners in the classroom have verbal-linguistic intelligence as their dominant intelligence.[131] The theory of multiple intelligences can be a way of teaching English, offering varied activities that enable access to learn the language from the dominant intelligence of each learner, while fostering in them those intelligences that are not as developed.[132] On the other hand, it is important to mention that many of the activities and tasks that take place in the English classroom involve several intelligences simultaneously. For example, a theatrical performance work on bodily-kinesthetic intelligence, but also interpersonal intelligence.[133]

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[129] Ibid, p. 183-185.
[130] BROWN, H. Douglas, *Principles of Language Learning and Teaching*, p. 242-245.
[131] GARDNER, Howard, *Multiple Intelligences: New Horizons in Theory and Practice*, 353.
[132] Ibid., p. 354-357.
[133] PATTERSON, Marilyn N., *Every Body Can Learn: Engaging the Bodily-Kinesthetic Intelligence in the Everyday Classroom*, p. 36.

As can be seen, the intelligences described in Subchapter 3.1, except verbal-linguistic intelligence, are those that are not naturally related to language learning. Verbal-linguistic intelligence stands out, which is involved in language learning naturally. Since in the classroom teachers possibly have learners who have verbal-linguistic as their dominant intelligence, furthermore, working on it would help to develop it in those learners who do not have it as dominant.[134]

Berman points out how multiple intelligences provide teachers with information on how learners capture, represent and communicate information. Teachers must take advantage of this information to generate strategies that stimulate the comprehensive and balanced development of learners since through intelligence they will reach the achievement of the proposed goals. It should also be noted how the environment plays a fundamental role in the development of the teaching-learning process.[135]

Learners, for the best acquisition of the English language, must receive constantly a series of inputs in the second foreign language. This being significant and varied in the context, that is, giving as teachers different communicative situations where they propitiate the adequate environment to create the significant output of the learners.[136]

## 4.2 Multiple intelligences and language skills

Currently, learners are expected to be competent in as many areas as possible, so that they are capable of learning how to learn and apply that learning in their daily lives. Different studies demonstrate the use of multiple intelligences in the generation of language skills, such as those by Armstrong, Campbell, Berman, Cerrato and Gardner himself.

The school must be understood as the place where the necessary strategies are generated to carry out innovative teaching in the sense that the subjects participating in it are provided with the necessary tools to achieve the impulse of their critical thinking so that can restructure and rethink the ideas of contemporary society.[137] All this from the understanding that the teacher has about the characteristics present in the group

[134] PAULSTON, Christina Bratt, *Linguistic and Communicative Competence: Topics in ESL*, p. 71-73.
[135] BERMAN, Sally, *A Multiple Intelligences Road to a Quality Classroom*, p. 75.
[136] SNOW, Marguerite Ann et al., *Teaching English as Second or Foreign Language*, p. 213.
[137] LAZEAR, David G., *Eight Ways of Teaching: The Artistry of Teaching with Multiple Intelligences*, p. 33-35.

of learners with whom he or she works, considering the predominant intelligences, interests, needs and preferences. In the same sense, the school must provide the physical and work environments in which concentration, group work and access to different sources of information can be generated.[138]

It must be recognized that the implementation of different didactic strategies based randomly on multiple intelligences will result in a specific learning environment in which learners have the possibility of being the protagonist of their learning, in the sense that they will learn by doing and using a warm and democratic environment in which everyone has the same value for teachers.[139]

When speaking specifically about language skills, it is feasible to say that these are of a basic natur. They allow the generation of other skills associated with them and they recognize the proper handling of the language in the different contexts in which it is related, like formal or informal, individual or collective, in addition to being closely linked to reading activities, writing, and oral activities.[140] The proper management of these skills allows the learner to become competent in the management of language in its different variations, in such a way that it can be said that the learner is capable of knowing how to do, knowing how to be, knowing how to live, and knowing how to learn.[141]

Language skills are associated with the understanding and application of the language in different communicative situations in which man is immersed, thereby promoting the self-discovery of competence or the lack of it.[142] The proper management of basic skills results in learner having the possibility of reaching the practicum, which is the activation and development of specific skills. From this, it can be defined that skills require the establishment of a close relationship between the individual and the educational institution to which they belong so that both grow.[143]

Cerrato adds the benefits that multiple intelligences provides to learners in the development of English language skills. Through this, the four fundamental skills are developed. In addition, learners are exposed to the English foreign language for a longer period, constantly using the language and receiving input from it, also

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[138] Ibid., p. 36-40.
[139] SNOW, Marguerite Ann et al., *Teaching English as Second or Foreign Language*, p. 254-258.
[140] PANDOLPHO, Beth, *I'm Listening: How Teacher-Student Relationships Improve Reading, Writing, Speaking, and Listening*, p. 66-69.
[141] Ibid., p. 70-73.
[142] Ibid., p. 76.
[143] Ibid., p. 78-80.

interacting simultaneously with another area of knowledge.[144] Likewise, Cerrato emphasizes that multiple intelligences promote the interest of learners in the use of language, making them participants in their own learning process.[145]

The best way to educate the language skills is through the application of exercises based on multiple intelligences in the sense that they can work on the natural talents of each learner. It is necessary to point out that the idea of working by establishing a conjunction between multiple intelligences and language skills is based on the thought that educational strategies should help learners to solve outlined problems. It is essential to recognize that how the strategies work vary from subject to subject, all concerning the predominant intelligences of each learner.[146]

It is pertinent to recognize that there are a large number of theories and principles that seek to explain and determine language skills, their components, and how they affect learner, due to which it is pertinent to say that language skills are directly linked to the way in how effectively the language is used by the learner.[147]

To conclude, it is necessary to recognize that for school to work in this way and to have prepared materials, that is, teachers of the educational institutions have the necessary training in the sense that they know the Gardner's theory, can apply it and are aware of the individual and collective needs of the group with which they work so that they are capable of designing learning activities in a variety of ways, integrating music, art, role-playing, cooperative work, multimedia work and reflection exercises into their lessons.

[144] CERRATO, Maria C., *Multiple Intelligences in Teaching English*, p. 16-20.
[145] Ibid., p. 22-24.
[146] LAZEAR, David G., *Eight Ways of Teaching: The Artistry of Teaching with Multiple Intelligences*, p. 46-51.
[147] Ibid., p. 54.

# Practical part

The practical part aims to establish the most representative elements of the methodology under which this diploma project is being carried out, all based on the specification of the most representative elements of the same, such as the research method, which seeks to explain the procedure used, and its specific characteristics. Then, the population and the sample, where the characteristics of the first are indicated and how the sample with which this research works is obtained. The instruments and how they are used for the proper development of the research process, the analysis of the data, where the results are expressed and the way in which they are analysed. Lastly, the pilot test, which is carried out to elucidate how the projective exercises are applied and their expected results.

In addition to the above, it is pertinent to mention that the great majority of the learners present a good level of academic performance as a result of multiple factors (academic, personal and social) and the high interest that some of them have in learning. The knowledge of language skills increases their ability to know and understand the world. This diploma project has its fundamental questions:

- Could the use of any of the multiple intelligences result in the generation of language skills?
- What are the effects of using multiple intelligences as tools in the development of language skills in learners?
- How are language skills developed as a result of the application of a strategy based on the theory of multiple intelligences?

It is appropriate to say that the activities proposed for each intelligence are not specific and can be modified according to the needs of the topics to be addressed, the type of population to which they are directed and, above all, the particular characteristics of the teacher who proposes them, design and pose.

The use of the qualitative method of an exploratory and indicative nature allows assimilating the way in which multiple intelligences affect the learner to successfully achieve the generation of language skills.

The application of the theory of multiple intelligences to the teaching of English language skills can not only contribute to the achievement of better results and increase motivation in learners, but it also promotes autonomous learning and allows learners to build their own knowledge, with correct initial support from the teacher. The proposal

of this research is based on a series of activities around a specific topic. These exercises could only be carried out in the 9th grade, as it was the only group where direct contact with the learners was possible. The 9th grade consisted of a total of 20 learners between the ages of 14 and 15.

# 5 Problems in English language teaching

The way of working that the institution requires of teachers is that of traditional education. Learning is considered as a repetitive process and teaching as a cultural transmission in which the objective is to provide information emphasizing content and in which instruction is considered as intellectual formation and acquisition of habits.

In this educational model, learners listen passively and does not question the teacher, with the teacher deciding the content and activities. Learning takes place in a rote and repetitive way according to books or the teacher's lecture in which the contents are unquestionable and the information is socially accepted. Although the institution does not give extra material to teachers, they are committed to the education of their learners, buy materials, and the money for said material comes out of their salary.

The majority of learners have the support of their parents. There are some cases of learners who do not have this. This lack of help was due to various factors, such as lack of time, lack of interest and sometimes because they do not know the English language to be able to support them.

## 5.1 Improving self-esteem

The biggest problem faced at the beginning of this research was the lack of learners' self-esteem, despite their good knowledge of English. It was something needed to be supported.

Self-esteem is influenced in various contexts in which the learner develops, one of the main ones being at school through various agents such as teachers, classmates and the educational community in general.[148] Thus, Lawrence describes different characteristics of schools that nurture self-esteem in learners. These include the teaching approach of the institution, the active participation of the learner in the decision-making of the institution and a teaching role focused on self-esteem.[149]

It was considered fundamental to let the study group participate actively during the sessions, as it allowed them to give their opinion constantly in the activities that were carried out. In this sense, the collection of ideas provided by learners strengthens

[148] LAWRENCE, Denis, *Enhancing Self-esteem in the Classroom*, p. 47.
[149] BASSOT, Barbara, *The Reflective Practice Guide: An interdisciplinary approach to critical reflection*, p. 50-52.

their positive self-concept and, consequently, favours their self-efficacy. For this, aspects of personal development had to be taken into account, including adequate self-knowledge and self-respect.

Thus, through self-reflection, teachers could be more aware of the messages they send to their learners about their academic and personal performance. In this way, they could improve the way they express themselves and, therefore, how they communicate.[150] This is also affirmed by the author Richard through the following quote.

> Teachers who are self-respecting and self-caring have no difficulty in providing care, respect and acceptance to others and in acting as role models who encourage students to achieve higher levels of self-acceptance.[151]

Consequently, according to the above, it can be seen that together with the factors previously explained, the role of the teacher is essential for the development of learners' self-esteem and should be made visible since it is often not considered important. Due to the time, only one specific strategy was applied before the start of this research, which was praise circles.

Praise circles consist of forming a group and having the others express positive comments aloud to a single person, who is selected at that moment.[152] To do this, learners named positive qualities about their peers. This activity reinforced the learners' positive self-image of themselves based on the view of their peers, and at the same time promoted the creation or reinforcement of friendship bonds.[153] It was also done by providing feedback about the learners' work while carrying out the activities.

Another alternative proposed by the author McEachron-Hirsh to boost self-esteem could be constituted by peer support networks, which consist of learners providing support to peers in lower grades. In this way, learners share their knowledge, establish relationships with others and reinforce their learning.[154] This activity allows

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[150] Ibid., p. 64.
[151] As cited in SACKSTEIN, Starr. *Teaching Students to Self-Assess: How Do I Help Students Reflect and Grow as Learners?*, p. 29.
[152] MOSLEY, Jenny, *Quality Circle Time in the Primary Classroom: Your Essential Guide to Enhancing Self-esteem, Self-discipline and Positive Relationships*, p. 134.
[153] Ibid., 136-139.
[154] MCEACHRON-HIRSH, Gail, *Student Self-Esteem: Integrating the Self*, p. 147-153.

learners to be aware that the learning they have is valuable and that they can share it. In addition, the role of the teacher is important to reaffirm the learner's self-esteem and self-concept, which in the case of school is mainly determined by the learners' grades, in which the role of the teacher is essential to avoid generating feelings of rejection towards oneself and generating serious cases of affective deprivation.[155]

Given the above, agents that most influence the development of self-esteem outside are the educational community and the learner's peers. This is why it is considered fundamental to recognise the magnitude of these in the child's life, especially because this is the stage where they form their first socio-affective ties with people outside their family.[156]

Self-knowledge and self-concept are fundamental aspects in the development of intrapersonal intelligence (see Subchapter 3.1.3) at school, since it is in the school environment where the learner develops under a context of both cognitive learning and personal development. It is necessary to make use of strategies of an interpersonal nature, that is, it is a form of communication in which all learners interact in groups or in pairs to provide better knowledge through their comments.[157]

McEachron-Hirsh proposes some examples to be developed in the classroom to improve learners' knowledge of themselves. Some of them are goal setting and interpersonal feedback. The learner must be able to set goals, which may be aimed at the academic or attitudinal development of the learner.[158] In terms of self-reflection, learners analyse their life experiences and their interaction with others and consider how they would like to be and what steps they need to take to achieve this, that is, decision-making is promoted. It is also necessary for learners to document their progress through meaningful evidence so that their progress will seem to be more visible.[159]

Through these actions, it is possible to develop an awareness of one's environment and identify points for improvement. It can be affirmed that the objective is for learners to be able to differentiate between what they thought about themselves before and what they think about themselves now through the dynamics that they carry out. In the same way, it is important to be able to identify life examples that show that

[155] Ibid., p. 178-180.
[156] Ibid., p. 186.
[157] Ibid., p. 192.
[158] Ibid., p. 201-202.
[159] Ibid., p. 204-209.

they have developed a deep knowledge of themselves. This will motivate learners to give importance to the resources they use and, if they follow an adequate and constant monitoring, they will be able to achieve a better knowledge of themselves by using the tools presented.[160]

In this way, learners achieved at least a bit of positive appraisal of themselves, of the characteristics that make them unique understanding of how to express themselves appropriately.

[160] Ibid., p. 211-218.

# 6 Research

The idea of this diploma project is to assess the way in which the application of Gardner's theory can help in the development and improvement of language skills in learners at lower secondary school. From the question "What are the effects of using multiple intelligences as tools in the development of language skills in learners?" and to demonstrate that the use of this theory can help improve the development of language skills, which makes it possible to see the effects that the use of the different intelligences can bring in the design of the activities of a class.

The method used is qualitative, since an exploratory study is being used and that seeks to prove the definition of a problem and specify the assumptions under which the research itself is worked.

## 6.1 Development and application

To facilitate the development and application of this diploma project, the following phases of action were implemented, which were sequentially superimposed on each other so that at the end of the research it would be possible to analyse the achievements and results obtained from their implementation.

The observation list to learners was proposed by Armstrong in his books.[161] What was sought with the application of these observation lists was to more easily identify the predominant intelligences in the learners (see Appendix 1). Throughout the lessons, the observation list was applied to more identify the intelligences of learners (see Appendix 2). The results were grouped and classified in such a way that it was possible to visualize the dominant intelligences within the sample, which favoured the analysis of the context.

The projective exercises proposed in the research seek above all to develop the knowledge, skills, attitudes and values in the daily life of learners. Some of the activities proposed in this research were carried out in such a way as to test the development and strengthening of the abilities and skills of the sample.

The results obtained from the observation were recorded on the sheets designed for that purpose, in order to keep a record of them, and based on them, be able

[161] ARMSTRONG, Thomas, *Multiple Intelligences in the Classroom*, p. 183-184.

to determine the degree of progress and relevance of the actions carried out (see Appendix 3).

## 6.2 Population, participants and sample selection

One of the most transcendental elements to be able to successfully develop a research project is the determination of the population and the size of the sample in which the aforementioned research is carried out.[162] In the case of this diploma project, the sample of voluntary participants is used, which are 20 learners, who agreed to participate in it in order to demonstrate that the implementation of multiple intelligences can help greatly in the development of English language skills.

From the size of the population, it is necessary to determine the sample. It is a group of individuals about whom the necessary data is sought to corroborate the assumptions made at the beginning of the research.[163] It must be recognized that the sample of a study is of great relevance since it is based on it that the viability and operability can be determined.[164]

The criteria for selecting the sample were related to the number of learners that volunteered to participate. Learners were extremely interested in participating in this project due to the implications and solutions that knowing and managing their multiple intelligences in a pertinent way can have in their daily lives.

It should be mentioned that after selecting the participants, a self-observation list of multiple intelligences was applied to each of them (see Appendix 1), to discover which are the predominant multiple intelligences within the group.

The results of the self-observation lists show that the predominant intelligences are musical intelligence (21%), interpersonal intelligence (19%) and intrapersonal intelligence (15%), as can be seen in the following graph:

[162] THOMAS, Gary, *How to Do Your Research Project: A Guide for Students*, p. 162.
[163] Ibid., p. 183.
[164] Ibid., p. 186-188.

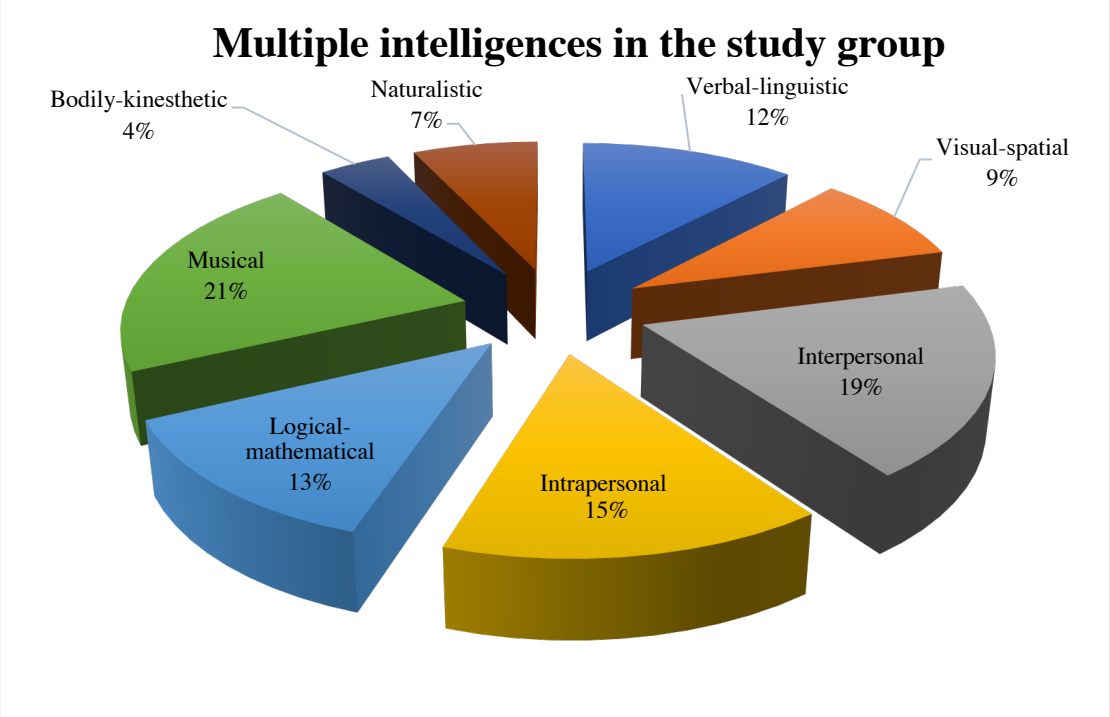


*Figure 1.*

Graph showing the predominant intelligences in the study group.

It can be noted from the *Figure 1* that there is a group of learners that can process and better understand linguistic messages that come from songs quickly, understand other people and discover actions with others, all based on the natural empathy learners feel for people who are around them and with the capacity for self-esteem, self-motivation, creation of a coherent and true model of themselves. In addition to this, it is correct to point out some data such as (see Table 1):

*Table 1.*

Characteristics associated with the predominant multiple intelligences in the study group.[165]

| Type of intelligence | Skills | Activities | Ways to improve |
|---|---|---|---|
| Musical | Observe, identify, conceptualize, combine, relate and reproduce. | Learners are attracted to the sounds of nature and all kinds of melodies. They enjoy following the beat with their foot or shaking something rhythmically. | Rhythm, melody, singing, listening to music and melodies. |
| Interpersonal | Interact, perceive, relate with empathy, show self-awareness and self-esteem. | Learners like to work in a group, they are convincing in their negotiations with peers and elders, they understand their partner. | Sharing, comparing, relating, interviewing and cooperating. |
| Intrapersonal | | Learners are reflective, reasoning correctly and are usually advisers to their peers. | Working alone, doing projects at own pace and reflecting. |

## 6.3 Data collection instruments

Due to the nature of the research, the main instrument of exploration is, precisely, the researcher.

Concerning the above, it can be said that the researcher needs tools that allow him or her to make the observations and annotations efficient and help to shape the body of the research. Within these tools, the following can be mentioned. Observation lists for learners and teachers, projective exercises in the sense that they seek to demonstrate mastery and expansion of language skills, and the elaboration of some personal notes regarding the facts achieved by each learner. The self-observation lists for learners scrutinized that they were able to recognize their predominant intelligences and, based on them, find out the pertinent strategies to effectively develop all their potentialities.

Finally, the projective exercises that were used are designed under the precepts of multiple intelligences, since they seek to be an effective tool in the development

[165] GARDNER, Howard, *The Unschooled Mind: How Children Think and How Schools Should Teach*, p. 212-215.

of language skills. It is significant to point out that not all the projective exercises use all multiple intelligences, although they do manage to establish a correlation between the intelligences and the language skills that are sought to be developed.

The projective exercises to be worked on are expressed in the following table, indicating the intelligences that are to be developed in each of them and the type of language skill that is to be worked on (see Table 2).

*Table 2.*

Projective exercises and the relationship between multiple intelligences and language skills.

| | Name of the activity | Intelligences worked on | Language skills worked on |
|---|---|---|---|
| 1. | Hydrography | Verbal-linguistic, visual-spatial logical-mathematical, interpersonal, naturalistic | Reading comprehension, writing, speaking, further: vocabulary |
| 2. | Don't expect me to be your friend | Verbal-linguistic, bodily-kinesthetic, musical, visual-spatial | Writing, listening comprehension, speaking, further: grammar |
| 3. | A shameless and sympathetic thief | Verbal-linguistic, visual-spatial, logical-mathematical, interpersonal, intrapersonal | Reading comprehension, writing, further: vocabulary |
| 4. | The Legend of the Volcanoes | Verbal-linguistic, visual-spatial, logical-mathematical, interpersonal, intrapersonal | Reading comprehension, writing speaking, further: grammar, vocabulary |
| 5. | Poem I Ask My Mother to Sing | Verbal-linguistic, logical-mathematical, musical, interpersonal, intrapersonal | Reading comprehension, listening comprehension, writing, further: grammar |
| 6. | The End | Verbal-linguistic, logical-mathematical, musical, interpersonal, intrapersonal | Reading comprehension, speaking, writing |

However, the projective exercises sought to be the vehicle through which language skills could be developed, taking multiple intelligences as a reference and in this way it was able to make a more real observation of the motives, actions and attitudes that the learners take when solving the exercises.

## 6.4 Pilot testing

The pilot test of this research was carried out with learners, in order to verify if the exercises obtained the desired results and in this way the effects that can be obtained by using multiple intelligences could be corroborated as tools in the development of language skills.[166]

Within the pilot test, the projective exercises were applied in two ways. In the first place, an observation list was applied to learners in order to determine the multiple intelligences they possess, in order to design, elaborate and plan the way in how the projective exercises were going to be developed in the group. Secondly, the projective exercises designed to work on language skills were applied. The projective exercises aimed to observe and elucidate the level of complexity in each one of them and how the learners responded to them, in such a way that it would be plausible to accommodate them from the simplest to the most complex to facilitate and demonstrate the development of language skills in each learner.

It is essential to mention that the pilot test was carried out in a similar way to what is intended for the application of the projective exercises, that is, that they were carried out in the study group where individual and collaborative work is promoted to achieve the development of language skills.

## 6.5 Procedure in the application of instruments

The procedure followed for the application of the projective exercises was varied and always taking as a reference the timetable in which the actions were carried out and the openness of the group to them.

First of all, it is feasible to say that before starting the application of the projective exercises, learners had to get into a state of relaxation that allows them to better understand and develop the activities planned for the development of language skills. After achieving that learners entered a state of relaxation and manage to place their attention on the explanation of the exercises. Learners were given the necessary instructions to effectively develop the activities presented, after which they were given the time and space to do it in a practical way. When the majority of learners had finished executing the activities, they were resolved together in such a way that the development

[166] *Doing A Pilot Study: Why is it Essential?,* Ncbi.nlm.nih.gov.

of their language skills in each of them could be identified and evidenced. If learners did not succeed in fulfilling the activities, efforts were made to develop collaborative work by asking and resolving doubts based on the exchange of information among learners.

At the end of the activity, learners answered several questions about their impressions regarding the scope of the activity and themselves regarding it, to better understand the process of acquiring knowledge of language skills.

The projective exercises (see Appendix 4) were applied in chronological and complexity order, taking the text below as a reference, in which the purpose of each of them is explained.

In the first exercise *Hydrography* (see Appendix 4, Exercise 1, p. 85), it is intended that from the analysis of the text and taking it as a reference, learners can identify its main theme and successfully solve the word search. All this through the use of their predominant intelligences.

The second exercise is *Don't expect me to be your friend* (see Appendix 4, Exercise 2, p. 87). This exercise aims to ensure that through musical intelligence, which is one of the predominant intelligences in the study group, learners can develop language skills such as writing, speaking and listening comprehension. At the same time, the aim is to broaden the learners' underdeveloped intelligences.

In the third exercise *A shameless and sympathetic thief* (see Appendix 4, Exercise 3, p. 88), it is intended that learners can develop language skills through the application of a complex didactic strategy, where it is intended to anchor new learning in previous knowledge.

The fourth exercise is *The legend of the Volcanoes* (see Appendix 4, Exercise 4, p. 92) aims to ensure that learners develop language skills through the application of the predominant intelligences in them. In addition to being able to identify the main ideas of a text and recognize its nominal elements.

The penultimate fifth exercise poem *I Ask My Mother to Sing* (see Appendix 4, Exercise 5, p. 95) proposes a series of activities that allow learners to relate their previous knowledge and the information that the song gives them to develop the expressed exercises.

The last sixth exercise is *The End* (see Appendix 4, Exercise 6, p. 97). The purpose of this exercise is for learners to analyse the content of the exercise so that they can subsequently answer the questions formulated. In such a way that through

the answers provided, they can identify the relationship between the questions and multiple intelligences.

During the research process, the exercises designed for this purpose were effectively applied. It is pertinent to point out that the application was a bit rushed in some cases, especially at the end, mainly because during the time the learners had to pass entrance exams.

## 6.6 Validity and reliability of the study

In order to analyse the data obtained, the aim is to prioritise the data obtained by employing analysis tables that make it possible to determine the degree of progress in the language skills of the learners. It ensures the validity and reliability of this research since the information obtained in the tables will be captured to allow its analysis and thus determine the effects of applying multiple intelligences in the generation of language skills. It is convenient to indicate that the answers to the projective exercises were evaluated through an evaluation rubric, which is designed to determine the level of achievement of the competencies. This evaluation rubric is the best way to achieve an objective ranking of the data obtained.[167]

The evaluation rubric is directly related to the performance levels of Biggs. The performance levels determined by Biggs in his SOLO taxonomy are an excellent idea for determining whether or not the development of language skills have been achieved.[168]

The evaluation rubric (see Appendix 5) was reproduced for each of the projective exercises proposed for the development of language skills, primarily because in this way they can be analysed and their level of acquisition determined. It is correct to point out that each of the exercises has and shows different degrees of complexity, ranging from the simplest to the most complex, where the goal is to gradually develop language skills. The different activities were developed in blocks of 60 minutes.

Overall, learners' attitude towards the activities was receptive, mainly because they were able to carry out different activities that allowed them to develop, in their

[167] STEVENS, Dannelle D. and Antonia J. LEVI, *Introduction to Rubrics: An Assessment Tool to Save Grading Time, Convey Effective Feedback, and Promote Student Learning*, p. 33-37.
[168] *Enhancing Teaching Through Constructive Alignment*, Researchgate.net.

own particular way, language skills. After the evaluation of the exercises through the evaluation rubric, the information was categorised in such a way that it was possible to observe the level of improvement in the development of multiple intelligences. After creating this categorisation and analysing learners' scores, the results were analysed and contrasted with the Gardner' theory and with the studies proposed by Armstrong.

The information was collected using tables created for this purpose, in which the aim was to show the level of progress made by each learner in the different exercises, and how they managed to improve and effectively develop their language skills.

# 7 Analysis and discussion of results

The chapter gives an account of the results obtained through the application of the different exercises created for this purpose and that is based on the research questions and to demonstrate that the use of the multiple intelligence theory can help improve the development of language skills.

Therefore, in this chapter the following points are analysed in detail: the results, the data analysis and the reliability and validity of the data in order to demonstrate the main hypothesis of this thesis.

## 7.1 Results

One of the tools used in this research process was to know, in the first place, which are the predominant intelligences of learners, since from this result it was possible to establish the order in which the exercises had to be applied, and at the same time how these could affect the development of language skills was known. These results are easily observable in the graph (see Figure 1, p. 45) according to the information obtained and classified in previous points.

According to the graph, based on the results of the self-assessment tests, it is possible to say that the predominant intelligences in this study group are musical (21%), interpersonal (19%) and intrapersonal (15%), with which it is possible to point out that to achieve optimal improvement of language skills in learners, activities based on them should be carried out, as this enables successful results to be obtained. However, it is not recommended or optimal to leave the other intelligences aside, that is, interdependent activities must be created that include the intelligences present in a person in such a way that significant learning can be achieved in each of the learners.

It is important to remember that performance levels are determined by Biggs' SOLO taxonomy and that they are divided into pre-structural – there is no understanding of the point to be treated, uni-structural – a few aspects are achieved through work, multi-structural – several aspects of the task are understood in isolation, relational – the concepts are related in a general way, and expanded abstract – the concepts acquired can be used for everyday life.[169]

[169] *Enhancing Teaching Through Constructive Alignment*, Researchgate.net.

The categories under which they are going to work are the multiple intelligences themselves (verbal-linguistic intelligence, logical-mathematical intelligence, visual-spatial intelligence, bodily-kinesthetic intelligence, naturalistic intelligence, musical intelligence, intrapersonal intelligence, interpersonal intelligence) in direct relation to the formation of language skills in such a way that it is feasible to demonstrate the hypothesis.

### 7.1.1 Verbal-linguistic intelligence

This intelligence presents a predominance of 12% among learners. It is possible to point out that it is not one of the most decisive in them, which in the development of language skills could mean a limitation for it, mainly since learners do not have the skills associated with it in a way that makes it easier to achieve the proposed objectives. However, it should be mentioned that the results obtained have been beneficial and easily identifiable thanks to the evaluation rubric.

Through the research, it has become evident that the learners have been advancing in the level of development of language skills. Because in the first exercises almost all of them were at the uni-structural level as a result of their answers being imprecise, without showing great sensitivity, without interpretation, without being able to extract main ideas successfully and of course without being able to understand the text, as is easily evident in the following responses from some of the learners:

a) "I really liked it."
b) "It reminds me of things I have seen before."
c) "It tells us about the most famous places in Greece."

As the exercises progressed, their answers were much more complex and advanced, and most of their answers were at the relational level according to Biggs' SOLO taxonomy[170], where learners are able to be sensitive in the use of words, to adequately understand the structure of the text, to interpret the text correctly, to extract essential ideas, and can retain some substantial data from the text. Learners showed a good level of mastery in development, as they were able to identify some of the main ideas while writing and synthesizing their ideas in a clearly and understandably. It is reasonable

[170] *Enhancing Teaching Through Constructive Alignment*, Researchgate.net.

to mention that great progress was made in the use of this intelligence in the generation of language skills.

### 7.1.2 Visual-spatial intelligence

9% of the sample population presents visual-spatial intelligence, which is expected to enable learners to interpret the main ideas of texts or readings through image representation. This intelligence is one of the least developed within the study group because learners do not have highly developed artistic skills or are simply not interested in working on them on a daily basis to achieve specific skills.

This intelligence began at a uni-structural level and at the end, it ended at a multi-structural level, where although elements of the images and their meanings were rescued, these were not necessarily clear and did not allow a well-structured and useful resignification for the daily life of learners. The process of representing the readings in images was an extremely complex process for learners. The images in some cases were too literal, they did not manage to make the process of resignification of contents and they were too isolated. The interpretation of some texts was only clear and precise for some of them.

As can be seen, this intelligence was taken advantage of by learners who have it as predominant, who stand out and substantially enjoy this type of exercises and activities, while in the case of learners who do not have it as predominant, it did not present neither suffered significant advances.

### 7.1.3 Intrapersonal intelligence

Intrapersonal intelligence is that which allows the human being to have a high capacity for self-esteem, well identified and with an adequately determined self-motivation, as well as the creation of a coherent and true model of oneself. Within the study group, this intelligence has an incidence of 15%. Thus, most learners can recognize their emotional reactions and perceptions about their own learning in the classroom, as it allows an increase in understanding, retention of knowledge, and the performance of tests and writings.

Learners, in general, showed this intelligence continuously, since it was very common to see it manifested correctly and purposefully in those activities in which they are asked to produce writings of a personal nature. This was easily identifiable

in the exercise of the poem *I Ask My Mother to Sing* and *The End*. Learners felt very motivated to have the opportunity to show their personal emotions to others. Learners needed to document their progress through significant evidence. Introspection is something that was constantly provided to them, they showed very clear ideas for specific actions.

### 7.1.4 Interpersonal intelligence

This intelligence has an incidence of 19% within the study group, which means that the learners are capable of showing their moods, their extrinsic motivation, a strong level of analysis and a severe and close relationship with the world that surrounds them and which they feel part.

Learners were able to establish group relationships for the achievement of the activities. In some cases, the learners lost the objective of the exercises because they dedicated themselves to interacting with others. Sometimes there was a lot of noise due to learners talking at a very high volume about the work assigned or about other topics.

### 7.1.5 Logical-mathematical intelligence

This intelligence has a 13% incidence within the group, which gives them a limited ability to develop cognitive models based on mathematics. At the beginning of the activities, it was observed that learners had a hard time developing the conceptual or mental maps.

Learners found it quite difficult to elaborate the requested cognitive models. After all, they have not understood the instruction well, because they have not been able to identify the main ideas adequately or simply because of their lack of knowledge about the construction of these elements. Some learners felt overwhelmed because they did not manage to develop the activity well.

However, in this intelligence the progress has not been as advanced, since on average learners have only managed to reach the multi-structural level where they are limitedly capable of generating numerical schemes, their logical schemes are acceptable and their abstract thinking.

It should be noted that there was little significant progress in the development of this intelligence since learners were unable to develop the necessary logical schemes

to easily identify the key ideas in a text or oral discourse. Learners have found it a bit difficult to develop logical schemes to represent the main ideas in the reading, the schemes were not clear and did not express the necessary information. Some learners lacked the necessary knowledge to develop logical models effectively. They did not know the right technique to do what was asked of them.

### 7.1.6 Musical intelligence

This is one of the predominant intelligences in the working group, with a 21% incidence. With this, it was sought to develop musicality, appreciation of lyrics and music, the reinterpretation of rhythm and tone.

Exercise number two, called *Don't expect me to be your friend*, is based primarily on musical intelligence and seeks to be able to write a story based on what learners understand or feel about the song. It is needed to be highlighted that learners were not attracted to the song since it is not a genre they are used to. However, this exercise was something they enjoyed and gave very good results because they felt comfortable with the activity. The musical part allowed learners to feel less pressured and to perform the activities they are asked to do more effectively. Because this intelligence is the most developed among learners, they were very easily distracted by any noise around the classroom.

It is appropriate to mention that the use of this intelligence in the development of the activities planned for the development of language skills yielded very good results in the majority of learners.

### 7.1.7 Bodily-kinesthetic intelligence

This is one of the easiest intelligences to observe in the participating learners and one of the most difficult to focus on in-classroom work or in the work that seeks to leave them with significant learning, as it makes it relatively difficult to maintain the attention and interest of the learners who have this intelligence. It is feasible to say that the sample group presents 4% of learners with this intelligence as predominant. However, it is also correct to mention that this percentage sometimes suffers substantial increases, all as a result of learners interrelating properly and effectively with others who possess musical and visual-spatial intelligences.

Within the activities planned for the achievement of language skills, activities associated with body movements such as mime, the creation of plays and all those related to the processing of sensations were foreseen, which are known to allow the skills acquired to be related to clearly sensitive and meaningful experiences.

Within the observations regarding this intelligence in the different exercises, it is possible to say that learners were not very attracted to exercises that they had to do with body movements, only a work team was able to carry out the activity correctly. The work team in which the subjects with marked bodily-kinesthetic intelligence were found was the one that managed to fully develop the activities related to it. Although learners were not predominantly bodily-kinesthetic, they did need to be in constant movement to be able to pay attention to the class. After applying the proposed exercises, it was possible to observe that this intelligence was one of those that had a constant advance within the entire work group, due to the fact that the learners were attracted to this type of exercises since it allows them, among other things, to relax, in a certain way, their brain from purely academic and intellectual activities.

On the other side, this type of intelligence was worked on constantly at the beginning of all the sessions through the development of brain gymnastics or relaxation exercises so that learners had a moment of relaxation that allowed them to relax, concentrate and develop more effectively the exercises associated with the other intelligences.

### 7.1.8 Naturalistic intelligence

Naturalistic intelligence has an incidence of 7% in the study group, which means that learners are not directly involved with outdoor activities and that these are not so necessary for them. However, it was easily observed that learners tended to react differently if the activities took place outside the classroom.

Learners enjoyed developing this type of activities outside the classroom as it allowed them to develop in a different way. On the other side, some learners neglected the requested activities mainly because they were distracted by whatever was going on around them. It was necessary to constantly monitoring the activities so that learners remember the activity they were doing.

This intelligence is, most of the time, overlooked by teachers. However, it is necessary to develop attitudes that are geared towards understanding, reflection,

appropriation and awareness on the part of people towards the environment. It allows for the recognition of nature as an integral part of the human being. At the same time, it is pertinent to say that this intelligence is the least studied in this research, mainly due to the fact that it is the least related to the development of language skills.

## 7.2 Data analysis

The research presented is qualitative, within the qualitative character it can be said that it is exploratory and orientative in nature, based primarily on the researcher with the idea of demonstrating the initial hypothesis of this research process which is that multiple intelligences are an excellent way of achieving the development of language skills.

The exercises were applied in a linear and sequential manner, that is, according to the degree of complexity they presented in such a way that the increase in results was anticipated. In the first place, the exercise called *Hydrography* was applied, in which it was possible to notice that the learners did not show a great mastery in reading comprehension, speaking and writing skills since the results obtained were limited and unable to demonstrate the achievement of the skills. In other words, if one were to speak in terms of Biggs, it would be said that they presented pre-structural and uni-structural learning, that is, they are not able to apply it in their daily lives and only recognize it as isolated exercises and without repercussions or improvements for everyday life away from the classroom.[171] It is appropriate to point out that learners were convinced of this way of working based on the activities to which learners are naturally drawn.

In the second exercise *Don't expect me to be your friend*, how learners were able to use the English language to make known their deepest emotions and thoughts regarding the theme of the song was examined. In this sense, it is inevitable to point out that constant results were obtained, and the learners managed to place themselves at the uni-structural level.

The third exercise called *A shameless and sympathetic thief* sought to show the mastery of the learners in relation to reading comprehension, writing and vocabulary based on the use of multiple intelligences. In this exercise, a minimal and almost

[171] BIGGS, John B. and Catherine TANG, *Teaching for quality learning at university*, p. 181.

imperceptible increase was achieved, as few learners managed to overcome the uni-structural level and place themselves in the multi-structural level, which demonstrates in a partial and isolated way the academic achievements that are intended to be achieved.

The fourth exercise *The Legend of the Volcanoes* in which several variations of skills were worked on in conjunction with multiple intelligences. This exercise was one of those which the learners enjoyed most, probably because it is a story with which they feel familiar and to whose terms they are attracted. At the same time, it is necessary to point out that in this exercise there was an even more significant increase concerning the types of domains, as they managed to place themselves at the multi-structural level.

The penultimate exercise called *I Ask My Mother to Sing* allowed learners to develop their reading and listening comprehension, writing and grammar skills. This activity achieved good results, although it must be said that there were learners who presented a setback in the level of development, some reached the relational level and others managed to establish themselves at the expanded abstract level.

*The End* was the sixth and final application exercise. The aim of this exercise was for learners to develop the language skills of reading comprehension, speaking and writing. Due to the complexity of the exercise itself, learners were asked to do it in a group. It is significant to say that thanks to this, the relational level was maintained as constant, since together (interpersonal intelligence) learners were able to perform the activities proposed in this exercise in a good way. Some learners in particular were able to reach the extended abstract level.

As can be seen in the previous paragraphs, there was an increase in the achievement of the performance levels, all based on the good results obtained in each one of them. The improvement was gradual and constant.

The application of the exercises made it possible to show and demonstrate the incidence of multiple intelligences in the generation of language skills, in such a way that it became necessary to establish a series of categories that would make it possible to study the observations and results obtained from the exercises in such a way that it would be possible to determine whether the work under this scheme yields the expected results, that is, to prove that multiple intelligences help in the development and improvement in the acquisition of language skills.

The best way to carry out the analysis of the results is using the categorization of the information obtained through two different proposals. The first is based

on the analysis of the eight multiple intelligences and the second is on the use of language skills. It was decided to use the first type of analysis, based on the intelligences, because there are more common elements that allow an orderly reading of the results obtained through the analysis of the exercises applied, taking as a reference the rubric of evaluation created under the precepts of Biggs.[172]

However, it is appropriate to say that a general analysis of the answers obtained to each of the exercises in direct relation to the intelligences that are worked on in each of them presents an even broader vision of the results obtained by each of them.

In the first exercise *Hydrography*, the following intelligences and language skills were practised, verbal-linguistic, visual-spatial, logical-mathematical, interpersonal and naturalistic together with reading comprehension, writing, speaking and vocabulary. The levels of development were pre-structural and uni-structural. Learners were looking forward to the activity. It allowed them to recall previous knowledge.

The second exercise *Don't expect me to be your friend* practised the verbal-linguistic, bodily-kinesthetic, musical and visual-spatial intelligence while practising writing, listening comprehension, speaking and grammar. The level of development was unistructural. Learners felt comfortable especially when applying musical intelligence. Exercise based on bodily-kinesthetic intelligence was the least requested by learners.

The third exercise *A shameless and sympathetic thief* worked on many intelligences, such as verbal-linguistic, visual-spatial, logical-mathematical, interpersonal and intrapersonal while practising reading comprehension, writing and enhancing learners' vocabulary. The levels of development were uni-structural and multi-structural. Learners found the reading very interesting and remain participative. Learners managed to develop partially or collectively some of the exercises. It was a very long exercise which made them a bit bored and also made them momentarily lose interest.

In the fourth exercise *The Legend of the Volcanoes* learners developed verbal-linguistic, visual-spatial, logical-mathematical, interpersonal and intrapersonal intelligence. They practised reading comprehension, writing, speaking as well as improving grammar and vocabulary. Their development was at the multi-structural

[172] Ibid., p. 186.

level. This exercise was very beneficial. Learners seemed interested and committed to the activity they were carrying out. They managed to develop skills at a level of performance than the previous one.

The fifth exercise poem *I Ask My Mother to Sing* worked on intelligences such as verbal-linguistic, logical-mathematical, musical, interpersonal and lastly intrapersonal. Learners practised reading and listening comprehension, writing and grammar. Their development was at the relational and extended abstract level. Learners saw themselves more confident with the answers that they manifested before the exercises. They enjoyed the development of this kind of exercise that cached their attention. The writing activities were very revealing for them.

The last sixth exercise called *The End* practised intelligences such as verbal-linguistic, logical-mathematical, musical, interpersonal and intrapersonal. At the same time, reading comprehension and writing skills were practised. Their development was the same as in the fifth exercised, at the relational and extended abstract level. Reading was comprehensible for learners. The activities carried out were as good as expected.

As can be seen above, the exercises were worked on sequentially, which allowed the results to appear gradually, and although there were cases in which learners did not manage to move up to the next level of performance, they did manage to remain constant in the one they had. In addition, it is also possible to talk about the positive way in which learners reacted to the exercises, as they were pleasantly attracted to some activities, especially those that allowed them to work in a non-traditional way, that is, those that allowed them to express who they are and how they understand the world around them.

It is necessary to point out that one of the most effective means to indicate that the application of multiple intelligences in the development of language skills is a pertinent and effective tool is that through the realization of a contrast between the way traditional and the way of developing skills through multiple intelligences.

In the beginning, it was possible to observe that learners showed a poor performance with which it was possible to observe that the achievement of skills was taking place effectively. However, at the end of the evaluation, it could be seen that there was a significant advance by giving learners the necessary stimuli to develop their natural abilities.

From the information above, it can be established that working on language skills under the precepts of multiple intelligences will give successful results for the good of learners since it allows them to recognize their natural talents and apply them to their benefit. In this sense, it is important to point out that Gardner and some of his followers, such as Armstrong also report positive results when carrying out activities based on the precepts of multiple intelligences.

Finally, it is correct to talk about the content of this chapter, which sought to study the most relevant aspects of the analysis and discussion of the results obtained in the application of exercises based on the precepts of multiple intelligences. All this through the analysis of validity and reliability, data analysis and, of course, the results obtained.

# Conclusion

Gardner's multiple intelligences theory has brought a revolution in the field of theories about the mind, providing important discoveries about its character that are of great importance when it comes to understanding how learning takes place. For this reason, the theory can be inspiring for educators to design teaching programmes in line with an accurate and realistic view of the different ways of presenting content, so that these ways are attuned to the different intelligences of the learners and make knowledge accessible to them in a comprehensible and enduring way.

The conclusion seeks to show the findings, limitations and recommendations found in the diploma project called "Multiple lntelligences and Development of English Language Skills at Lower Secondary School".

In order to properly start this last chapter, it is essential to remember the primary objective of this study, which is to show the advantages that can be obtained by promoting learning based on language skills in learners at lower secondary school using the development of their multiple intelligences as a fundamental tool.

At the same time, it is essential to indicate the specific objectives, as these can concretely clarify the success or failure of the research, which are:

1. To develop language skills by means of exercises based on the precepts of multiple intelligences.

2. To show the effects of using multiple intelligences in the development of language skills.

This can be achieved through the analysis of the results and learning obtained, as well as the observations and appreciations that were able to be obtained through the interrelationship with learners.

The experiences obtained from the implementation of this diploma project were extensive and very complex since they allowed to reinforce, evaluate, corroborate and modify the premises and hopes that were counted at the beginning concerning the favourable and expeditious results of the use of multiple Intelligences as a means of improving access to skills.

Within these experiences, it can be pointed out that most of learners felt attracted to the different activities proposed, above all, because they went out of the daily routine of the classes as they proposed presentations, use of playful activities which allowed the learners to feel more connected and captivated towards them, which helped the development of language skills to be much more effective.

It should also be noted that the mood and time in which the activities are carried out is significant. If the activities are carried out during the first hours of classes, it is only necessary to contextualise learners in the topics to be worked on, and the teacher only supervises and solves some doubts or concerns that arise during the application. On the other hand, if the application of the activities is carried out after the break or in the last hours of the day, it is necessary to carry out a playful activity or brain gym that allows learners to relax and focus on what needs to be done. In other words, it is necessary to use a dynamic based on body-kinesthetic intelligence that allows them to focus, and after this dynamic, which can last up to 10 minutes, the activities can be carried out with excellence.

Another point to mention is that learners liked to carry out the activities in working groups determined by them, which allowed the activities to be carried out in their entirety, although the efficiency was not so great, since they spent a lot of time talking with each other and when they noticed that time was pressing, they dedicated themselves to work. When the working groups were formed not by learners' choice, with whom they want to work, the activities were carried out in less time but there were more constant errors or more concise answers as a result of the discomfort they felt working with those with whom they do not relate on a daily basis or for pleasure.

This research found that learners in their teenage years like to work with music, especially music that they are attracted to or familiar with, such as hip hop or rock which, although it seems unorthodox in the long run, it allows the learner to feel attracted to the work in class and to the topics to be covered, which in the long run provides rewarding benefits.

It can also be said that working with multiple intelligences allows the development of multifunctional and multitasking activities, where in order to achieve an objective, activities of different kinds are designed to allow the complete development of human beings, without really caring about the specific area of study.
The findings were substantial and allowed to verify the initial idea of this research, which is to show the effects that can be obtained by working on language skills through

the use of multiple intelligences and allowed to corroborate the initial idea.

It is transcendental to recognise that in order to achieve optimal results within this research process, it was necessary to determine the predominant intelligences in the study group (musical with an incidence of 22%, interpersonal with 19% and intrapersonal with 15%) since based on them and their incidence it was possible to adjust and determine the strategies used.

In this sense, it should be pointed out that verbal-linguistic intelligence, which is directly associated with the development of language skills, only presented a 12% incidence within the study group, which places it in fourth place within the group, with which it can be said that this did not help, in a natural way, to achieve the objectives of the research.

At the same time, it is necessary to mention that prioritising the use of the predominant multiple intelligences in the study group helped and will help learners to be attracted and motivated towards the development of their language skills, since that significant learning and therefore useful to life is encouraged based on what they are naturally good at and that substantially attracts them.

This does not mean that the other intelligences and abilities are relegated to lower stages or activities where they are not applied or are isolated from the general objectives. On the contrary, it is the task of the teacher to seek to include all the multiple intelligences in the classroom activities, which will ultimately allow learners to fully develop the intelligences proposed by Gardner together with language skills. In such manner learners are able to develop their multiple intelligences and from them generate the skills that will allow them to modify their context.

Armstrong and Gardner have pointed out that all multiple intelligences should be worked on in a random and integrated manner since this will allow for global and consensual learning of skills. As a result, those that are not so developed in the learner can be increased by dealing with people who have them naturally or who have been able to stimulate them to be able to master them almost natively, and those that they already possess naturally will benefit from constantly applying them and helping others to improve or increase them.

One of the best ways in which language skills and multiple intelligences can be developed is through socialisation, that is, by creating alternative and complementary study groups in which learners with different intelligences are placed so that through coexistence and healthy interaction with each other, the non-predominant intelligences

can be developed effectively. It is worth mentioning that these types of activities present an innate difficulty in them, which is mainly because learners sometimes feel displaced or unhappy when they are separated from their natural group of friends and work, which generates fear and distrust in themselves and in those around them.

It should also be stated, it is relevant to note that this academic interaction between learners with alternate and complementary intelligences gives successful results, since they manage to collectivise what they are naturally capable of doing and allow them to help their peers to increase their levels of mastery in the intelligences in which they are not naturally skilled. In the long run, it will endow them with notable academic advantages that will help them throughout their school, professional and personal lives.

The academic advantages achieved can be substantially exploited when they are linked to the daily classroom activities, where all learners are involved, the coordinating teacher and, of course, the material that will enable the development of language skills. It is appropriate to point out that designing academic activities using all multiple intelligences brings better results to learners' lives than just using verbal-linguistic or logical-mathematical intelligence.

All of the above is easily exposed and pointed out in each of the exercises applied, since they handle the different intelligences in a random, sequential and integrated manner with the aim of developing and evidencing the development of languages skills.

The exercises were assessed using an evaluation rubric based on Biggs' precepts to find out if the skills were developed or not. In this sense, it is appropriate to point out that large and perceptible improvements were obtained in the way in which learners responded to the first and last exercises. This was easily demonstrated.

Based on all of the above, it is possible to say that carrying out the development of language skills through exercises based on in the precepts of multiple intelligences, it brings extremely favourable results. From which it can be mentioned that the effects are excellent and innumerable, especially for learners involved in the process since they are be able to recognize the way in which they learn and are able to apply it on a daily basis to their personal and school lives.

In relation to the question "Could the use of any of the multiple intelligences result in the generation of language skills?", which was complementary to the research process, it could be determined that the interaction of multiple intelligences brings

favourable results where learners are able to generate skills if they are provided with the necessary stimuli to focus their attention. At the same time, it can be pointed out that the implementation of multiple intelligences in the design of activities to obtain language skills manages to substantially attract learners towards the achievement of the objectives proposed by the different academic subjects. In such a way that it is possible to see a real increase and therefore a substantial improvement in their levels of achievement.

At this point, it is also correct to point out that developing language skills through multiple intelligences requires a great effort and work on the part of the teachers involved in the educational process because they are the ones in charge of designing academic activities that occupy and integrate all multiple intelligences favourably, and of course, how these are developed, so that learners are able, or otherwise have the opportunity, to acquire language skills that are set out for them in a meaningful way.

It is pertinent to express that although the results obtained were excellent and it was possible to demonstrate what was proposed in the hypothesis of this research, there are many and sufficient areas of opportunity to achieve the optimal and continuous development of this research in other areas of work.

According to the results obtained, the following recommendations for future applications can be mentioned:

1. It is important to use strategies and exercises that encourage and strengthen the motivation of learners. At the same time, they should demand the execution of the acquired skills.

2. Know the predominant intelligences of the group with which it is intended to work and based on this, the most appropriate activities for the development of language skills taking multiple intelligences as a reference point could be designed.

3. Design exercises and/or learning strategies that combine the objectives set with multiple intelligences in order to obtain successful results.

4. Form collaborative work groups in which different multiple intelligences converge and which lead learners to successfully solve the different problems posed.

5. The design of the exercises or activities to be worked on must be homogeneous in terms of the form and content of the exercises, otherwise, there could be a variation in the results obtained. In this sense, it is worth mentioning that the exercises should be gradual, that is to say, they should go from the simplest to the most complex.

It can be pointed out that the idea of using multiple intelligences as a tool to develop language skills is adequate since as it was observed, learners constantly use what they know and how it is easier for them to know the world so that they are able to become competent in some area by generating meaningful learning based on what they like and what they are good at doing.

It must also be said that there are various lines of research within which it can be pointed out that all the competences of the current study plans, regardless of the educational level, can be worked on and achieved from the design of academic activities based on the precepts and considerations of the different scholars of multiple intelligences.

At the same time, it can be pointed out that the weak parts of the study that was carried out were the following:

1. Learners' lack of knowledge of Gardner's theory and of their predominant intelligences.

2. The short time the learners had to carry out the activities, which although they were designed to be carried out in 60-minute sessions, on certain occasions they had to be done in less time.

3. The poor development of their language skills at previous English classes.

To conclude, it is convenient to mention that this diploma project also reveals a series of questions that could give meaning or orientation to new researches related to

the subject of multiple intelligences in the generation of language skills, among which the following can be pointed out:

1. What are the educational implications of knowing the predominant intelligences of a work group to improve their performance levels?

2. What other educational applications can the development of multiple intelligences have in learners?

3. Will following an education based on the precepts of multiple intelligences provide better results than the traditional paradigm?

4. Will educating from childhood through multiple intelligences benefit or affect the development of the individual?

This chapter sought to highlight the conclusions and findings obtained through this thesis and thus successfully close the research process.

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# Appendices

## Appendix 1

*List of multiple intelligences designed by Thomas Armstrong for self-observation of learners.*[173]

List of multiple intelligences for learners.

Name: _____ Date: _____

Read the following statements carefully and answer **true (T)** or **false (F)** on the line, according to your preference. Remember that this test is confidential and of utmost relevance to get to know you and guide you better.

1. ____ I prefer to make a map than explain to someone how to get there.
2. ____ If I am angry or happy, I usually know exactly why.
3. ____ I know how to play (or used to know how to play) a musical instrument.
4. ____ I associate music with my moods.
5. ____ I can mentally add or multiply very quickly.
6. ____ I can help a friend deal with his or her feelings.
7. ____ I like working with calculators and computers.
8. ____ I quickly learn to dance a new dance.
9. ____ It is not difficult for me to say what I think in a discussion or debate.
10. ____ I enjoy a good conversation.
11. ____ I always know north from south, wherever I am.
12. ____ I like to gather groups of people at a party or a special event.
13. ____ Life seems empty to me without music.
14. ____ I always understand the graphics that come with instructions for equipment or instruments.
15. ____ I like to do puzzles and play games.
16. ____ It was easy for me to learn to ride a bike.

[173] ARMSTRONG, Thomas, *Multiple Intelligences in the Classroom*.

17. ____ I get angry when I hear an argument or a statement that seems illogical.
18. ____ I am able to convince others to follow my plans.
19. ____ I have a good sense of balance and coordination.
20. ____ I often see configurations and relationships between numbers more quickly and easily than others.
21. ____ I like to build models (or make sculptures).
22. ____ I have a sharp eye for the meaning of words.
23. ____ I can look at an object one way and just as easily see it.
24. ____ I often make the connection between a piece of music and some event in my life.
25. ____ I like to work with numbers and figures.
26. ____ I like to sit quietly and reflect on my inner feelings.
27. ____ Just looking at the shape of buildings and structures makes me feel at comfortable.
28. ____ I like to hum, whistle and sing in the shower or when I am alone.
29. ____ I am good at athletics.
30. ____ I like to write detailed letters to my friends.
31. ____ I am usually aware of the expression on my face
32. ____ I notice the expressions on other people's faces.
33. ____ It is not hard for me to identify my moods.
34. ____ I notice other people's moods.
35. ____ I am quite aware of what others think of me.

**Processing sheet**

Circle each of the items you marked as true (T). Add the totals together. A total of four in any of the categories indicates the type of intelligence and ability.

A: 9 – 10 – 17 – 22 – 30
B: 5 – 7 – 15 – 20 – 25
C: 1 – 11 – 14 – 23 – 27
D: 8 – 16 – 19 – 21 – 29
E: 3 – 4 – 13 – 24 – 28
F: 2 – 6 – 26 – 31 – 33
G: 12 – 18 – 32 – 34 – 35

**Total**

A: Verbal-linguistic intelligence

B: Logical-mathematical intelligence

C: Visual-spatial intelligence

D: Musical intelligence

E: Bodily-kinesthetic intelligence

F: Intrapersonal intelligence

G: Interpersonal intelligence

**Naturalistic intelligence was included only in the list of multiple intelligences for teachers. Naturalistic predominant intelligence of learners was determined based on that list's criterion.*

## Appendix 2

*List of multiple intelligences designed by Thomas Armstrong.*[174]

List of multiple intelligences for teachers.

Name of the learner: _____ Date: _____

*Verbal-linguistic intelligence*

1. ____ Writes better than average for his/her age group.
2. ____ Tells credible stories.
3. ____ Has a good memory for names, places, dates or anecdotes.
4. ____ Enjoys word games
5. ____ Likes to read
6. ____ Writes with correct spelling
7. ____ Enjoys word games and tongue twisters
8. ____ Enjoys listening to oral language (story, radio, audio books)
9. ____ Has a good vocabulary for his/her age
10. ____ Communicates with others verbally.

*Logical-mathematical intelligence*

1. ____ Asks a lot of questions about how things work.
2. ____ Enjoys working or playing with numbers.
3. ____ Likes math class.
4. ____ Finds mathematical and computer games interesting.
5. ____ Likes chess, checkers and other strategy games.
6. ____ Enjoys logic puzzles.
7. ____ Likes to sort things into categories, hierarchies or other logical patterns.
8. ____ Likes to do experiments in science class or in his/her free time.
9. ____ Shows interest in science-related topics.
10. ____ Is good at logic-type assessments.

*Visual-spatial intelligence*

[174] ARMSTRONG, Thomas, *Multiple Intelligences in the Classroom*.

1. ____ Conveys clear visual images.
2. ____ Reads maps, graphs and diagrams more easily than text.
3. ____ Daydreams very often.
4. ____ Likes artistic activities.
5. ____ Draws well.
6. ____ Likes to watch films, slides and other visual presentations.
7. ____ Makes interesting three-dimensional constructions.
8. ____ When reading, he/she gets more information from pictures than from words.
9. ____ Likes puzzles, mazes and other varied visual activities.
10. ____ Scribble on books, sheets, and other school supplies.

*Musical intelligence*

1. ____ Distinguishes when music sounds out of tune.
2. ____ Remembers the melodies of songs.
3. ____ Sings well.
4. ____ Plays a musical instrument or sings in a choir or other group.
5. ____ Speaks and/or moves rhythmically.
6. ____ Hums unconsciously.
7. ____ Rhythmically taps on the table while working.
8. ____ Is sensitive to environmental sounds.
9. ____ Responds positively when a piece of music starts to play.
10. ____ Sings songs he/she has learned outside of class.

*Bodily-kinesthetic intelligence*

1. ____ Excels in one or more sports.
2. ____ Fidgets, fidgets, taps or becomes impatient when sitting for long periods of time.
3. ____ Skillfully imitates other people's gestures or mannerisms.
4. ____ Loves to take things apart and put them back together again.
5. ____ Touches everything in sight.
6. ____ Likes to run, jump, fight or similar activities.
7. ____ Shows skill in some manual activity or otherwise good fine motor coordination.
8. ____ Expresses himself/herself in a very theatrical way.

9. ____ Has a variety of physical sensations while thinking or working.
10. ____ Likes to work with clay or other tactile experiences.

*Intrapersonal intelligence*

1. ____ Is independent or strong-willed
2. ____ Has a realistic sense of his/her abilities and weaknesses.
3. ____ Does well at playing or studying alone.
4. ____ His or her lifestyle and learning style seems to go at a different pace from others.
5. ____ Has a hobby which he/she does not talk too much about.
6. ____ Knows in which direction to go.
7. ____ Prefers to work alone.
8. ____ Expresses his/her feelings with precision.
9. ____ Learns from his/her mistakes and successes.
10. ____ Has good self-esteem.

*Interpersonal intelligence*

1. ____ Enjoys interacting with peers.
2. ____ Seems a natural leader.
3. ____ Offers advice to friends who have problems.
4. ____ Seems smart.
5. ____ Belongs to a club, committee, organisation or informal group of friends.
6. ____ Enjoys teaching other children what he/she knows.
7. ____ Likes to play with peers.
8. ____ Has two or more close friends.
9. ____ Has a good sense of empathy or concern for others.
10. ____ Others seek their company.

*Naturalistic intelligence*

1. ____ Talks a lot about his/her favourite pets or the outdoor places he/she likes the most.
2. ____ Likes trips to the countryside, to the ZOO or to a natural history museum.

3. ____ Shows sensitivity to natural formations.

4. ____ Likes to water and care for classroom plants.

5. ____ Always goes around places where there are animals.

6. ____ Enjoys nature projects, such as bird watching, butterfly or insect collections, studying trees or animal crossbreeding.

7. ____ Gets excited when studying ecology, nature, plants or animals.

8. ____ Advocates in class for animal rights or conservation of the planet.

9. ____ Brings bugs, flowers, leaves or other natural creatures to school to share with classmates or teachers.

**Processing sheet**

To determine the type of multiple intelligence present in each of learners, count the number of statements in each of them. Those with more than five positive statements should be considered the learner's multiple intelligences.

## Appendix 3

Table to record the observations made in each of the exercises.

| Exercises | Observations |
|---|---|
| Exercise 1 | |
| Exercise 2 | |
| Exercise 3 | |
| Exercise 4 | |
| Exercise 5 | |
| Exercise 6 | |

**Observation notes**

| Exercises | Observations |
|---|---|
| Exercise 1<br>**Hydrography** | Ls are looking forward to this as it is the first exercise they are going to do. Ls are engaged to the exercise. Cross-curricular relations with geography are applied, which allows Ls to recall previous knowledge. |
| Exercise 2<br>**Don't expect me to be your friend** | Ls are feeling relaxed while listening to the music. Therefore, bodily-kinesthetic intelligence has not succeeded much at this stage because Ls had to exert physical activity. |
| Exercise 3<br>**A shameless and sympathetic thief** | Ls are engaged into the reading activity because of the mythology theme. It is interesting for them. Ls are cooperating and helping each other. Due to the length of the text, some Ls briefly lost interest and some had to return to certain passages. |
| Exercise 4<br>**The Legend of the Volcanoes** | In this exercise, I can see a huge progress in the Ls' development of language skills. Therefore, I find this exercise beneficial. Some Ls had difficulty pronouncing the names of the volcanoes, which created a relaxing atmosphere as Ls laughed. |
| Exercise 5<br>**Poem I Ask My Mother to Sing** | Ls have no problem understanding the poem, so the exercises seem clearer to them. Ls are open about their feelings and emotions. It is important in the development of intrapersonal intelligence. The writing activities in groups are revealing. |
| Exercise 6<br>**The End** | The short story was comprehensible and enjoyable for Ls. Ls are showing great progress in the development of reading, writing and speaking skills. |

## Appendix 4

*Exercises that are carried out to develop language skills based on the precepts of multiple intelligences.*

### Exercise 1

**Hydrography**

Name: _____ Date: _____

**Instructions:** Read the following text, then solve the word search and answer the questions.

The Giant Mountains boasts one of the important headwater areas, a place of origin for major Central European streams. The bordering Silesian Ridge forms the watershed between the Baltic Sea and North Sea, with waters of exclusively rainfall origin flowing from the prevailing western portion of the mountain into the North Sea via the basin of the River Elbe, while those flowing down on the Polish side head into the River Odra, to be carried through to the Baltic.

In the Czech part, the river system consists of over 140 streams, the waters of which feed the seven big rivers of the Giant Mountains – the Jizera, Mumlava, Jizerka, Úpa and Elbe along with its first two major tributaries, Bílé Labe and Malé Labe. More sparse and shorter, the network of Polish rivers is made up of 31 rivers, such as the Kamienna, Lomnica and Jedlica being amongst the largest. One of Europe's major rivers, the Elbe springs from a place called Labská louka in the western portion.

The Giant Mountains is well-known for its waterfalls, for example, the Pančava, Elbe and Horní Úpa waterfalls. Near Sněžka mountain lie two glittering glacial lakes – the Wielki Staw and Mały Staw. In the troughs of the Mumlava, Jizera and Elbe rivers, the rapidly swirling water has modelled giant potholes and kettles.

*Shortened, text is from the website The Krkonoše Mountains National Park.*[175]

[175] *Hydrography*, krnap.cz/en/hydrography/.

*Word Search*

B U H S I R E V I R S W
C I T L A B S E N N A I
C C R A R E Z I J T P I
M X N M A J R E E O N A
N A T U R E I R T E I N
C L Q K G W F H E B L E
E J R S X A O T Y J M M
X A C X L L A K E N I T
P T H L E M U M L A V A
J N O R T H S T R E A M

**Verbal-linguistic intelligence and interpersonal intelligence**

1. How many different words did you find in the wordsearch from the text?

2. What is the theme of the exercise?

3. How many words that are mentioned in the text are included in the wordsearch? What are they?

3. What do you think of the activity? Discuss in pairs.

**Logical-mathematical intelligence**

5. Classify in columns the most important concepts that you recognized in the exercise.

**Visual-spatial intelligence**

7. Draw a picture showing the main elements of the reading.

8. Develop a mind map with the main ideas of the text.

**Exercise 2**

**Don't expect me to be your friend**

**by Lobo**

Name: _____ Date: _____

**Instructions:** Listen carefully to the song and take some notes that may help you to solve the following activities. The song will be played twice.

Make group of five and do the following exercises.

**Verbal-linguistic intelligence**

1. If the song was based on a real event, what would the plot be like, what would the story tell? Discuss in the group.
2. Imagine you are the author of the song and write the original story.

**Bodily-kinesthetic intelligence**

3. Make a pantomime where you tell the story of the song using only your body and gestures to your classmates.

**Musical intelligence**

4. If you had to write two more lines of the song what would it say?

**Visual-spatial intelligence**

5. Make a mind map about the emotions, feelings and memories that this song awakes in you.

**Exercise 3**

**A shameless and sympathetic thief**

Name: _____ Date: _____

**Instructions:** Look at the pictures and the title of the story and based on them answer the two questions.

*Pictures are from Google Images.*

1. Where is the city located?
2. Who are the main characters?

Hermes was the son of Zeus and Maia. Born at dawn, at noon he made two extraordinary things: invented the lyre and made the first robbery of it. His mother had wrapped him in swaddling clothes and put him in a cradle in the middle of a grotto, but the child jumped out of the cradle, took off the cloths that wrapped him up, and ran off into the fields. When the sun was about to set, he wanted to take a souvenir from lands through which he had passed. In those meadows grazed the oxen of the hut of the gods, cared for by an exceptional guardian, the god of the Sun, Apollo.

Apollo was very busy trying to convince a beautiful nymph of how wonderful it could be for her to be in his company and how bad it was to be alone. Hermes took advantage of the opportunity and in the blink of an eye he separated 50 of the best specimens of oxen and took them along hardly traveled roads. Cunningly he made a thousand traps to erase the traces of "his feat". He forced the oxen to walk by making the front hooves walk backwards and the back hooves walk forwards, and he himself walked backwards. To make the tracks blurred, he cut branches from the leafy trees and tied them to the animals' tails, so that, when dragged, they would scatter all traces.

Finally, he sacrificed two oxen in honour of the gods, invented the fire, hid the remaining animals in an hour beforehand. There he became tiny, put on his swaddling clothes, bundled himself up and began to play with the lyre he had invented from the shell of a tortoise. But Hermes did not have one of Apollo's gifts, which was divination, so the gods showed up furious at the grotto where the precocious thief was resting. "Give me back my oxen, where are they?"

Hermes shamelessly denied his theft. Apollo, furious, brought the newborn to Zeus and there, the little thief had to confess what he had done and take the sun god to the grotto where he had hidden the animals. Apollo roared: "Two more to go!"

Then Hermes began to play the lyre, and the sounds were so harmonious that the brother god was enraptured. Hermes gave him the lyre and Apollo, forgetting his anger, gave him his cowboy whip, made from a sunbeam, and said: "From now on you will take care of the flocks."

From that time Apollo protected the artists and Hermes protected the peasants and the flocks. Zeus, aware of the intelligence of his son, entrusted him to be a messenger of the gods, and his performance was so wonderful, always finding the right word to calm things down, that he was soon the protector of orators and travellers. Because of his shrewd bartering, he also protected merchants. Hermes married a naiad.

*Shortened and adjusted.*[176]

[176] MARCUS, Richard et al., Introduction to Greek Mythology for Kids: A Fun Collection of the Best Heroes, Monsters, and Gods in Greek Myth, p. 97-101.

Work individually. Complete the following sentences with the words found in the table.

| Hermes | hidden | lyre | enraptured | shameless |
|---|---|---|---|---|
| cunning | Apollo | Zeus | nymph | naidad |
| | exceptional | shameless | naidad | |

1. _____ is an ability to do some things, or a characteristic trait of someone.
2. _____ is also called Mercury in Roman Mythology.
4. _____ – Father of the Greek gods.
5. Stringed musical instrument _____.
6. _____ means bold, insolent, speaking or acting impolitely.
7. _____ means to ravish, enrapture and captivate the senses.
8. _____ is the god of the day, protector of the arts, especially music.
9. _____ each of the minor goddesses who inhabit the forests and the waters.
10. _____ each of the nymphs that inhabit the rivers and springs:
11. _____ is shrewdness, subtlety, ability to deceive or to avoid deception and to achieve a goal.
12. _____ is that which is out of the ordinary or occurs only once.

Answer the following questions with your own ideas, words and expressions.

1. Which of these adjectives can be applied to Hermes? Mark those that do not apply.

cunning liar foolish naive light-hearted
eloquent capricious whimsical

2. What was the relationship between Hermes and Apollo?

3. Look at the following expressions and mark the ones that correspond to the reasons why Hermes was the messenger of the gods.

- He invented the lyre and fire.
- He was the favourite son of Zeus.
- He was very fast.
- He was clever.
- He convinced everyone with his conversation.

4. What things does Hermes do to mislead Apollo?

5. Put the story in the correct order.

_____ Hermes decides to take a walk in the countryside.

_____ Hermes distracts Apollo by playing the lyre.

_____ Zeus makes Hermes the messenger of the gods and protector of merchants, thieves and orators.

_____ Hermes gives Apollo his lyre as a gift.

_____ Hermes wishes to take fifty oxen as a souvenir of his first ride.

_____ Apollo is angry because he is missing two oxen.

_____ Hermes uses his cunning to erase the tracks of the animals.

_____ Zeus forces Hermes to confess the truth.

_____ Hermes takes advantage of Apollo's distraction to steal the oxen he desires.

_____ Apollo tended the herds of the gods.

_____ Hermes is forced to take Apollo to the grotto where he hid the animals.

_____ Hermes hides the stolen animals and returns to his grotto.

_____ Hermes denies to Apollo that he has stolen from him.

6. What are the powers of Hermes?

7. If you had the chance to be Apollo or Hermes, who would you be and why? Discuss in a group of four.

**Exercise 4**

## The Legend of the Volcanoes

Name: _____ Date: _____

**Instructions:** Read the following text carefully.

The view that adorns the world's largest city – Mexico City – is enhanced by the majesty of two of the highest volcanoes in the hemisphere: Popocatepetl and Iztaccihuatl. The presence of these enormous millennial volcanoes has been of great significance for the different societies that have admired and revered them, being a source of inspiration for the many legends about their origin and creation. Among these, the best known are two below.

Thousands of years ago, when the Aztec Empire dominated the Valley of Mexico, it was common practice to subject neighboring towns and to require a mandatory tax. It was then that the chief of the Tlaxcaltecas, bitter enemies of the **Aztecs**, weary of this terrible oppression, decided to fight for his people's freedom.

The chief had a daughter named Iztaccihuatl: the most beautiful of all the princesses, who had professed her love for young Popocatepetl, one of her father's people and the most handsome warrior. Both professed a deep love for each other, so before leaving for war, Popocatepetl asked the chief for the hand of Princess Iztaccihuatl. The father gladly agreed and promised to welcome him back with a big celebration to give him his daughter's hand if he returned victorious from the **battle**. The **brave** warrior accepted, prepared everything and departed keeping in his heart the promise that the princess would be waiting for him to consummate their love.

Soon afterward a love rival of Popocatepetl, jealous of the love they professed to each other, told Princess Iztaccihuatl that her beloved had died in combat. Crushed and overwhelmed by sadness, the princess died without even knowing that it was a lie. Popocatepetl returned victorious to his people, hoping to find his beloved princess. Upon arrival, he received the terrible news of the death of Iztaccihuatl. Devastated by the news, he wandered about the streets for several days and nights, until he decided he

had to do something to honor her love and to assure the princess would not ever be forgotten.

He ordered a great tomb to be built under the sun, piling ten hills together to form a huge mountain. He carried the body of his Princess in his arms, took her to the summit and laid her on the great mountain. The young warrior lovingly kissed her cold lips, took a smoking torch and **knelt** in front of his beloved to watch over her eternal sleep. From then on, they remain together, facing each other. Over time, snow covered their bodies forming two enormous volcanoes that would remain together until the end of time.

The legend goes on to say that when the warrior Popocatepetl remembers his beloved, his heart – that preserves the fire of eternal passion – shakes and his torch smokes. That's why, even today; the Popocatepetl volcano continues **spewing** fumaroles.

This legend has been passed on from generation to generation since the time of the Aztec Empire and the importance given to them is clear, for the names that they have today were given to them since that time.

*Text is from the website Vanderbilt University College of Arts and Science*.[177]

Answer the following questions.

1. What is a legend?
2. What values does the Popocatepetl warrior have?
3. What would you have done if you were in the same situation as Popocatepetl?
4. What was the cause of Princess Iztaccihuatl death?
5. What did Popocatepetl did to honor his loved one after she died?
6. Write three rhythmic couplets in which you express what you understood and felt about this Mexican legend.
7. Make a poster in which you express the main idea of the text.

Look at tbe bold words in the text and write your own definition of them. Work in pairs.

- Aztecs

[177] *The Legend of Popocatepetl & Iztaccihuatl: A Love Story*, As.vanderbilt.edu.

- battle
- brave
- knelt
- spewing

Write in your own words what you understand from the following text.

**From then on, they remain together, facing each other. Over time, snow covered their bodies forming two enormous volcanoes that would remain together until the end of time.**

Identify the tense in the following sentences.

The presence of these enormous millennial volcanoes has been of great significance for the different societies.

The father gladly agreed and promised to welcome him back with a big celebration to give him his daughter's hand if he returned victorious from the battle.

He wandered about the streets for several days and nights.

The Popocatepetl volcano continues spewing fumaroles.

Write the infinitive form of each verb. Then translate the verbs.

- carried
- ordered
- been
- forming
- known
- had
- keeping

**Exercise 5**

**Poem I Ask My Mother to Sing**

**by Li-Young Lee**

Name: _____ Date: _____

**Instructions:** Listen and read the following poem. Answer the questions.

She begins, and my grandmother joins her.
Mother and daughter sing like young girls.
If my father were alive, he would play
his accordion and sway like a boat.

I've never been in Peking, or the Summer Palace,
nor stood on the great Stone Boat to watch
the rain begin on Kuen Ming Lake, the picnickers
running away in the grass.

But I love to hear it sung;
how the waterlilies fill with rain until
they overturn, spilling water into water,
then rock back, and fill with more.

Both women have begun to cry.
But neither stops her song.

*Poem is from Poetry Foundation*.[178]

1. What nationality the author of the poem is?
2. Does the author shows some characteristic features of patriotism in the poem?
3. How do you feel about the poem?

[178] *I Ask My Mother to Sing*, Poetryfoundation.org.

4. Write all the verbs from the poem and to each verb add its infinitive form.
5. Make a mind map to describe the poem – represent the emotions of the author of the poem. Identify your emotions with colours.

Work in groups of five.
1. Write two more verses of what might happen next. The verses have to be related to the content of the whole poem.
2. Discuss how the poem affect you, why the poem awakes the feeling of sadness and who do the family mourn for.
3. Draw a picture in which you express what you learnt from the poem.
4. Make a short story that contains the main idea of the poem.

**Exercise 6**

**The End by Fredric Brown**

Name: _____ Date: _____

**Instructions:** Read the short story.

> Professor Jones had been working on time theory for many years. "And I have found the key equation," he told his daughter one day. "Time is a field. This machine I have made can manipulate, even reverse, that field." Pushing a button as he spoke, he said, "This should make time run backward run time make should this," said he, spoke he as button a pushing. "Field that, reverse even, manipulate can made have I machine this. Field is a time." Day one daughter his told he, "Equation key the found have I and." Years many for theory time on working been had Jones Professor.
>
> *Text is from the book Nightmares and Geezenstacks by Frederic Brown.*[179]

Answer the following questions.

*Verbal-linguistic intelligence*

1. How would you describe Professor Jones's experience?
2. To what extent do you think Professor Jones realized that his experiment worked?
3. Do you think that Professor Jones had a feeling that something was "wrong" when he said: "Field that, reverse even, manipulate can made have I machine this. Field is a time."
4. If you were his daughter, before he pressed the button, what questions would you ask him?

*Intrapersonal intelligence*

1. How does the short story make you feel?
2. How difficult was it for you to understand the concept?
3. How remarkable do you find the risks many scientists take in experimenting?

[179] BROWN, Frederic, *Nightmares and Geezenstacks*, p. 337.

*Musical intelligence*

1. What piece of music would you use to set the story to music?

2. Write down the possible planning of Professor Jones' experiment. What was he thinking about when he planned it? What did he prioritise? Which things did he prioritise the most?

*Logical-mathematical intelligence*

1. What do you think were the possible problems that Professor Jones could have considered? Draw a diagram using boxes and arrows to explain the events step by step.

## Appendix 5

*Evaluation rubric – rubric for assessing the development of the multiple intelligences.*[180]

Verbal-linguistic intelligence

| *Descriptors* | *Pre-structural* | *Uni-structural* | *Multi-structural* | *Relational* | *Extended abstract* |
|---|---|---|---|---|---|
| *Sensitivity to words* | Insensitivity to words | Low sensitivity to words | Average sensitivity to words | Good sensitivity to words | Excellent sensitivity to words |
| *Sensitivity to the structure* | Fails to adequately understand the structure of the text | Limited understanding of the structure of the text | Adequately understands the structure of the text | Correctly understands the structure of the text | Excellent understanding of the structure of the text |
| *Interpretation of meanings* | Fails to master it | Limited understanding of all the words in the text | Interprets well all the words in the text | Adequately interprets all the words in the text | Excellently interprets all the words in the text |
| *Main ideas* | Fails to find the main ideas of the text | Partially finds to extract the main ideas of the text | Only finds one main idea | Finds more than two main ideas | Finds all main ideas |
| *Text / Oral discourse* | Does not understand the overall content of the text | Limited understanding of the text | Partial understanding of the text | Retains only the important facts of the text | Succeeds in reinterpreting the text |

[180] LAZEAR, David, *The Rubrics Way: Using Multiple Intelligences to Assess Understanding*.

Logical-mathematical intelligence

| *Descriptors* | *Pre-structural* | *Uni-structural* | *Multi-structural* | *Relational* | *Extended abstract* |
|---|---|---|---|---|---|
| *Sensitivity to numerical schemes* | Fails to master it | Shows little ability | Shows limited ability | Adequate sensitivity to numerical schemes | High sensitivity to numerical schemes |
| *Logical schemes* | Fails to master it | Shows little ability | Manages to do them in an acceptable way | Shows little management of resources in elaboration | Shows excellent ability |
| *Abstract thinking* | Does not show | Shows limited processes | Has basic elements of thinking | Has fundamental elements of thinking | Excellently developed |

Visual-spatial intelligence

| *Descriptors* | *Pre-structural* | *Uni-structural* | *Multi-structural* | *Relational* | *Extended abstract* |
|---|---|---|---|---|---|
| *Image-based reinterpretation* | Does not show it easily | Confusing | Shows basic elements | Has redeemable elements | Excellent ability |
| *Image sensitivity* | Does not show it easily | Limited | Basic, difficult to interpret | Shows good interpreting ability | Excellent |
| *Interpretation of meanings* | Non-existent | Limited | Not well related | Shows good interpretation of meanings | Excellent, allows easy reinterpretation |

Bodily-kinesthetic intelligence

| *Descriptors* | *Pre-structural* | *Uni-structural* | *Multi-structural* | *Relational* | *Extended abstract* |
|---|---|---|---|---|---|
| *Movement* | Non-existent | Basic and limited | Easily observable, but not precise | Accurate and gives the interpretation | Adequate, consistent and allows the recognition and improvement of learning |
| *Body management* | Non-existent | Basic and limited | Easily observable, but not precise | Accurate and gives the interpretation | Constant and relevant, evidences the learning |
| *Movement-based reinterpretation* | Unobservable | Basic, limited | Not very observable, movements are imprecise and not very helpful for learning | Observable, movements are not very precise and do not help to learn | Evident, aids achievement of competence |

Interpersonal intelligence

| *Descriptors* | *Pre-structural* | *Uni-structural* | *Multi-structural* | *Relational* | *Extended abstract* |
|---|---|---|---|---|---|
| *States of mind* | Cannot identify it | Partially identifies it and uses it only to a limited extent | Partially identifies it and uses it only to a limited extent | Can identify it and uses it partially for his/her own benefit. | Uses it to his/her advantage to generate learning based on collaborative work |
| *Motivation* | Cannot identify it | Partially identifies it | Partially identifies it in a limited way and is not able to generate it in his/her classmates | Partially identifies it and is not able to generate it in his/her classmates | Identifies it and works with it to successfully achieve the job |
| *Analysis* | Non-existent | Limited | Partial, but not used to the advantage of the work | Partial and uses it acceptably to the advantage of the work | Excellent and used to the advantage of the work |
| *Relationship with the world* | Does not relate to the world | Little | Limited and not with everyone | Establishes cooperative relationships | Establishes good cooperative relationships with a view to achieving the goal |

Intrapersonal intelligence

| *Descriptors* | *Pre-structural* | *Uni-structural* | *Multi-structural* | *Relational* | *Extended abstract* |
|---|---|---|---|---|---|
| *States of mind* | Does not identify moods well | Identifies moods to a very limited extent | Poorly identifies his/her moods | Partially identifies his/her moods | Ability to identify and work with his/her moods in an accurate way |
| *Motivation* | Fails to establish it | Establishes it in a limited way | Establishes it in a good way, although not to his/her benefit | Generates it to his/her benefit in an acceptable way | Generates it in an excellent way and uses it to his/her advantage |
| *Introspection* | Fails to establish it | No evidence of it | Little and does not lead to the achievement of objectives | Good and leads to an acceptable achievement of objectives | Excellent and leads you to improve your own work |
| *Strengths / Weaknesses* | Fails to make a clear distinction | Confuses them | Partially complements them | Complements them in a good way and works with them | Complements them in an excellent way and uses them to his/her advantage in an excellent way |

Musical intelligence

| *Descriptors* | *Pre-structural* | *Uni-structural* | *Multi-structural* | *Relational* | *Extended abstract* |
|---|---|---|---|---|---|
| *Musicality* | Does not present it | Limited | Partially presented | Good presentation | Excellent presentation |
| *Appreciation* | Does not present it | Limited | Partially presented | Good presentation | Excellent presentation |
| *Reinterpretation of rhythm, tone and timbre* | Does not present it | Limited | Partially presented | Good presentation | Excellent presentation |

# Résumé

Učitel má ve výuce různé možnosti. Využívá teoretický rámec, filozofické a technické základy k prosazování cílů vzdělávacího systému. Při vzdělávání hraje pro učitele důležitou roli inteligence a zájem žáků. První část práce se zabývá konceptem inteligence a zkoumáním teorie mnohočetné inteligence podle Howarda Gardnera. Má také stručně představit, jak může učitel začlenit každou z osmi inteligenci do každodenního vzdělávání a tím podporovat formování žáka. Zároveň se ukazuje, že teorie mnohočetných inteligencí nám pomáhá při rozvíjení jazykových dovedností, protože pracuje s přirozenými schopnostmi a talentem každého žáka. Druhá část je věnována implementaci a rozvoji dovedností pomocí Garnderovy teorie. Byla použita kvalitativní metoda. S pomocí různých aktivit bylo možné sledovat rozvoj jazykových dovedností žáků v anglickém jazyce.

# Annotation

| | |
|---|---|
| **Jméno a příjmení:** | Bc. Dagmar Sedláčková |
| **Katedra:** | Ústav cizích jazyků |
| **Vedoucí práce:** | doc. PhDr. Václav Řeřicha, CSc. |
| **Rok obhajoby:** | 2022 |

| | |
|---|---|
| **Název práce:** | Mnohočetné inteligence a rozvoj jazykových dovedností v anglickém jazyce na druhém stupni ZŠ |
| **Název v angličtině:** | Multiple Intelligences and Development of English Language Skills at Lower Secondary School |
| **Anotace práce:** | Diplomová práce vychází z Gardnerovy teorie mnohočetné inteligence. V první části práce je vysvětlen pojem inteligence. Dále se popisuje a rozebírá všech osm druhů inteligencí dle Gardnera a jejich možné využití ve výuce anglického jazyka. V druhé části jsou aplikována cvičení na podporu jednotlivých inteligencí a jazykových dovedností žáků. |
| **Klíčová slova:** | Howard Gardner, Thomas Armstrong, jazykové dovednosti, anglický jazyk, mnohočetné inteligence, jazyková, vizuálně-prostorová, interpersonální, intrapersonální, logicko-matematická, hudební, tělesně-pohybová, přírodovědná |
| **Anotace v angličtině:** | The thesis is based on Gardner's theory of multiple intelligences. In the first part of the thesis the concept of intelligence is explained. It further describes and analyzes all eight types of intelligences according to Gardner and their possible use in the English language teaching. In the second part, exercises are applied to promote the different intelligences and language skills of learners. |
| **Klíčová slova v angličtině:** | Howard Gardner, Thomas Armstrong, language skills, English language, multiple intelligences, verbal-linguistic, visual-spatial, interpersonal, intrapersonal, logical-mathematical, musical, bodily-kinesthetic, naturalistic |
| **Přílohy vázané v práci:** | Seznam pro žáky a učitele<br>Poznámky z pozorování<br>Jednotlivé aktivity<br>Tabulky<br>CD |
| **Rozsah práce:** | 106 stran |
| **Jazyk práce:** | Anglický jazyk |