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The Relationship between English Language Students' Multiple Intelligences and Reading Comprehension

A Case Study of Third Year LMD Students at the English Division in the University of M'sila

DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE MASTER DEGREE IN SCIENCES OF LANGUAGE

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Dedication

TO MY MOTHER

TO THE SOUL OF MY FATHER

TO MY DEAR BROTHERS AND SISTERS

TO MY WHOLE FAMILY MEMBERS

TO MY BELOVED FRIENDS

Acknowledgment

I would like to thank Allah for his never ending blessings

I would like to deeply thank my supervisor Mrs. Nachoua Hassina for her

understanding, support, patience and guidance

Once again, my deep thanks and appreciation exceed to my beloved

family

for their patience and consistent support during this period.

Finally, I wish to give special thanks and high appreciation

to all those who helped in this study.

Abstract

Howard Gardner's multiple intelligences theory helped teachers, educators, parents and students understand the importance of catering for individual differences in terms of learning styles. This present research tries to explore the relationship between the students' multiple intelligences and their reading comprehension. The researcher started by trying to identify the students' multiple intelligence profiles of fifty two English major students by using a reliable McKenzie's (1999) MI profiling survey to sort out the students' dominant intelligences. Moreover, all participants were asked to answer a TOEFL (2007) reading comprehension test to assess their reading ability. Results of the correlation analysis showed that there is a significant relationship between the MI profiles and the reading ability. The multiple regression analysis identified the naturalstic intelligence and the interpersonal intelligence as the predictors of the reading ability scores.

ملخص

ساعدت نظرية الذكاء المتعدد لهوارد غاردنر كلا من الاساتذة والمربيين و الأهالي و الطلبة على فهم مدى نجاعة الاهتمام بالاختلافات الفردية عند الأفراد فيما يخص أساليب التعلم. هذه الدراسة تحاول استكشاف العلاقة بين الذكاء المتعدد للطلبة والقراءة. بدأ الباحث بمحاولة تحديد سجلات الذكاء الخاصة ب (**52**) طالبا متخصصا في اللغة الانجليزية و ذلك باستعمال احصاء ماكنزي (1999) المعتمد لتحديد الذكاء بالأضافة الى ذلك تم الطلب من المشاركين الاجابة على الاستبيان المعياري للغة الانجليزية كلغة اجنبية الجزء الخاص بالقراءة TOEFL (2007) وذلك لتقييم قدرتهم على القراءة.نتائج تحليل الارتباط المتحصل عليها أظهرت وجود علاقة معتبرة بين سجلات الذكاء الخاصة بالطلبة و بين القراءة.تحليل الارتداد المتعدد عرف كلا من الذكاء الطبيعي و الذكاء البين شخصي عى أنهما المتنبئان بنتائج القدرة القرائية.

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List of Abbreviations

Subject
EFL= English as a Foreign Language
IQ = Intelligence
L2= Second Language
MI = Multiple Intelligences
SPSS = Statistical package for the social scientist
TOEFL=Test of English as a foreign language

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General Introduction

Introduction

When talking about intelligence, the first picture that comes to the mind is that it refers to the mental abilities that are measured by an **IQ** (intelligence quotient) test. It usually measures only two types of intelligence: verbal-linguistic and mathematical-logical intelligence. Howard Gardner 1983 (cited in Razmjoo 2008, p. 155); nonetheless, has identified the intelligence as the ability to solve problems and to fashion products that are culturally valued. He has introduced the revolutionary theory of Multiple Intelligences which states that there are other types of intelligences in addition to the linguistic and the mathematical such as spatial intelligence, bodily-kinesthetic intelligence, musical intelligence, interpersonal intelligence, naturalistic intelligence, existential intelligence and intrapersonal intelligence. When Gardner introduced his theory, it became quickly adopted as a model to understand and teach the many aspects of the human intelligence, learning styles, personality and behaviour. This theory was initially developed to contribute in the understanding of the field of psychology, but it was soon adapted as a teaching and learning model in education. The implementation of the multiple intelligences theory in education intends to attract the learners, engage them and widen their understanding of complex concepts by teaching them according to their styles and preferences. The aspect focused on in this study is the enhancement of the reading skill by identifying the learners MI profiles and deciding which intelligence or intelligences that best increase the readers' performance in reading comprehension texts.

Reading; undeniably, is an important language skill that is focused on from the primary school stages to university. It further accompanies the individual through his, her entire life. So paying a lot of attention to such a skill is a must since a lot of individuals still encounter problems regarding reading. Haboush (2010) stated that solving reading problems is a

priority because they stick with the person for a whole life time if not addressed; they even become harder to get rid of as time progresses. West 1986 (cited in Haboush 2010, p. 3) declared that "[r]eaders are made, not born, and they are made or unmade at school". Thus, the best place to prepare the individuals and to boost their reading comprehension performance is non other than school and that is done through teaching the reading skill Haboush (2010) stated. He further explained that the majority of people still think that reading depends only on the linguistic skills an individual possesses and has nothing to do with the other intelligences which is a hugely false assumption. Reading ability can be taught and improved by using the other intelligences as well since is not solely related to the linguistic intelligence. So, this study aimed at identifying how much can the implementation of the multiple intelligences theory contribute in the progress of the students in the classroom and how much does it affect their ability to reach their potentials in reading comprehension texts through the focus on implementing the types of intelligences in the instructional process. Therefore, Haboush (2010) stated that "… it is significant to activate as many of Gardner's intelligences as possible, according to the nature of the reading texts, in order to achieve effective and skilful learning. This can be achieved, of course, when students feel confident and motivated as they will be taught according to their strengths."

2- Statement of the Problem

Students within the same classroom score differently; some score higher grades than the others and they are known as the most intelligent students in the class. Others score lower grades and they are known as the weakest students in the class. However, it is all measured according to traditional methods by only taking into consideration the linguistic and logical intelligences giving no chance for students with other intelligences to shine. People according to Howard Gardner's theory possess multiple intelligences that enable them to excel if those intelligences are to be used as a basis of teaching syllabuses and introduced in the programs

like it is the case with the linguistic and logical intelligences. Each student has its unique learning style and traditional learning styles do not match some students' expectations concerning their learning preferences. Therefore, it is not fair to measure the progress of students in a given course by using standardized test based on two traditional intelligences that are the linguistic and the logical. Educators, teachers and students of English alike find it difficult to specify which type or types of intelligences need to be adapted in the teaching program to help students achieve their best performance in their reading comprehension texts. To have more information in this area, this study is conducted to clarify the role played by multiple intelligences and learning preferences in upgrading the students' reading skills as well as to figure out what type or types of intelligences that best increase the students' proficiency in English reading comprehension texts.

3- Research Questions

The present study addresses the following questions:

1-Regarding the multiple intelligences and the reading ability:

a) Is there any relationship between English major students' MI profiles and their reading proficiency?

b) Which components of multiple intelligences are correlated with the scores of the TOEFL reading comprehension test among the English major students?

2-Which intelligence type is the best predictor of learner's performance in reading comprehension test?

4- Statement of the Hypothesis

To find answers to the previous research questions, the following hypothesis formulated:

There is no relationship between English major students' MI profiles and their reading proficiency.

5- Purpose of the Study

The purpose of this study is to improve the learners' reading comprehension skills through the implementation of Howard Gardner's multiple intelligences theory and therefore making possible adjustments and recommendations according to that.

6- Significance of the Study

English language teaching has gained an immense level of importance all over the world; thus, special attention is given to the implementation of new teaching methods rather than sticking with old methods that have shown no appreciation towards the student's individuality and uniqueness. The results of this study shed more light and give much more importance to the students' learning preferences. The focus is on the significant help the multiple intelligences theory provides in the creation of teaching programs that are efficient in boosting the students' level of English proficiency in the classroom and in exploring their strengths and interests. The results provide further insights on the relationship between multiple intelligences and English language learners' reading comprehension proficiency.

7- Methodology

In this study, the researcher is going to identify which type of intelligence is the most suitable to enhance the students performance in English reading comprehension texts depending on their learning preferences and styles. The students are asked to answers the Walter McKenzie's survey to identify their MI profiles and to have an idea about their prominent preferences, dominant intelligences and learning styles. Furthermore, they are going to answer a TOEFL reading comprehension practice test to have an idea about their reading ability.

7.1. Sample: The participants in this study are 52 third year English major students at the university of Mohamed Boudiaf in M'sila in the academic year 2011-2012. They are of both genders and the age range of these students is between 20 to 40 years old.

7.2. Research Instrumentations:

An MI Survey:

The researcher is going to apply the Walter McKenzie (1999) questionnaire to identify the intelligences the students possess; it presents 90 statements related to each of the nine intelligences proposed by Gardner.

A TOEFL Reading Comprehension Test:

A standardised reading proficiency test which was selected from a TOEFL® reading practice tests an IBT short version. The reading comprehension test consisted of two short passages, each accompanied by 10 to 12 multiple-choice questions. In total, 20 questions were answered by each participant.

8-Structure of the Study

The study will be divided into three chapters. Part one of the first chapter explores Howard Gardner's multiple intelligences theory and identifies each type of intelligence, its specific features and possible activities. We will try to know how the multiple intelligences theory is helpful to the learners. The first chapter also deals with the language learning strategies and their classification.

The second part of the first chapter is going to explore previous studies that have dealt with the multiple intelligences theory as a basis to improve and facilitate the students learning process. In addition to identifying the degree of success other researchers have encountered when trying to implement the multiple intelligences theory in the design of their lesson plans and their curriculums.

Multiple Intelligences and Reading Comprehension

The third part of the first chapter is going to shed the light on the reading ability to show the importance of this skill in improving the students' language proficiency. Many elements are going to be covered such as reading types and reading comprehension skills in order to make students reach advanced levels when learning English as a second language.

The second chapter is the practical part of the study. It is going to involve the methodology followed in this work as well as the instruments incorporated along with the accompanying analysis to figure out the relationship between the students' multiple intelligences and their reading comprehension.

The third chapter will deal with analysing the data obtained from the work field as well as interpreting the outcomes and may be giving some possible suggestions to be used to design some teaching programs based on MI Theory.

Chapter I

Theoretical Framework

Chapter I

Introduction

This study aimed at discovering the relationship between English language students' multiple intelligences and their reading comprehension. Accordingly, this chapter is divided into three parts. The first is part is concerned with the definition of intelligence, IQ test and intelligence, multiple intelligences theory, the types of intelligences intelligence and learning styles, MI theory and education and MI theory and reading and some other elements.

The second part discussed previous studies that addressed multiple intelligences theory and studies done in multiple intelligence and reading field.

The third part discussed reading, types of reading, reasons for reading, reading skills levels of reading and reading comprehension.

Part One

Intelligence

Introduction

Humans are uniquely characterized by the possession of a brain that is perfectly able of thinking and producing rational decisions and judgments. So, human beings are dignified with intelligence which is subjected to a constant progress and improvement. Kaplan 2007(cited in Haboush 2010, p. 42.) stated that "…intelligence is evolving, always changing, always progressing, never ending, dynamic, explosive, [sic] powerful". Despite all of that, no exact definition of intelligence is yet established as a comprehensible one.

1- Intelligence

Eventhough intelligence is an abstract notion, researchers did not stop themselves from going deeper into the matter in an attempt to give it a comprehensible definition. Sometimes it is defined as what you do when you don't know what to do. It is a hypothetical idea which is defined as being reflected by certain types of behavior.

Binet and Simon 1916(cited in, Göğebakan 2003.p, 2) stated that intelligence could be identified as judgment by which an individual must be adjusted with the circumstances of a particular situation. So, whether the person is stupid or not only good judgment would make a significant difference.

Wechsler 1998(cited in, Göğebakan 2003.p, 2) talked about intelligence by saying that it is "the global capacity to act purposefully, to think rationally, and to deal effectively with

his environment" which means that intelligence is not a one entity but a combination of several entities.

According to Spearman (cited in, Göğebakan 2003.p, 2) intelligence is identified as two factors the (g factor) ,which includes a big variety of mental abilities such as reasoning and problem solving, and the (s factor), which is concerned with a limited single mental ability tests.

Cattell R, B.1983 (cited in, Göğebakan 2003.p, 3) discussed two other factors of mental abilities which are the crystallized intelligence and fluid intelligence. The fluid intelligence tests do not include cultural content and crystallized intelligence opts the usage of previously acquired mental abilities like «verbal and numerical ability, mechanical aptitude, social skills, and so on." Göğebakan (2003) stated. The previous two factors increase until the age of fifteen or a little bit after but after the age of twenty the fluid intelligence decreases while the crystallized keep on being high.

It was defined as the ability to acquire knowledge. Kail and Pellegrino 1985(cited in Haboush 2010, p. 42) mentioned that is "a series of independent specific mental faculties [or] … more general and global".

Acoording to Vygotsky 1978(cited in, Göğebakan 2003.p, 3) intellectual abilities are related to social factors. "Parents teach language and thought and teachers and mentors continued that development process." as Göğebakan (2003) stated.

In his theory, L.L. Thurstone's theory (cited in, Göğebakan 2003.p, 3) stated that a person is intelligent in so many ways which indicates that up to seven mental abilities are included when it comes to intelligence such as verbal comprehension, word fluency, number facility, spatial visualization, associative memory, perceptual speed, and reasoning

Guilford 1967 (cited in, Göğebakan 2003.p, 3) stated that "intelligence is learning ability and that it is a universal ability, regardless of the thing being learned, has definitely been exploded by a number of experiments".

Gardner1983 (cited in, Marefat 2007.p, 147) identified intelligence as being "the ability to find and solve problems, the ability to respond successfully to new situations and the capacity to learn from one's past experiences". So, Intelligence is a general cognitive problem-solving skill. A mental ability involved in reasoning, perceiving relationships and analogies, calculating, learning quickly…etc.

Despite the different definitions, two major themes were present all along which are the ability to learn from experience, and the capacity to adapt to the surrounding environment which means avoiding the repetition of the same mistakes as well as meaning that the intelligence of people is not only shown in their test scores but in their way of handling matters with other people as well as in organising every aspect of their lives.

2-IQ test and Intelligence

One of the most traditional ways for assessing somebody's intelligence is by using an Intelligent Quotient (IQ) test. It is a widely used tool which led to the development of so many tests of skills. The person with the highest IQ scores is considered as the most intelligent.. However, the IQ test only measures the linguistic and the mathematical intelligence, so it is considered as a test with limited results. IQ tests are only one measure of intelligence; therefore, it is only fair to include other elements when dealing with intelligence such as social and emotional factors.

3-Language Learning Strategies

Language learning strategies concept became well known by Rubin 1975(cited in, Akbari &Hosseini, 2008). Cohen1998 (cited in, Akbari &Hosseini, 2008) defined language learning strategies as ''the conscious thoughts and behaviors used by learners with the

explicit goal of improving their knowledge of a target language".Language learning strategies are used whenever a learner encounters a learning problem and this depends on the nature of the problem itself. It means that the strategy usage differs according to the learning problem faced by the learner. Styles are somehow more stable from one learning task to the other stated Brown 1994(cited in, Akbari &Hosseini, 2008).

Researchers classified language learning strategies differently. O'Malley and Chamot 1990 (cited in, Akbari &Hosseini, 2008) classified them into three groups of metacognitive, cognitive, and social-affective. Metacognitive learning strategies are ''higher order executive skills that may entail planning for, monitoring, or evaluating the success of a learning activity''. Cognitive learning strategies ''operate directly on incoming information, manipulating it in ways to enhance learning''. Social-affective strategies are concerned with the control of affect and interaction with the others. Oxford (1990) presents two strategies which are direct and indirect. The direct language learning strategy deals with the language with its different manifestations and in different circumstances; it includes memory strategies, for storing and retrieving new information, cognitive strategies, for comprehending and producing language, and compensation strategies, for overcoming gaps in the learner's L2 knowledge. Indirect ones, on the other hand, are for ''the general management of learning''. Oxford refers to metacognitive learning strategies, dealing with the management and coordination of the learning process, affective strategies, concerned with the emotional regulation of second language learning, and social strategies, related to learning through interaction with others.Cohen1998(cited in, Akbari &Hosseini, 2008) presented a classification similar somehow to the one provided by O'Malley and Chamot (1990).

4-Different Approaches to Intelligence

Intelligence does not have one single comprehensible definition. Some researchers have suggested that intelligence is a single, general ability while other believe that

intelligence encompasses a range of aptitudes, skills and talents. Teele 20000(cited in, Göğebakan. 2003) stated that there are different approaches to intelligences and suggested four different approaches.

4.1. Psychometric Approach: It focused on two learning methods, linguistic and logical-mathematical. It measures the learners' performance by using standardized tests and then it compares one student to another. It is widely used in education. However, there is a major fear that it would be the only one used when measuring the students' performance and achievement because it is limited to only two methods. Some examples of psychometric measurement instruments are: Binet's test Stanford-Binet scale, Wechsler scales.

4.2-Developmental Progressions: In this approach four psychologists' works are mentioned: Bruner, Piaget, Vygotsky and Feuerstein's.

According to Bruner's theory, learners depend on their present and past knowledge to learn new concepts. They select and manipulate information, make decision based on cognitive structure. The latter allows learners to go deeper to infer meaning. Teachers are supposed to push students to extract principles by themselves and engage them as much as possible. The teacher must accommodate the information according to the learner's level.

Piaget was the pioneer in understanding the child development and how knowledge developed in human beings. His theory's name is genetic epistemology which is based on four cognitive structures or developmental stages: sensorimotor, preoperations, concrete operations and formal operations; they differ from one person to another. In addition to this, every stage had many detailed forms of structure.

Vygotsky's theory is based on the idea that social interaction had an important role in the development of cognition. Vygotsky's theory had another aspect and it was the idea that the potential for cognitive development was restricted with a certain time span that he named as zone of proximal development. Complete development during this period depended on full

social interaction. A child could develop a range of skills with adult guidance or pair work and this with adult the ones that he could achieve by himself.

To Feuerstein1981 (cited in, Göğebakan. 2003), intelligence is caused by experience and the cognitive ability is changeable. His theory is based on the idea that previously successful experiences function as a base for new learning experiences which increases the person's chances in better learning.

4.3- Psychobiological Approach: Development of intelligence is explained through the focus on brain and ecology. According to Cecil 1990 (cited in, Göğebakan. 2003) knowledge and aptitude were whole and with body of intelligence one could find environmental, biological, metacognitive and motivational variables. Ceci (cited in, Göğebakan. 2003) is against the concept of one intelligence. He viewed intelligence as having a biological basis, multi-cognitive, potential, and complete in terms of context and knowledge.

4.4 -Multiple Forms of Intelligence: Supporters of this approach are Sternberg at Yale University and Gardner at Harward University. Sternberg (cited in, Göğebakan. 2003) defined intelligence as "mental activity directed toward purposive adaptation to, selection and shaping of, real-world environments relevant to one's life." While he agreed with Gardner that intelligence is much broader than a single, general ability, he instead suggested some of Gardner's intelligences are better viewed as individual talents. Sternberg proposed what he refers to as successful intelligence which is comprised of three different factors: Analytical intelligence, which refers to problem-solving abilities, creative intelligence, which identifies aspect of intelligence, involves the ability to deal with new situations using past experiences and current skills and practical intelligence**,** which refers to the ability to adapt to a changing environment.

Each person according to Gardner possesses nine intelligences namely linguistic, musical, logical-mathematical spatial, bodykinesthetic, intrapersonal, interpersonal, existential and naturalistic. Each type of intelligence should be addressed appropriately and implemented in the teaching- learning process.Gardner2003 ((cited in, Göğebakan. 2003) stated the principles of the MI theory: Individuals should be motivated to use their preferred intelligences in learning; the instructional activities should request different forms of intelligence; and assessment of learning should measure multiple forms of intelligence.

5- Multiple Intelligences Theory

Howard Gardner's Multiple Intelligences Theory is considered as a breakthrough in the field of education. There are more than hundred definitions of intelligence but Howard Gardner (1983) sees it as the ability or captivity "to solve problems or to fashion products" in a cultural setting (cited in Marefat, 2007.p.2). In other words, intelligence is what people can do and it varies from one culture to another. Traditionally, people's intelligence was measured according to a very limited criteria; however, people possess a set of intelligences not just one type. Intelligence is a combination of several abilities which are of a great importance but nobody possesses all the intelligences at the same time. A group comprised of people who possess different types of intelligences displays efficiency higher than a group of professionals who possess the same kind of intelligence. Gardner initially introduced seven intelligences in his theory. The first two are ones that have been typically valued in schools; the next three are usually associated with the arts; and the final two are what Howard Gardner called 'personal intelligences' (Gardner 1999, cited in Razmjoo, 2008). Later on, other types of intelligences were introduced such as Naturalist Intelligence and Spiritual or Existential Intelligence.

6-Types of Nine Intelligences

6.1. Verbal/Linguistic intelligence: It refers to the ability to use words and language. The learners have highly developed auditory skills and are generally good speakers. They think in words rather than pictures.

The learners' skills include: Listening, speaking, writing, storytelling, explaining, teaching, using humor, understanding the syntax and meaning of words, remembering information, convincing someone of their point of view, analyzing language usage.

Possible career interests: Poet, journalist, writer, teacher, lawyer, politician, translator.

6.2. Logical/Mathematical intelligence: It refers to the ability to use reason, logic and numbers. The learners think conceptually in logical and numerical patterns making connections between pieces of information. Always curious about the world around them; they ask lots of questions and like to do experiments.

The learners' skills include: Problem solving, classifying and categorizing information, working with abstract concepts to figure out the relationship of each to the other, handling long chains of reason to make local progressions, doing controlled experiments, questioning and wondering about natural events, performing complex mathematical calculations, working with geometric shapes

Possible career paths: Scientists, engineers, computer programmers, researchers, accountants, mathematicians.

6.3. Visual/Spatial Intelligence: It refers to the ability to perceive the visual. The learners tend to think in pictures and need to create vivid mental images to get back information. They enjoy looking at maps, charts, pictures, videos, and movies.

The learners' skills include: Puzzle building, reading, writing, understanding charts and graphs, a good sense of direction, sketching, painting, creating visual metaphors and analogies (perhaps through the visual arts), manipulating images, constructing, fixing, designing practical objects, interpreting visual images.

Possible career interests: Navigators, sculptors, visual artists, inventors, architects, interior designers, mechanics, engineers.

6.4. Bodily/Kinesthetic intelligence: It refers to the ability to control body movements and handle objects skillfully. The learners express themselves through movement. They have a good sense of balance and eye-hand co-ordination. (E.g. ball play, balancing beams). Through interacting with the space around them, they are able to remember and process information.

The learners' skills include: Dancing, physical co-ordination, sports, hands on experimentation, using body language, crafts, acting, miming, using their hands to create or build, and expressing emotions through the body.

Possible career paths: Athletes, physical education teachers, dancers, actors, firefighters, artisans.

6.5. Musical/Rhythmic intelligence: It refers to the ability to produce and appreciate music. These musically inclined learners think in sounds, rhythms and patterns. They immediately respond to music either appreciating or criticizing what they hear. Many of these learners are extremely sensitive to environmental sounds (e.g. crickets, bells, dripping taps).

The learners' skills include: Singing, whistling, playing musical instruments, recognizing tonal patterns, composing music, remembering melodies, understanding the structure and rhythm of music.

Possible career paths: Musician, disc jockey, singer, composer.

6.6. Interpersonal intelligence: It refers to the ability to relate and understand others. The learners try to see things from other people's point of view in order to understand how they think and feel. They often have an extraordinary ability to sense feelings, intentions and motivations. They are great organizers, although they sometimes resort to manipulation. Generally they try to maintain peace in group settings and encourage co-operation. They use both verbal (e.g. speaking) and non-verbal language (e.g. eye contact, body language) to open communication channels with others.

The learners' skills include: Seeing things from other perspectives (dual-perspective), listening, using empathy, understanding other people's moods and feelings, counseling, co-operating with groups, noticing people's moods, motivations and intentions, communicating both verbally and non-verbally, building trust, peaceful conflict resolution, establishing positive relations with other people.

Possible career paths: Counselor, salesperson, politician, business person.

6.7. Intrapersonal intelligence: It refers to the ability to self-reflect and be aware of one's inner state of being. The learners try to understand their inner feelings, dreams, relationships with others, and strengths and weaknesses.

The learners' skills include: Recognizing their own strengths and weaknesses, reflecting and analyzing themselves, awareness of their inner feelings, desires and dreams,

evaluating their thinking patterns, reasoning with themselves, understanding their role in relationship to others.

Possible career paths: Researchers, theorists, philosophers.

6.8. Naturalist intelligence: It refers to the human ability to solve problems or to make something that is valued in one or more cultures. It is the perception of and relationship with the natural environment.

The learners' skills include: Recognize and classify plants, minerals, and animals, including rocks and grass and all variety of flora and fauna.

Possible career paths: Gardeners or veterinarians.

6.9. Spiritual/ Existential intelligence: It refers to the ability to be sensitive to, or have the capacity for, conceptualizing or tackling deeper or larger questions about human existence, such as the meaning of life, why are we born, why do we die, what is consciousness, or how did we get here. It concerns one's relationship with the universe or God, depending on one's personal philosophy.

The learners' skills include: Exhibit the proclivity to pose and ponder questions about life, death, and ultimate realities.

7- The Teachability of Intelligences

Bransford, Brown and Cocking 1999(cited in, Jane Arnold & M Carmen Fonseca. 2004) stated that learning changes the physical structure of the brain; it organizes and reorganizes the brain making different parts of the brain may be ready to learn at different times. So, strengthening connections in the brain's neural network is done through learning. Those connections become stronger by the constant usage of a particular pattern.

The multiple intelligences theory serves as an active method that is focused on the types of intelligences as instruments open to changing and to training. Armstrong, Kennedy & Coggins, 2002 (cited in, Jane Arnold & M Carmen Fonseca. 2004) stated that "while traditional intelligence tests are based on the notion that the general faculty of intelligence is an inborn attribute that does not change over the time, the MIT asserts that there are skills universal to human species, related to the culture nurturing that domain and that develop according to experience, age and training". So, as a reaction Gardner came up with the MI theory to deny the traditional view that humans only possess one kind of intelligence if not available to the students then they would not be able achieve academic success. Williams and Burden 1997(cited in, Jane Arnold & M Carmen Fonseca. 2004) added that "this view states that people who are born more intelligent are much more likely to succeed at school or in any learning task than those who are born less intelligent. This often leads to the logically unjustifiable conclusion that anyone failing in school or having difficulty in learning must, therefore, lack intelligence". Therefore, Gardner's theory of multiple intelligences eliminated the old view towards intelligence and made the door wide open towards the concept that "people can become more intelligent and that schools can (and should) play a part in this" said Williams & Burden 1997(cited in, Jane Arnold & M Carmen Fonseca. 2004).

8- MI Theory and Education

With the constant emergence of new concept and theories in the field of education over last couple of decades, a larger focus is being directed towards learners and learning rather than on teacher and teaching. Researchers are now more focused on finding ways that enable learners to acquire as well as keep information for a long time and easily retrieve them when needed. Christison 1999 (cited in Hashemi 2009, p. 5.) stated that Rather than functioning as a traditional teaching method, curriculum, or technique, MI theory provides a

way of understanding intelligence, which teachers can use as a guide for developing classroom activities that address multiple ways of learning and knowing.

Borek (2003) stated that all of the learners possess the whole nine types of intelligences out there. So, it is only fair to try to address all those different types of intelligences when designing curriculums, when inside the classrooms and when preparing lesson plans. The primary goal of the students is to learn in a way that would help them acquire as much information as possible with the advantage of keeping these pieces of information as long as possible. This could be done through the implementation of the MI theory in the L2 teaching programs. So, as Borek (2003) mentioned "Empowering students to learn through multiple modalities fosters a collaborative classroom where students are comfortable experimenting and letting others experiment."

9- The Application of MI Theory in EFL Classrooms

Gardner and MI theory advocates believe that human beings possess all types of intelligence with different combinations and strengths. Intelligence can be developed through training. The MI theory is considered as one of the best teaching theories as it provide a new method of instruction far away from the traditional boring ones. Teachers are able to adapt more suitable teaching techniques according to their students needs. It provides more freedom and "give[s] teachers a complex model from which to construct curriculum and improve themselves as educators" stated Campbell 1997(cited in Song Lei, p.4). Education is much more challenging when it brings out the students' preferences and encourages them to give their best. A creative teacher; then, is the one that recognizes his students differences and adapts his teaching according to what the students need putting a particular emphasis on strengthening their best features. Language in the MI approach is seen as comprehensible containing all aspects of communication and not only the linguistic aspect. The teacher in the

MI theory is considered as a facilitator, observer, curriculum developer, lesson designer and analyst Song Lei stated.

9.1. Lesson Designing: Song Lei stated that "A good lesson designing must follow some major principles such as variety, flexibility, learnability and linkage either done at macro or micro level". Everybody has his unique intelligence profile, and MI teaching models ; thus, differ according to each teacher. MI teachers can include all types of intelligence in their lesson plan as well selecting only a few elements of intelligence according to their students' needs. The MI theory can be used daily or only when needed. Teachers can plan their lessons alone or with other teachers so they can benefit from the others' experience. The chosen instructional tools must be appropriate to the course content.

9.2. Class activities: In language classes, activities play the role of an actual context. The teacher's role is to fulfill his students' needs and meet the differences in the students' intelligences. There are two types of class activities that could be used in EFL classroom.

9.2.1.Eight Activity Corners: It is based on the eight intelligences. The teacher prepares eight activity corners that the students move from one corner to another in a specific order and in limited time. By doing this, all students are able to face their weaknesses and their strengths. They fully use their intelligences and take notice of other students' types of intelligences

9.2.2. Students Project Work: It is designed to enhance self- directed learning and it includes MI projects, curriculum- based projects, thematic based projects, resource- based projects and students- choice projects. Using those, students learn to ask researchable questions, identify sources, create a time lines and to start, use and end the learning activity. Students are then able to engage many types of intelligences at once.

9.3. Choosing Materials: The aim is to help students acquire knowledge and information. So, choosing instructional materials should be done in a carefully and creatively.

The MI theory challenges the teachers in finding the most appropriate teaching materials. They must do their best when providing the materials in terms of explaining the practical steps to the students in a simple way that they could easily follow. The materials include books, articles, pictures, equipments, VCR, DVD, tapes as well as human resources. Carl Rogers1994 (cited in,Song Lei,p. 5) stated that" allowing students to know themselves as people, by making knowledge and experience clearly available to the students" meaning that students could be useful human resources themselves.

10-MI theory and Teaching Reading

Armstrong (2003) stated that "reading and writing are not simply linguistic acts; they involve all of the intelligences [Gardner's eight intelligences], and many more areas of the brain are involved in literacy acquisition than has previously been assumed by educators working in the field". So, the tendency for using the MI theory as a basis for creating programs to teach reading where the students are allowed to choose the reading comprehension text they desire is highly recommended. However, trying to incorporate the whole types of intelligences in one reading session with taking into consideration the short time allocated to each session makes this task seem impossible. Armstrong (2003); however, noted that it is not necessarily for every intelligence to be present in every lesson plan. As a result, teachers are not obliged to incorporate all the types of intelligences but they are pushed to choose the type that is the most dominant among that particular class's students.

More and more educators are in favor for implementing the MI theory within the teaching programs especially with the reading comprehension skill, the focus of this study. The MI theory breaks the traditional mold that is confining the learners and preventing them from getting and acquiring new information in a way they favor and not in a way that is imposed on them.

Conclusion

Intelligence is a unique human trait that is difficult to define. Based on the idea that there are several intelligence types, Howard Gardner's multiple intelligences theory has emerged. Despite facing a severe criticism from a number of educators and scholars, it served as a great framework that enables teachers diversify their teaching styles according to the needs and the desires of the students.

Part Two

Previous Studies

Introduction

Numerous studies have been conducted to investigate the multiple intelligences theory and its implementation into education as well as its role in determining the way by which each student should be taught. This part deals with the previous works that incorporated the multiple intelligences theory as one of its elements in order to obtain a more diversified and a more appealing teaching- learning experience.

Studies that used multiple intelligences theory

Kemal Özgen*, Berna Tataro_lu, and Hüseyin Alkan(2011) identified the pre-service mathematics teachers' multiple intelligence domains and learning style profiles, and established relationships between them. The results revealed pre-service teachers preferred logical-mathematical and visual-spatial as their most important intelligences**.** They mentioned as well that differences observed in non-dominant learning styles and intelligence domains were seen as indicators of individual differences.

On using multiple intelligences theory as a basis of a teaching program, Baş & Beyhan (2010) investigated the effects of multiple intelligences supported project-based learning and traditional foreign language-teaching environment on students' achievement and their attitude towards English lesson. They also proved the effectiveness of the multiple intelligences approach activities on developing the students' attitudes. it was revealed that students who were taught by this method are more successful and highly motivated compared to students who were taught by traditional instructional methods.

Sarıcaoğlu & Arikan (2009) investigated the relationship between students' gender and intelligence types, the relationship between particular intelligence types and students' success

in grammar, listening and writing in English as a foreign language. Students' test scores revealed that there are negative but important relationships between success in grammar and bodily-kinesthetic, spatial, and intrapersonal intelligences whereas the relationship between musical intelligence and writing was found to be significant and positive.

Razmjoo (2008) found that the use of intrapersonal intelligence by females was higher than that of the males. No significant difference was found between male and female participants in case of language proficiency and types of intelligences.

Marefat (2007) stated that based on Gardner's multiple intelligences theory, identifying one's intelligence is a true blessing especially in finding out the relationship between the type of intelligence the student possesses and their writing performance.

Concerning which type of intelligence is the most dominant, Özdemir, Güneysu and Tekkaya (2006) found that logical-mathematical intelligence was the first intelligence type followed by interpersonal and bodily-kinesthetic intelligence while the musical intelligence came as the last intelligence type possessed by students.

Chen (2005) investigated the positive effect that could be manifested on students' language proficiency and attitude if cooperative learning activities together with Gardner's multiple intelligences theory and the whole language approach are to be incorporated in college EFL classrooms. He used many learning activities depending on Gardner's theory and cooperative learning approach was further practiced.

In relation to MI theory and gender, Loori (2005) investigated which kind of intelligence is most preferred by learners in accordance with their gender and the results showed that the male learners tended to prefer the logical/mathematical intelligence.

Denig (2004) compared the theories of multiple intelligences and learning styles to suggest ways that teachers when using a combination of both theories may be able to improve student learning over the range of intelligences. He focused on the eight multiple

intelligences identified by Howard Gardner and the 21 elements of learning style identified by Kenneth and Rita Dunn and he explored how can those two concepts work together to contribute to learning.

McMahon and Rose (2004) tested the reliability of Teele's (2000) inventory of multiple intelligences (TIMI) and tried to identify the relationship between intellectual preferences and reading achievement. The findings showed inconsistency in the results provided by the used instruments which requires more adjustment concerning the used tools. Also, a relationship was found between reading comprehension and logical-mathematical intelligence. This study focused on the usage of MI activities in an L2 classroom.

Chan (2003) assessed multiple Intelligences in a group of Chinese secondary school teachers in Hong Kong. The relationship between the teachers' areas of responsibilities and their multiple intelligences was explored. Teachers' relative strengths in interpersonal and intrapersonal intelligences and weaknesses in visual-spatial and bodily-kinesthetic intelligences were identified. Arts, music, and sports teachers were found to be stronger in musical intelligence compared with language and social studies teachers. On other hands, guidance teachers were also found to be stronger in intrapersonal and interpersonal intelligence. Using the multiple intelligences as guiding factors, interpersonal intelligence was found to be a significant predictor of the teachers' self-efficacy in helping other individuals.

Currie (2003) tried to investigate the relationship between the multiple intelligences theory and the ESL classrooms. She stated that the theory of Multiple Intelligences is causing some educators to adapt new teaching methods that are based on this theory and to use diverse classroom practices to suit the learners' styles. She discussed the effects of Gardner's theory of multiple intelligences on adult learners and key features are outlined. A number of projects that implement the theory are described and several tests are used. She also

attempted to identify the diversity in the ESL classroom using a Multiple Intelligence Theory questionnaire.

Mbuva (2003) focused on the implementation of the MI theory in 21st century teaching and learning environment. He suggested that MI theory is an effective teaching and learning tool at all levels. Mbuva explored various types of intelligences, provided a definition of MI and its development through the years. He further argued about the application of the MI into the classroom social environment. He suggested that the implementation of a new teaching theories is paving the way towards a better teaching- learning process.. He also emphasised that teachers should take into consideration account of the cognition, language, and culture of each of their students.

Oxford.L.R (2003) viewed that language learning is affected by two key variables which are styles, the general approaches to learning a language, and strategies, the specific behaviors or thoughts learners use to enhance their language learning. These factors influence the student's ability to learn in a particular instructional domain.

Stanford (2003) stated that the MI theory "opens the door to a wide variety of teaching strategies that can easily be implemented in the classroom.... MI theory suggests that no one set of strategies will work best for all students at all times". She also emphasized that the MI classroom provides teachers with an environment in which they can utilize "varied teaching strategies, expanded curricula, and authentic assessment to provide creative and active learning that engages all students (especially those with disabilities) in the construction of their own learning"

Uhlir (2003) wanted to improve students' academic reading achievement through the use of Gardner's MI theory. She used as a sample a fifth grade class of 26 students. Lack of motivation to read, lack of strategic reading and low achievement in tests, was noticed through means of assessment used in this study. The researcher focused on the following

reading skills: skimming for general understanding, inferences, drawing conclusions, comparing/contrasting, cause/effect, and sequence. Finally, although the findings indicated a little bit increase in students' 64 achievement on reading-skill tests, significant and remarkable motivation was also observed through students' cooperative learning.

Gaines and Lehmann (2002) provided an MI-based project to improve the learners' reading comprehension ability. They conducted a study and investigated fourth grade students in a major city. They also took the social and financial status of the students into account. The study was conducted to discover the problems the students face in reading comprehension. The use of MI strategies was found to improve the students' reading comprehension ability and it enhanced their academic performance as well.

In Understanding Learner-Centered Instruction from the Perspective of Multiple Intelligences, Haley (2001) investigated the integration of Gardner's multipple intelligeces theory to inhance teaching programs and activities. The study sought to reveal the real application of the theory in ESL classrooms. Teachers sensed in first hand the positive effect this theory brings along and showed good attitudes towards its application. Students were also satisfied with the newly introduced and highly motivational practices.

Part Three

Reading

Introduction

Reading is an important language skill especially when learning a second language. Reading skills usage enables people to convert writing into meaning and achieves comprehension. When reading, people are required to understand the meaning behind the text which leads them to develop some reading skills that facilitate the process of comprehending the texts or prints being dealt with. Janzen and Stoller (1998) stated that the aim of L2 reading is to produce some well developed readers in terms of the strategies they employ to understand a text. This part of the research is concerned with nature of reading, the strategies incorporated in the reading comprehension process and many other constituents of the reading skill.

1-Definition of Reading

In this world, there is a lot to learn and a lot to understand and this can be done through reading. Alyousef (2006) stated that reading is the ability of extracting meaning from a printed material and interpret it properly. Millrood 2001(cited in Haboush 2010, p. 14) gave a more thorough definition as he stated that reading is "… a visual and cognitive process to extract meaning from writing by understanding the written text, processing information, and relating it to existing experience". This means that reading involves more than just understanding the mere meaning behind the word; it requires the use of some cognitive process and reading strategies. So, reading is a more complex process not a passive one as it is usually perceived because it requires the involvement of imagination and thinking.

2-Reasons for Reading

People are driven towards reading for varying reasons and needs. Individuals take time to read to satisfy a special need or to fulfil a particular goal. Reading helps people to think as it is an active mental process. It builds the readers' skills as it assists them understand difficult concepts. Reading introduces people to a wider range of vocabulary, reduces boredom and strengthens the memory. Harmer (2001) introduced two main reasons for reading:

2.1. Instrumental: it is reading for taking advantage or acquiring needed knowledge to operate something like in the case of reading manual, brochures and instructional guides.

2.2. Pleasurable: it is reading for entertaining oneself and for passing an amusing time like reading novels, poetry and similar materials.

3-Types of Reading

The words skill and type were used interchangeably when talking about reading but identifying which word is the most appropriate is not important as long as it assists in improving the students' reading comprehension.

3.1. Extensive Reading:

The idea behind this type is when exposing the learner to a large amount of significantly worthy and interesting reading material for a long period of time; it would result in an improvement in the language proficiency. It aims at guiding readers to enjoy what they read and build their confidence. Brown (1994) stated that extensive reading is carried out to understand the main idea of a text and not the specific details. Harmer (2001) stated that it is carried out by the students themselves as they choose the reading materials they prefer with the help of the teacher and progress at the speed that suits them but must show greater progress.

3.2. Intensive Reading

The students in intensive reading select several materials by the same author or the same topic. Intensive reading focuses on grammar and vocabulary items. Brown (1994) stated that intensive reading "calls attention to grammatical forms, discourse markers, and other surface structure details for the purpose of understanding literal meaning, implications, rhetorical relationships, and the like."

3.3. Top-down and bottom-up

Haboush (2010) defined them as "… bottom-up focuses on individual information such as sounds, words, phrases, and then put them together to attain the whole picture, and top-down focuses on the overall picture."The suitable choice when readers seek details is bottom-up and when they are after the main idea the choice is top-down.

3.4. Reading Aloud

It helps teachers discover the students' pronunciation problems and choose the reading materials appropriate for their level. It contributes not only in improving the reading skill but also the listening skill. It builds the student-teacher trust relationship.

3.5. Silent Reading

Readers carry out this type silently without worrying about stops or about pronouncing the words correctly. It is the most spread type of reading and it is considered faster as it is related to the fast movement of the eye.

3.6. Word by Word Reading

It takes a lot of time and effort as readers tend mark poses more and to concentrate more through the text. Readers using this type tend to adopt a more analytical approach towards the material being read. It used when new ideas and concepts are introduced as well as with scientific materials.

3.7. Critical Reading

Readers are required not only to understand but also to comprehend the very implicit meaning of the reading material and to evaluate it as well. Harmer (2001) stated that the reader must read critically to judge the appropriateness and the correctness of the written piece of information.

3.8. Skimming

Harmer (2001) stated about the students using skimming "This will help them when and if they read for more specific information." It means reading quickly to decide whether this text is useful or not. Skimming is used to have an overview of the text to check it for relevance.

3.9. Scanning:

Harmer (2001) stated that students use this type to identify and locate a specific word or piece of information. This way students are trained to avoid irrelevant and unimportant information. However, they will not achieve a full comprehension of the text in front of them.

4-Reading Comprehension

The skill of reading is often being linked to the concept of comprehension. Reading any written text is of no use if students cannot comprehend what they read. Reading comprehension is building meaning out of a text which helps learners understand a written text. Abushamla (2010) stated that "The process of comprehending involves decoding the writer's words and then using background knowledge to construct an approximate understanding of the writer's message." Reading is all about comprehending what is being read and linking it to the previous knowledge about the text at hand. So, when comprehension does not occur, reading becomes of a no use. Having no previous knowledge about the type of text being handled could represent a major problem for the readers.

5-Reading Comprehension Skills

Reading comprehension requires the incorporation of a set of skills working all together to achieve the sought after results. Those skills are used to set the boundaries between good readers and bad or weak readers. So, readers need to constantly improve those skills to guarantee that comprehension would always take place. Harmer (2001) categorised reading skills as follows:

5.1. Knowing the meaning of words through context

Being familiar with words' meanings is very important in facilitating comprehension but it does not guarantee that it would really take place. Haboush (2010) stated that using a dictionary constantly distract readers and waste their time. So, extracting meanings from the context is a necessary skill that should be reinforced through the usage of contextual analysis and structural analysis

5.1.1. Contextual analysis: students understand the meaning of a word within a sentence not in isolation because understanding meaning in context can increase the student vocabulary and thus improves reading.

5.1.2 Structural analysis: it refers to understanding the meaning of words using roots and affixes as well as being able to identify word types such as verbs, nouns, adjectives…etc.

5.2. Making inferences/ drawing conclusion

Both are important in the reading process. Making inferences occur during reading while drawing conclusions occur after reading is done. To achieve the previous two, readers must possess the ability to discover subtle meanings as well as obvious meanings. Moreover, readers must know how to differentiate between inferences which is based upon evidences that are likely to be true and between guesses that are usually not.

5.3. Predictions

According to Grellet1995 (cited in Haboush 2010, p.29.) prediction is "the faculty of predicting or guessing what is to come next, making use of grammatical, logical and cultural clues". Harmer (2001) stated that prediction stimulates the readers' schemata through the need of identifying what type of text is being read or in other word genre.

5.4. Sequencing

Knowing the order that the events happened in which helps readers identify connections in the text such as first, then, next…etc.

5.5. Distinguishing Facts from Opinions

Facts are the information that is true but sometimes they can be false. They are obtained through experience and observation. On the other hand, opinions are sentences expressing feelings, emotions, attitudes, judgments and preferences Haboush (2010) stated. They cannot be identified as true because they are considered more personal and private.

5.6. Summarizing

Summarizing is the ability to convert a spoken or a written text into a shorter format using words that belong to the learner himself. It involves focusing on the main point and on the most important detail in the text. It is then a major indicator of the existence of reading comprehension.

5.7. Note Taking

Saving the major points and ideas of a text by writing them down. It boosts both reading and writing abilities. The best way for taking good notes is by focusing on major points, using short words, never loosing the main meaning, reviewing and ordering the notes.

5.8. Cohesion

Haboush (2010) stated that " stressed that cohesion refers to students' ability to weave and unite different ideas of a text using different markers such as pronoun references (anaphoric and cataphoric references), definite articles, and others.

5.9. Visualizing

Seeing and imagining pictures in the reader's mind according to what has been reader heard.

6. Schemata and its Importance

Schemata refer to the pre-existing knowledge somebody has and relating it to a given text to ease comprehension Harmer (2001) declared.

7. Teaching Reading

To improve reading comprehension through reading sessions inside the classroom the following steps must be followed:

a- **Pre-reading stage:** students are provoked through discussing pictures and some key words which includes making prediction about the topic. Teachers are required to motivate student's schemata.

b- **While-reading stage:** while reading, activities take place. Reading skills are improved through multi-level comprehension questions such as general understanding questions, detailed-answer questions and high-order thinking questions.

c- **Post-reading stage:** activities are performed after reading. Teachers check comprehension and relate the text to the students' personal experience and to other skills as well such asking them to write down what they have grasped.

Multiple Intelligences and Reading Comprehension

To conclude, reading is an important reception skill that helps activating to human mind. Reading involves engaging a combination of cognitive processes as well as reading comprehension skills to allow readers to obtain the maximum benefit from the given written text.

Chapter II

Methodology and Procedures

Chapter II

Methodology and Procedures

1- Introduction

This chapter presents the procedures followed in this study. It describes the x study's methodology, the sample, the instruments, the data collection procedures and the statistical processing of the findings.

2- Research Design

The researcher followed an experimental approach of research because this case study tried to identify which type of intelligence is the most suitable to enhance the students performance in English reading comprehension texts depending on their learning preferences and styles. First, a group of students was presented with Walter McKenzie's survey to identify their MI profiles and to have an idea about their prominent preferences, dominant intelligences and learning styles. Furthermore, they were given a TOEFL reading comprehension practice test to have an idea about their reading ability. Later on, the findings from the reading comprehension test and the MI survey were analyzed. The results of this study are used to come up with some sort of suggestions or recommendations to be taken into consideration when trying to design a program that best fit the students learning styles and integrate the appropriate intelligences that students possess to perform well in their English reading comprehension texts and avoid previous problems.

3- Sample of the Study

The participants in this study are 52 third year English major students at the University of Mohamed Boudiaf in M'sila in the academic year 2011-2012. They are of both genders and the age range of these students is between 20 to 40 years old. The researcher chose to do the research with this kind of students because they possess a more developed reading ability

compared with younger students and at the same time they still encounter a lot of reading comprehension difficulties when they are not provided with the appropriate instructional materials and are given difficult academic reading texts.

4- Research Instrumentations

For obtaining the data that helps achieve the goals of this study, the researcher applied the following instruments:

1-An MI Survey:

The researcher applied the Walter McKenzie (1999) questionnaire to identify the intelligences the students possess; it is an inventory that can be easily used to diagnose students' MI profiles. It presents 90 statements related to each of the nine intelligences proposed by Gardner. Each student was asked to complete the questionnaire by putting a number from 0 to 1 next to each statement that described the most. 1 shows that the statement describes the student and 0 or a blank shows that it does not.

2-A TOEFL Reading Comprehension Test:

A standardized reading proficiency test which was selected from a TOEFL® reading practice tests an IBT short version. The reading comprehension test consisted of two short passages, each accompanied by 10 to 12 multiple-choice questions. In total, 20 questions were answered by each participant. The majority of the questions in the reading section are multiple choices, with four possible responses. However, matching or categorizing questions are exceptions to this pattern. The reading section is mostly consisted of multiple choice questions and the raw score will be equal to the number of questions answered correctly, with exceptions for the categorizing questions. The raw scores are converted to scaled scores using an online scale calculator provided by **Nguyen Ngoc Vu**.[1]

5- Data Collection Procedure

Data were collected during a two days period. Participants were asked to cooperate by answering the questions given to them and by reading the instructions carefully before answering. In the first day the Walter McKenzie's survey was distributed to the students and then was collected within one hour. By counting the statements chosen by each student, an MI profile was made which represents the strongest and the weakest intelligence the student possesses. The scores of the survey were subject to a descriptive statistical analysis and the results are shown in Table 1.

Table1. Descriptive Statistics of the MI Profiles of the Participants (N=52)

Statistics

Intelligences	N		Mean	Std. Deviation	Minimum	Maximum
	Valid	Missing				
Naturalistic	52	0	55.0000	24.53489	10.00	90.00
Musical-rhythmic	52	0	58.0769	23.09728	10.00	100.00
Logical-mathemat	52	0	60.1923	19.75243	10.00	100.00
Existential	52	0	59.8077	22.09519	10.00	90.00
Interpersonal	52	0	55.9615	27.67172	10.00	100.00
Kinesthetic-bodily	52	0	58.2692	22.81392	10.00	100.00
Verbal-linguistic	52	0	51.8846	23.91952	8.00	90.00
Intrapersonal	52	0	62.5000	20.37636	10.00	90.00
Visual-spatial	52	0	54.0385	23.45288	10.00	90.00

On the second day, students were provided with a TOEFL reading comprehension test to evaluate their reading ability and was answered within an hour as well. The test scores were as well subject to a statistical analysis and the results are shown in Table2.

Table2. Descriptive statistics of TOEFL® Reading test (N= 52)

Statistics

Test	N		Mean	Std. Deviation	Minimum	Maximum
	Valid	Missing				
Reading	52	0	11.3654	5.28419	2.00	20.00

Chapter III

Results,

Discussion, Implications and Recommendations

Chapter III
Results and discussion

Introduction

This study aimed at exploring the contribution the multiple intelligence theory provides in boosting the students' reading comprehension performance. This part of the study represents the results obtained through conducting a number of tests that was directed towards assessing the students multiple intelligence profiles and their reading comprehension ability. The scores obtained from this study were subject to a statistical analysis to provide an answer to the research questions proposed by the researcher. The findings were handled through a number of statistical processing formulas such as means frequencies, correlations and regression to establish relationships between variables. Tables and graphs were used as well for further clarification of data interpretation.

1- Data Analysis and Interpretation

1. 1. The students' MI profiles were identified and the intelligences mean and standard deviation were calculated to decide which is the strongest and which the weakest intelligence the students possess.

Table1. Descriptive Statistics of the MI Profiles of the Participants (N=52)

Statistics

Intelligences	N		Mean	Std. Deviation	Minimum	Maximum
	Valid	Missing				
Naturalistic	52	0	55.0000	24.53489	10.00	90.00
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Intrapersonal	52	0	62.5000	20.37636	10.00	90.00
Visual-spatial	52	0	54.0385	23.45288	10.00	90.00

According to Table 1 results, the students show strength with the intrapersonal intelligence (Mean= 62.50). The students' second highest intelligence is the logical-mathematical (Mean= 60.19) followed by existential intelligence (Mean= 59.80). The weakest intelligence the students possess is the verbal-linguistic (Mean= 51.88). Other intelligences include bodily- kinesthetic intelligence (Mean= 58.26), musical intelligence (Mean= 58.07), interpersonal intelligence (Mean= 55.96), naturalistic intelligence (Mean= 55.00) and visual-spatial intelligence (Mean= 54.03).

1. 2. The students reading comprehension ability was also assessed usin a TOEFL reading comprehension test.

Table2. Descriptive statistics of TOEFL® Reading test (N= 52)

Statistics

Test	N		Mean	Std. Deviation	Minimum	Maximum
	Valid	Missing				
Reading	52	0	11.3654	5.28419	2.00	20.00

According to Table 2 the mean of the reading comprehension TOEFL test is M= 11.36 and the standard deviation is Std.dev= 5.28. The scores are ranging between 2 as a minimum score and a 20 as a maximum score. From observing the lowest score which is 2 and the mean which is M= 11.36, it is obvious that the participants faced difficulties in understanding the given texts since academic texts are known to be difficult to understand and to process especially in that short amount of time. Haboush (2010) stated that one of the problems the students face with reading comprehension comes as a result of the frequent occurring of highly complex words and sentence structures and that is what academic texts are characterized with.

1. 3. In this study two research question were proposed:

1.3.1 The first question is concerned with the multiple intelligences and the reading ability; it is consisted of two parts:

The first part is set to explore the relationship between English major students' MI profiles and their reading proficiency. Since reading contributes into elevating the individual's academic as well as everyday life status, it is highly recommended by educators and scientists for reading comprehension strategies to be taught within the classrooms. Reading is very beneficial and crucial for novice readers as Mikulecky 1986 (cited in Haboush 2010, p. 13) stated because it helps them learn how to think, so it is linked to everything that happens in

the mind such as thinking and cognitive strategies and ultimately to the multiple intelligences. For making this relationship more obvious, a Pearson correlation was conducted between the multiple intelligences survey scores and between the reading comprehension test scores using the program of SPSS version 20. Table 3 showcases the results.

Table3. Pearson Product- Moment Correlation between Students' MI Profiles and the Reading Test Scores. (N= 52)

		Reading
MI	Pearson Correlation	.744*
	Sig. (2-tailed)	.021

*. Correlation is significant at the 0.05 level (2-tailed).

N= 52

Standard error of the coefficient= 0.149

T-test for the significance of the coefficient= 2.950

The Pearson's Product Moment Correlation Coefficient tells us how well two sets of continuous data correlate to each other. The value can fall between 0.00 (no correlation) and 1.00 (perfect correlation). A p value tells us if the Pearson's is significant or not. Generally p values under 0.05 are considered significant. After conducting Pearson's product correlation between the outcome of the whole intelligence categories' scores divided by the number of intelligences which is nine and between the reading scores the result was as follows: the Pearson's value is r= .744* for the sample number of N=52, and the significance is p= .021

which is lower than 0.05 and that is considered significant. The asterisks (*) indicate significant values. The Pearson's correlation coefficient r indicates a significant relationship between the MI scores and the reading scores. Hajhashemi (2012) stated that Guilford's rule of thumb indicates that the relationship between variables is marked with a high correlation when the correlation coefficient r falls in the range of .70- .90. So, the relationship between the students MI scores and the reading scores is high.

The second part is concerned with identifying which type of intelligence is most correlated with the students' reading scores. To realize that a Pearson product- moment correlation was conducted between each type of intelligence and the students reading scores, results are presented in Table 4.

Table4. Pearson Product- Moment Correlation between Each Intelligence Type and the Reading Scores. (N=52)

<div align="center">Reading</div>

Intelligences	Pearson Correlation	Sig. (2-tailed)
Existential	.259	.063
Interpersonal	.045	.751
Intrapersonal	.128	.366
Kinesthetic	.131	.356
Logical	.294[*]	.034
Musical	.107	.450
Naturalistic	.406[**]	.003
Verbal	.193	.170
Visual	.222	.114

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

The results exhibited in Table 4 show that there is a significant correlation between the reading scores and the naturalistic intelligence. The correlation coefficient r=. 406** and the

significance is p= .003 which is lower than 0.01. So, according to Guilford's rule of thumb the r value falls in the range of .40-.70 which means there is a moderate and substantial relationship between the reading comprehension and naturalistic intelligence. Thus, whenever the students' reading comprehension increases, the naturalistic intelligence also increases. According to Table 4, there is another intelligence that has a significant correlation with the reading scores and that is the logical intelligence. The correlation coefficient r= .294* and the significance is p= .034 which is lower than 0.05. So, Guilford's rule of thumb states that the r value falls in the range of .20-.40 meaning that there is a low correlation and definite but small relationship between reading comprehension scores and the logical intelligence. So, whenever the reading comprehension increases, the logical intelligence partially increases as well. The previous results somehow counterclaim the false assumption that the linguistic intelligence is the dominant one when it comes to the reading proficiency.

1.3.2. The second research question deals with the identification of the type of intelligence that should be boosted to obtain the best reading comprehension results. A stepwise multiple regression analysis was conducted using the reading scores as a dependent or criterion variable and the nine types of intelligence scores as an independent or predictor variables. The results are exhibited in Table 5.

Table 5. Stepwise Multiple Regression for MI and Reading Comprehension Scores of the Students.

Model	Standardized Coefficient _____ Beta	T	p	R	R^2	Adjusted R^2	Std. Error of the Estimate	F	Sig.
Naturalistic	.406	3.142	.003	.406[a]	.165	.148	4.87	9.873	.003[b]
Naturalistic	.614	3.852	.000	.484[b]	.234	.203	4.71	7.486	.001[c]
Interpersonal	-.335	-2.103	.041						

Dependent Variable: Reading

"A regression is used to determine the extent to which it is possible to predict one variable based on what is known about another variable" Reily stated. According to the Table, there were two intelligence types that seem to function as predictors of the reading comprehension ability. The two intelligence categories are the naturalistic intelligence and the interpersonal intelligence. The most significant predictor identified by the statistic regression program is the naturalistic; it has a multiple regression coefficient R of .406 and the coefficient determination R^2 of .165 meaning that the naturalistic intelligence contributed 16.5% of the variance in reading comprehension proficiency. The second significant predictor identified by the regression program is the interpersonal intelligence. The

combination of the two intelligences resulted in a multiple correlation coefficient R of .484 and the coefficient of determination R^2 of .234 meaning that those intelligences contributed 23.4% of the variance in reading comprehension proficiency. The second intelligence type which is the interpersonal was chosen because the results showed that it contributed in the improvement of the prediction done the first intelligence type which is the naturalistic intelligence. In other words, the interpersonal intelligence boosted the naturalistic intelligence prediction ability. The appropriate equation then is:

$Y= \beta1(X1) + \beta2(X2)$

Y= Dependent variable

X= Independent variable

X_1= Naturalistic intelligence

X_2= Interpersonal intelligence

High beta coefficient of an independent variable states that this particular variable is really significant in predicting the criterion variable. According to the table, the highest beta coefficient belonged to the naturalistic intelligence which was .614 meaning that the naturalistic intelligence is the best predictor in the equation and of course the interpersonal intelligence came in second place with -.335 which resulted the following:

Y= 0.614(naturalistic intelligence)- .335(interpersonal intelligence)

Beta coefficient is positive, so the relationship of this variable which is the naturalistic intelligence with the dependent variable which is the reading scores is positive meaning the greater the enhancement of the naturalistic intelligence the better the reading comprehension proficiency is.

Conclusion

This study is primarily concerned with identifying the relationship between the students' multiple intelligences and their reading comprehension proficiency as well as deciding which type of intelligence is the most significant in enhancing the reading ability. A number of tests were conducted to address the research questions proposed by the researcher. The findings of the first research question stated that there is a significant relationship between the students' multiple intelligences scores and the reading test scores. Pearson's correlation coefficient value was found to be $r= .744^*$ and the significance is $p= .021$ which indicates that the relationship between the variables is considered high. Moreover, the second part of the first question dealt with the identification of the type of intelligence that is most correlated with the students' reading scores. The findings unveiled that there is a significant correlation between the reading scores and the naturalistic intelligence as the results were found to be for the correlation coefficient $r=. 406**$ and the significance is $p= .003$. This indicated that there is a moderate relationship between the reading scores and the naturalistic intelligence, so whenever one variable increases, the other variable increases as well.

The last research question was concerned with knowing the exact type of intelligence to be considered as the best predictor of learner's performance in reading comprehension test. The findings indicated that two intelligence categories serve as predictors for reading proficiency which are the naturalistc intelligence and the interpersonal intelligence.

According to the results which are all considered positive, the use of the multiple intelligence theory has proven to be beneficial in improving the students' performance especially in reading comprehension tests. Therefore, the multiple intelligence theory needs to be implemented to give the students more freedom in exploring and using their multiple intelligences as well as meeting their learning styles and learning preferences.

Implications and Recommendations

Teachers and educators must identify their students' learning styles and their types of intelligences to design their class activities according to what suits the students best. Furthermore, the old teaching methods tend to focus on one type of intelligence when teaching the reading skill; however, the multiple intelligence theory focuses on all the intelligences' types so the students would get as much benefit from the classroom as possible. In addition, the multiple intelligence theory implementation helps in exploiting more students' intelligence types making it easier to reach a wider range of learners and addressing more learning difficulties. Moreover, both parents and students need to be aware of the concept of multiple intelligences in order to choose the instructional means that best fit them as student and in case of the parents to choose what is best for their children. Multiple intelligences theory decreases the usually boring atmosphere inside the classroom as it addresses each and every student according to their preferences and attracts them using their strongest intelligence as a motivator. Multiple intelligence theory helps all the students shine even the ones that used to perform poorly within the classroom because it focuses on the whole nine types on intelligences and not only one specific type making a room for other talented students to be in the spot light.

This study focused only on the reading skill but other language skill should also be addressed through the usage of multiple intelligence theory to acquire a full language mastery and proficiency. Educators should design language programs depending on the multiple intelligence theory to guide students towards a more efficient learning based on their preferences. This study used only the TOEFL test to evaluate the students reading comprehension; however, future studies must use other kinds of test on a larger range of participants so the results would be more generalised.

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Footnotes

[1]The TOEFL reading comprehension test scores were gathered by counting the students answers to each question. The raw scores are converted to scaled scores using an online scale calculator provided by **Nguyen Ngoc Vu**.[1]　available here: http://toefl.khoaanh.net/.

Appendices

Appendix (1)
Multiple Intelligences (M.I.) Inventory
© 1999 Walter McKenzie (http://surfaquarium.com/MI/index.htm)

Complete each section by placing a "1" next to **each** statement you feel accurately describes you. If you do not identify with a statement, leave the space provided blank. Then total the column in each section.

Section 1
_____ I enjoy categorizing things by common traits
_____ Ecological (environmental) issues are important to me
_____ Hiking and camping are enjoyable activities
_____ I enjoy working on a garden
_____ I believe preserving (saving/keeping) our National Parks is important
_____ Putting things in hierarchies (system of levels) makes sense to me
_____ Animals are important in my life
_____ My home has a recycling system in place
_____ I enjoy studying biology, botany and/or zoology
_____ I spend a great deal of time outdoors

Section 2
_____ I easily pick up on patterns
_____ I focus in on noise and sounds
_____ Moving to a beat is easy for me
_____ I've always been interested in playing an instrument
_____ The cadence (rhythm/speed) of poetry intrigues me
_____ I remember things by putting them in a rhyme
_____ Concentration is difficult while listening to a radio or television
_____ I enjoy many kinds of music
_____ Musicals are more interesting than dramatic plays
_____ Remembering song lyrics is easy for me

Section 3
_____ I keep my things neat and orderly
_____ Step-by-step directions are a big help
_____ Solving problems comes easily to me
_____ I get easily frustrated with disorganized people
_____ I can complete calculations quickly in my head
_____ Puzzles requiring reasoning are fun
_____ I can't begin an assignment until all my questions are answered
_____ Structure helps me be successful
_____ I find working on a computer spreadsheet or database rewarding
_____ Things have to make sense to me or I am dissatisfied

Section 4
_____ It is important to see my role in the "big picture" of things
_____ I enjoy discussing questions about life
_____ Religion is important to me
_____ I enjoy viewing art masterpieces
_____ Relaxation and meditation exercises are rewarding

Multiple Intelligences and Reading Comprehension

_____ I like visiting breathtaking sites in nature
_____ I enjoy reading ancient and modern philosophers

_____ Learning new things is easier when I understand their value
_____ I wonder if there are other forms of intelligent life in the universe
_____ Studying history and ancient culture helps give me perspective

Section 5

_____ I learn best interacting with others
_____ "The more the merrier"
_____ Study groups are very productive for me
_____ I enjoy chat rooms
_____ Participating in politics is important
_____ Television and radio talk shows are enjoyable
_____ I am a "team player"
_____ I dislike working alone
_____ Clubs and extracurricular activities are fun
_____ I pay attention to social issues and causes

Section 6

_____ I enjoy making things with my hands
_____ Sitting still for long periods of time is difficult for me
_____ I enjoy outdoor games and sports
_____ I value non-verbal communication such as sign language
_____ A fit body is important for a fit mind
_____ Arts and crafts are enjoyable pastimes
_____ Expression through dance is beautiful
_____ I like working with tools
_____ I live an active lifestyle
_____ I learn by doing

Section 7

_____ I enjoy reading all kinds of materials
_____ Taking notes helps me remember and understand
_____ I faithfully (routinely/always) contact friends through letters and/or e-mail
_____ It is easy for me to explain my ideas to others
_____ I keep a journal
_____ Word puzzles like crosswords and jumbles are fun
_____ I write for pleasure
_____ I enjoy playing with words like puns, anagrams and spoonerisms
_____ Foreign languages interest me
_____ Debates and public speaking are activities I like to participate in

Section 8

_____ I am keenly aware of my moral beliefs
_____ I learn best when I have an emotional attachment to the subject
_____ Fairness is important to me
_____ My attitude effects how I learn
_____ Social justice issues concern me
_____ Working alone can be just as productive as working in a group
_____ I need to know why I should do something before I agree to do it
_____ When I believe in something I will give 100% effort to it
_____ I like to be involved in causes that help others
_____ I am willing to protest or sign a petition to right a wrong

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Section 9
_____ I can imagine ideas in my mind
_____ Rearranging a room is fun for me
_____ I enjoy creating art using varied media
_____ I remember well using graphic organizers
_____ Performance art can be very gratifying
_____ Spreadsheets are great for making charts, graphs and tables
_____ Three-dimensional puzzles bring me much enjoyment
_____ Music videos are very stimulating
_____ I can recall things in mental pictures
_____ I am good at reading maps, atlases and blueprints

Appendix (2)

TOEFL Reading ComprehensionTest

ED TOEFL IBT v2.0 ONLINE TESTS

Please read the passage before answering the questions

Beginning

Symbiotic Relationships

Symbiosis is a close, long-lasting physical relationship between two different species. In other words, the two species are usually in physical contact and at least one of them derives some sort of benefit from this contact. There are three different categories of symbiotic relationships: parasitism, commensalisms, and mutualism.

Parasitism is a relationship in which one organism, known as the parasite, lives in or on another organism, known as the host, from which it derives nourishment. Generally, the parasite is much smaller than the host. Although the host is harmed by the interaction, it is generally not killed immediately by the parasite, and some host individuals may live a long time and be relatively little affected by their parasites. Some parasites are much more destructive than others, however. Newly established parasite/host relationships are likely to be more destructive than those that have along evolutionary history. With a longstanding interaction between the parasite and the host, the two species generally evolve in such a way that they can accommodate one another. It is not in the parasite's best interest to kill its host. If it does, it must find another. Likewise, the host evolves defenses against the parasites, often reducing the harm done by the parasite to a level the host can tolerate.

Parasites that live on the surface of their host ate known as ectoparasites. Fleas, lice, and some molds and mildews are examples of ectoparasites. ■ Many other parasites, like tapeworms, malaria parasites, many kinds of bacteria, and some fungi, are called endoparasites because they live inside the bodies of their hosts. ■ A tapeworm lives in the intestines of its host where it is able to resist being digested and makes use of the nutrients in the intestine. ■

Even plants can be parasites. Mistletoe is a flowering plant that is parasitic on trees. It establishes itself on the surface of a tree when a bird transfers the seed to the tree. It then grows down into the water-conducting tisses of the tree and uses the water and minerals it obtains from these tissues to support its own growth. ■

If the relationship between organism is one in which one organism benefits while the other is not affected, it is called commensalisms. It is possible to visualize a parasitic relationship evolving into a commensal one. Since parasites generally evolve to do aslittle harm to their host as possible and the host is combating the negative effects of the

parasite, they might eventually evolve to the point where the host is not harmed at all. There ate many examples of commensal relationships. Orchids often use trees as a surface upon which to grow. The tree is not harmed or helped, but the orchid needs a surface upon which to establish itself and also benefits by being close to the top of the tree, where it can get more sunlight and rain. Some mosses, ferns, and many vines also make use of the surfaces of trees in this way.

In the ocean, many sharks have a smaller fish known as a remora attached to them. Remoras have a sucker on the top of their heads that they can use to attach to the shark. In this way, they can hitchhike a ride as the shark swims along. When the shark feeds, the remora frees itself and obtains small bits of food that the shark misses. Then, the remora reattaches. The shark does not appear to be positively or negatively affected by remoras.

Mutualism is another kind of symbiotic relationship and is actually beneficial to both species involved. In many mutualistic relationships, the relationship is obligatory; the species cannot live without each other. In others, the species can exist separately but are more successful when they are involved in a mutualistic relationship. Some species of Acacia, a thorny tree, provide food in the form of sugar solutions in little structures on their stems. Certain species of ants feed on the solutions and live in the tree, which they will protect from other animals by attacking any animal that begins to feed on the tree. Both organisms benefit, the ants receive food and a place to live, and the tree is protected from animals that would use it as food.

One soil nutrient that is usually a limiting factor for plant growth is nitrogen. Many kinds of plants, such as beans, clover, and alder trees, have bacteria that live in their roots in little nodules. The roots form these nodules when they are infected with certain kinds of bacteria. The bacteria do not cause disease but provide the plants with nitrogen-containing molecules that the plants can use for growth. The nitrogen-fixing bacteria from the living site and nutrients that the plants provide, and the plants benefit from the nitrogen they receive.

Answer the questions

1/The word **derives** in the passage is closest in meaning to

- ☐ Requests
- ☐ Pursues
- ☐ Obtains
- ☐ Rejects

2/The word **it** in the passage refers to

- ☐ Host
- ☐ Organism
- ☐ Parasite
- ☐ Relationship

3/The word **relatively** in the passage is closest in meaning to

- ☐ Comparatively
- ☐ Routinely
- ☐ Adversely
- ☐ Frequently

4/Which of the sentences below best expresses the information in the highlighted statement in the passage? The other choices change the meaning or leave out important information

- ☐ A parasite is less likely to destroy the host when it attaches itself at first.
- ☐ Parasites that have lived on a host for a long time have probably done a lot of damage.
- ☐ The most destructive phase for a host is when the parasite first invades it.
- ☐ The relationship between a parasite and a host will evolve over time.

5/The word **tolerate** in the passage is closest in meaning to

- ☐ permit
- ☐ oppose
- ☐ profit
- ☐ avoid

6/According to paragraph 3, how do ectoparasites survive?

- ☐ They live in mold and mildew on their hosts.
- ☐ They digest food in the intestines of their hosts.
- ☐ They live on the nutrients in their bacterial hosts.
- ☐ They inhabit the outside parts of their hosts.

7/Which of the following is mentioned as an example of a commensal relationship?

- ☐ Orchids
- ☐ Mistletoe
- ☐ Ants
- ☐ Fungus

8/The word **actually** in the passage is closest in meaning to

- ☐ Frequently
- ☐ Iinitially
- ☐ Really
- ☐ Usually

9/In paragraph 7, why does the author use the example of the Acacia tree?

☐ To demonstrate how ants survive by living in trees
☐ To explain how two species can benefit from contact
☐ To show the relationship between plants and animals
☐ To present a problem that occurs often in nature

10/According to paragraph 8, how does bacteria affect beans and clover?

☐ It causes many of the plants to die.
☐ It limits the growth of young plants.
☐ It supplies nitrogen to the crops.
☐ It infects the roots with harmful nodules.

11/Look at the four squares (■) in the text that indicate where the following sentence could be added to the passage.

  "They live on the feathers of birds or the fur of animals."

Where would the sentence best fit?

1- (■)
2- (■)
3- (■)
4- (■)

12/In which of the following chapters would this passage most probably appear?

☐ Environment and Organism
☐ Pollution and Policies
☐ Human Influences on Ecosystems
☐ Energy Resources

13/Select the appropriate sentences from the answer choices, and match them to the hypotheses to which they relate. TWO of the answer choices will not be used.This question is worth 4 points.

Multiple Intelligences and Reading Comprehension

Answer choices

One species benefits and the other are not harmed.

Both species benefit from their contact.

Both species harm each other in the relationship.

One species is harmed while the other species benefits.

Often one of the species is destroyed by the relationship

During evolution, this relationship may become symbiotic.

Both species may require their relationship for survival.

In this relationship, the host may evolve defenses to avoid harm.

Both species are more successful when they form this relationship.

Parasitic (Drag three options here)

-
-
-

Commensal (Drag one option here)

-

Mutualistic (Drag three options here)

-
-
-

Please read passage before answering the questions
Beginning

Civilization

Between 4000 and 3000 B.C., significant technological developments began to transform the Neolithic towns. The invention of writing enabled records to be kept, and the use of metals marked a new level of human control over the environment and its resources. Already before 4000 B.C., craftspeople had discovered that metal-bearing rocks could be heated to liquefy metals, which could then be cast in molds to produce tools and weapons that were more useful than stone instruments. Although copper was the first metal to be utilized in producing tools, after 4000 B.C. craftspeople in western Asia discovered that a combination of copper and tin produced bronze, a much harder and more durable metal than copper. Its widespread use has led historians to speak of a Bronze Age from around 3000 to 1200 B.C., when bronze was increasingly replaced by iron.

At first, Neolithic settlements were hardly more than villages. But as their inhabitants mastered the art of farming, they gradually began to give birth to more complex human societies. As wealth increased, such societies began to develop armies and to build walled cities. By the beginning of the Bronze Age, the concentration of larger numbers of people in the river valleys of Mesopotamia and Egypt was leading to a whole new pattern for human life.

As we have seen, early human beings formed small groups that developed a simple culture that enabled them to survive. As human societies grew and developed greater complexity, a new form of human existence-called civilization-came into being. A civilization is complex culture in which large mummers of human beings share a number of common elements. Historians have identified a number of basic characteristics of civilization, most of which are evident in the Mesopotamian and Egyptian civilizations. These include (1) an urban revolution; cities became the focal points for political, economic, social, cultural, and religious development; (2) a distinct religious structure; the gods were deemed crucial to the community' s success, and professional priestly classes, as stewards of the gods' property, regulated relations with the gods; (3) new political and military structures; an organized government bureaucracy arose to meet the administrative demands of the growing population while armies were organized to gain land and power; (4) a new social structure based on economic power; while kings and an upper class of priests, political leaders, and warriors dominated, there also existed large groups of free people (farmers, artisans, craftspeople) and at the very bottom, socially, a class of slaves; (5) the development of writing kings, priests, merchants, and artisans used writing to keep records; and (6) new forms of significant artistic and intellectual activity, such as monumental architectural structures, usually religious, occupied a prominent place in urban environments.

Why early civilizations developed remains difficult to explain. Since civilizations developed independently in India, China, Mesopotamia, and Egypt, can general causes be identified that would explain why all of these civilizations emerged? A number of possible explanations of the beginning of civilization have been suggested. A theory of challenge and response maintains that challenges forced human beings to make efforts that resulted in the rise of civilization. Some scholars have adhered to a material explanation. Material forces, such as the growth of food surpluses, made possible the specialization of labor and development of large communities with bureaucratic organization. But the area of the Fertile Crescent, in which Mesopotamian civilization emerged, was not naturally conductive to agriculture. Abundant food could only be produced with a massive human effort to carefully manage the water, an effort that created the need for organization and bureaucratic control and led to civilized cities. Some historians have argued that nonmaterial forces, primarily religious, provided the sense of unity and purpose that made such organized activities possible. Finally some scholars doubt that we are capable of ever discovering the actual causes of early civilization.

Answer the questions

14/Which of the following is the best definition of a civilization?

☐ Neolithic towns and cities
☐ Types of complex cultures
☐ An agriculture community
☐ Large population centers

15/The word **Its** in the passage refers to

☐ copper
☐ bronze
☐ metal
☐ iron

16/ According to paragraph 2, what happens as societies become more prosperous?

☐ More goods are produced.
☐ Walled cities are built.
☐ Laws are instituted.
☐ The size of families increased.

17/The word **hardly** in the passage is closest in meaning to

☐ frequently
☐ likely
☐ barely
☐ obviously

18/Why does the author mention Neolithic towns in paragraph 2?

- ☐ To give an example of a civilization
- ☐ To explain the invention of writing systems
- ☐ To argue that they should be classified as villages
- ☐ To contrast them with the civilizations that evolved

19/According to paragraph 3, how was the class system structured?

- ☐ An upper class and a lower class
- ☐ Slaves, free people, and a ruling class
- ☐ A king, an army, and slaves
- ☐ Intellectuals and uneducated farmers and workers

20/Which of the sentences below best expresses the information in the highlighted statement in the passage? The other choices change the meaning or leave out important information.

- ☐ Mesopotamian and Egyptian civilizations exhibit the majority of the characteristics identified by historians.
- ☐ The characteristics that historians have identified are not found in the Egyptian and Mesopotamian cultures.
- ☐ Civilizations in Mesopotamia and Egypt were identified by historians who were studying the characteristics of early cultures.
- ☐ The identification of most historical civilizations includes either Egypt or Mesopotamia on the list