CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

Introduction

This chapter will review the literature related to multiple intelligences theory, and self-directed learning. This will cover the theoretical bases, the features of the approach and its application to an English language classroom. This literature will furnish the framework of this study. The scope of literature involves in this study are as follows:

1. Multiple Intelligences
2. Multiple Intelligences Theory
3. Multiple Intelligences explained
4. Theoretical Basis for Multiple Intelligences Theory
5. Key Points in Multiple Intelligences Theory
6. Ways to Teach Multiple Intelligences
7. The Relationship of Multiple Intelligences Theory to Other Intelligence Theories
    7.1 Some Theories Related
8. Meta-cognition
9. The Application of Multiple Intelligences Theory to English Language Teaching
    9.1 Characteristics of Linguistic Intelligence
10. Multiple Intelligences Syllabus
11. Multiple Intelligences in the Classroom
12. Multiple Intelligences Assessment in the Classroom
13. Self-Directed Learning
14. Related Research

1. Multiple Intelligences

In his book, Frames of Mind (1983), Dr. Howard Gardner has presented an alternative definition of intelligence based on a radically different view of intelligence. According to him, an intelligence entails the ability to solve problems or fashion products

that are of consequence in a particular cultural setting or community (1983:15). There are many, not just one, different but autonomous intelligence capacities that result in many different ways of knowing, understanding, and learning about our world. The intelligences are languages that all people speak and are influenced, in part, by the cultures in which we are born. They are tools for learning, problem solving and creating throughout life. The multiple intelligences are as follows: Linguistic/ Verbal Intelligence, Logical/Mathematical Intelligence, Spatial Intelligence, Bodily-Kinesthetic Intelligence, Musical Intelligence, Interpersonal Intelligence, Intrapersonal Intelligence, Naturalist Intelligence. However, in Gardner's (1999) book, entitled *Intelligence Reframed,* he considered potential new intelligences. These include existential intelligence which is the ability to contemplate the meaning of life and death; moral intelligence which involves making of value judgments and because intelligence is value-free, Gardner chooses not to credit this capacity as full-blown intelligence; and spiritual intelligence that enables us to grasp cosmic and transcendent truths but ultimately it depends on affective capacities (Campbell, Campbell and Dickinson, 2004).

2. Multiple Intelligence Theory

Gardner (1983) defined *Intelligence* as the capacity to solve problems or to fashion products that are valued in one or more cultural settings. "A human intellectual competence must entail a set of skills of problem solving enabling the individual to resolve genuine problem difficulties that he or she encounters and when appropriate, to create effective product thereby laying the groundwork for the acquisition of a new knowledge.

The theory of Multiple Intelligences was developed by Dr. Howard Gardner, professor of education at the Harvard School of Education from his work at Harvard Project Zero. This theory suggests that the traditional notion of intelligences, based on IQ testing is far too limited. Instead, Gardner proposes eight or more different intelligences to account for a broader range of human potential in children and adults. This theory rejects inadequate traditional measures of intelligence or aptitude such as the Stanford Binet Test or SAT for pre-admission to college. Rather, children should be evaluated by what they can do, not what they can not do. In a nutshell, multiple intelligence theory is a "pluralized way of

understanding intellect". Advances in cognitive science, developmental psychology and neuroscience suggest that each person's intelligence, as it has been traditionally considered, is made of autonomous faculties or intelligences that work in concert with each other. Rather, children should be evaluated by what they can do, not what they can not do.

In the past, intelligence was a fixed, static entity at birth, which was defined operationally as the ability to answer items on IQ tests. That we are born with, you can not change it, and that tests such as IQ test exist that can tell us how smart we are. The theory of multiple intelligences challenged this traditional view. Gardner's research suggests that we all have several intelligences. We do not have the same strength in each intelligence area, and we do not have the same combination of intelligences. The idea is that our minds are just distinct individual as our personalities. Gardner indicated that the definition of intelligence involves the separation of different abilities that maybe partially distinctive.

Gardner says that our schools and culture focus most of their attention on linguistic and logical mathematical intelligence, however we should also place equal attention on individuals who show gifts in the other intelligences: the artists, architects, musicians, naturalists, designers, dancers, therapists, entrepreneurs, and others who enrich the world in which we live. Unfortunately, many children who have these gifts do not receive much reinforcement for them in school. Many of these kids in fact, end up being labeled "learning disabled" or "ADD" (attention deficit disorder) or simply under achievers, when their unique ways of thinking and learning aren't addressed by a heavily linguistic or logical-mathematical classroom.

Gardner quoted that "it is of the utmost importance that we recognize and nurture all of the varied of human intelligences, and all of the combination of intelligence. We are all so different largely because we all have different combinations of intelligences. If we recognize this, I think we will have at least a better chance of dealing appropriately with the many problems that we face in the world."

In order to make a clear distinction between an intelligence with its biological origin and a talent or skill, Gardner asserts that each intelligence must satisfy all or a majority of the following criteria, namely brain damage studies, exceptional individuals,

developmental history, evolutionary history, psychometric findings, psychological tasks, core operations, and symbol system as cited in Christison (1998).

The multiple intelligence approach utilizes teaching according to each of the student's strength, whether it is artistic, mathematical, linguistic or other intelligences. Gardner believes that different parts of brain function on an independent basis. Each student has one or more different intelligences. Every student has a different profile of strengths and weaknesses across these intelligences. The theory of multiple intelligences proposes a major transformation in the way our schools are run. It suggests that teachers be trained to present their lessons in a wide variety of ways using music, cooperative learning, art activities, role play, multimedia, field trips, inner reflection and much more.

There are nine intelligences that have been explained but with the ongoing research, Gardner and his colleagues have identified and proposed other intelligences to be added to the list below. They are spiritual intelligence, emotional intelligence, digital intelligence which was proposed by Antonio Battro, his colleague and sexual intelligence. Gardner suggests that there are probably many others that we have not yet been able to test.

3. Multiple Intelligences Explained

3.1 Verbal-Linguistic Intelligence

Linguistic Intelligence refers to the capacity to use language, your native language, and perhaps other languages, to express what's on your mind and to understand other people. Poets really specialize in linguistic intelligence, but any kind of write, orator, speaker. Lawyer, or a person for whom language is an important stock in trade, highlight linguistic intelligence.

It is also the capacity to use words effectively, orally or in writing. Students who are "word-smart" are good with words. They love to read, write, and use words in games, puzzles and stories. They learn best by reading, listening, speaking, writing, story telling, explaining, understanding the syntax, meaning of words, analyzing language, etc.

3.2 Math-Logical Intelligence

Logical/ mathematical intelligence refers to the ability to understand the underlying principles of some kind of a causal system, the way a scientist or a logician does: or can manipulate numbers, quantities, and operations, the way the mathematician does.

It is the capacity to use numbers effectively and reason well. Students who are "number-smart" are able to reason deductively. They recognize patterns and relationships, and are usually good problem-solvers and questioners. They learn best by putting new information into patterns or relationships, or by putting it into mathematical context. They have the ability to use reason, logic and numbers, ask many questions, like to do experiments, working with abstract, reasoning, etc.

3.3 Visual-Spatial Intelligence

The ability to perceive the visual-spatial world accurately and to perform transformations upon those perceptions the way a sailor or airplane pilot navigates the large spatial world, or the way a chess player or sculptor represents a more circumscribed spatial world. Spatial intelligence can be used in the arts or in the sciences. If you are spatially intelligent and oriented toward the arts, you are most likely to become a painter or a sculptor or an architect than, say, a musician or a writer. Similarly, certain sciences like anatomy or topology emphasize spatial intelligence.

Spatially intelligent students are "picture-smart". They enjoy working with maps, diagrams, mazes and puzzles. They learn best if new information is presented in the form of a picture, either physical picture they can look at, or mental picture they can visualize and by drawing. They need to see the teacher, prefer sitting in front of the classroom, think in pictures, learn from visuals, diagrams, illustrations, overhead projectors, videos, handouts, etc.

3.4 Musical-Auditory Intelligence

Musical intelligence refers to the capacity to think in music, to be able to hear patterns, recognize them, remember them, and perhaps manipulate them. People who have a strong musical intelligence don't just remember the music easily, they can't get it out of their minds, it is so omnipresent. Now, some people will say, ''Yes, music is important, but it's a talent, not an intelligence. "And I say, Fine let's call it a talent. "but then we have to

leave the word intelligent out of all of discussions of human abilities. You know, Mozart was damned smart!

Students who are “music-smart” are good at remembering songs, and hearing the underlying rhythm of the language. They learn best if new information is presented in the context of a chant or song, through verbal lectures, discussions, listening to tone of voice, pitch, speed, benefit from reading aloud and using tape recorder, are good at singing, remembering melodies, etc.

3.5 Bodily-Kinesthetic Intelligence

Bodily - kinesthetic intelligence refers the capacity to use your whole body or parts of your body, your hand, your fingers, your arms- to solve a problem, make something, or put on a some kind of production. The most evident examples are people in athletics or the performing arts, especially dancing and acting.

“Body-smart” students are good at athletics activities or requiring coordination. They are also often good at using their bodies to communicate non-verbally. They learn best through moving, doing, touching, learn best through hands-on approach, actively exploring the world around them, use body language, crafts, acting, miming, using hands to create, expressing emotions through the body, etc.

3. 6 Interpersonal Intelligence

Interpersonal intelligence refers to understanding of other people. The ability to perceive and make distinctions in the moods, intentions, motivations and feelings of other people. Sensitivity to facial expressions, voice and gestures. It’s an ability we all need, but is it at a premium, if you are a teacher, clinician, salesperson, or a politician. Anybody who deals with other people has to be skilled in the interpersonal sphere.

Students who are “people-smart” understand people. They work well in pairs and groups and tend to be leaders who are good at organizing, communicating and negotiating. They learn best by sharing and discussing new information with others. They have the ability to relate and understand others, see things from the people’s points of view, sense feelings and intentions, are good at cooperation, etc.

3.7 Intra-personal Intelligence

Intra-personal intelligence refers to understanding of yourself, of knowing who you are, what you can do, what you want to do, how you react to things, which things to avoid, and which things to gravitate toward. We are drawn to people who have good understanding of themselves because those people tend not to screw up. They tend to know what they can do. They tend to know what they can't do. And they tend to know where to go if they need help.

"Self-smart" students know themselves. It is the ability to act adaptively on the basis of self-knowledge. They know their own strengths and weaknesses, have strong sense of self and work well alone. They often set goals for themselves. These students learn best by thinking through new information on their own, at their own pace. They have the ability to self-reflect and be aware of one's inner state of being, try to understand their inner feelings, dreams, relationships with others, strengths and weaknesses.

To gain deep self-knowledge and to gain peace with that knowledge requires considerable life experience. Intrapersonal intelligence develops gradually over time, and in the classroom, intrapersonal processes require time in planning and teaching as well as time to unfold within the learner. Yet teaching to nurture a knowledge of oneself is critically important since such knowing underlies success and fulfillment in life.

Aspects of intrapersonal intelligence include:

1. Establishing the environment to nurture the sense of self.
2. Self-esteem enhancers
3. Setting and achieving goals
4. Thinking skills
5. Emotional skills
6. Journal writing
7. Getting to know oneself through others
8. Reflecting on wonder and purpose of life
9. Self-directed learning
10. Intrapersonal forms of technology

3.8 Naturalist Intelligence

Naturalist intelligence refers to the human ability to discriminate among living things such as plants and animals as well as sensitivity to other features of the natural world such as clouds, mountains and rock configurations. This ability was clearly of value in our evolutionary past as hunters, gatherers, and farmers: it continues to be central in such roles as botanist or chef I also speculate that much of our consumer society exploits the naturalist intelligences, which can be mobilized in the discrimination among cars, sneakers, kinds of make up, and the like. The kind of pattern recognition valued in certain of the sciences may also draw upon naturalist intelligence.

"Nature smart" students understand how nature works. They often recognize and can name different plants, animals or rocks. It appears that this may be the intelligence that allows us to classify cultural artifacts, like cars, or shoes, or trendy fashions. Nature smart students may learn best if new information is presented in a nature context, or if they are allowed to compare and contrast the information with what they have already learned.

3.9 Existential Intelligence

Refers to human desire to understand and pursue the ultimate questions, meanings and mysteries of life. Students who are thinking broadly about existence, purpose of living, etc.

4. Theoretical Bases for Multiple Intelligences Theory

As mentioned by Armstrong (1994) the following are the bases for Gardner's theory of multiple intelligences:

4.1 Potential isolation of brain damage

Through Gardner's work with individuals who had suffered accidents or illnesses that affected areas of brain at Boston Veterans Administration, in several cases, brain lesions seemed to have selectively impaired one intelligence, while leaving all the other intelligences intact.

4.2 The existence of savants, prodigies, and other exceptional individuals who demonstrate superior abilities in part or one intelligence, while their other intelligences function at low level.

4.3 A distinctive history and definable set of expert “End State” performances

Gardner suggests that intelligences are galvanized by participation in some kind of culturally valued activity and that individual’s growth follows a developmental pattern. Each intelligence-based activity has its own developmental trajectory; that is, each activity has its own time of rising in early childhood, its own time of peaking during one’s lifetime, and its own pattern of either rapidly or gradually declining as one gets older. Musical composition, for example, seems to be the earliest culturally valued activities to develop a high level of proficiency like Mozart who was only four when he began to compose as well as other composers and performers who have been active well into their eighties and nineties.

4.4 An evolutionary history and evolutionary plausibility

Gardner concludes that each of the intelligences meets the tests of having its roots deeply imbedded in the evolution of human beings and, even earlier, in the evolution of other species as found in the ancient cave drawings and the bees dance to calculate distance.

4.5 Support from Psychometric findings

Standardize measures of human ability provide the “test” that most theories of intelligence (as well as many learning style-theories) use to ascertain the validity model.

4.6 Support from Experimental Psychological task

Specific psychological studies show intelligences working in isolation from one another, such as the studies of cognitive abilities such as memory, perception or attention. Certain individuals may have superior memory for words but not for faces. People can demonstrate different levels of proficiency across the intelligences in each cognitive area.

4.7 An identifiable Core Operation or Set of Operations.

In order for each intelligence to function, each intelligence has a set of core operations that serve to drive the various activities indigenous to that intelligence.

4.8 Susceptibility to Encoding in a Symbol System

One of the best indicators of intelligent behavior, according to Gardner, is the capacity of the human beings to use symbols. Each intelligence has its own unique symbol or notational system such as a number of spoke and written languages and graphics used by architects, engineers and designers.

5. Key Points in Multiple Intelligences Theory

Beyond the descriptions of the seven intelligences and their theoretical underpinnings, certain points of model are important to remember Armstrong (1994):

5.1 Each person possesses nine intelligences.

Multiple intelligences theory is not a "type of theory" for determining the one intelligence that fits. It is a theory of cognitive functioning, and it proposes that each person has capacities in all nine intelligences. Of course, the nine intelligences function together in ways unique to each person. Some people appear to possess extremely high levels of functioning in all or most of the nine intelligences. For example, German poet-statesman-scientist-philosopher Johann Wolfgang von Goethe. Other people, such as those in institutions for the developmentally disables, appear to lack all but most rudimentary aspects of the intelligences. Most of us fall somewhere between these two poles --- being highly developed in some intelligences, modestly developed in others, and relatively underdeveloped in the rest.

5.2 Most people can develop each intelligence to an adequate level of competency.

Although an individual may bewail his deficiency in a given area and consider his problems innate and intractable, Gardner suggests that virtually everyone has the capacity to develop all seven intelligences to a reasonably high level of performance if given the appropriate encouragement, enrichment and instruction.

5.3 Intelligences usually work together in complex ways.

Gardner points out that intelligence is actually a "fiction"; that is, no intelligence exists by itself in life except perhaps in very rare instances in savants and brain-injured individuals.

5.4 There are many ways to be intelligent within each category.

There is no standard set of attributes that one must have to be considered intelligent in a specific area. Consequently, a person may not be able to read, yet be highly linguistic because he can tell a terrific story or has a large oral vocabulary. Similarly, a person may be quite awkward on the playing field, yet possess superior bodily-kinesthetic intelligence when she weaves a carpet or creates an inlaid chess table. Multiple intelligences theory emphasizes

the rich diversity of ways in which people show their gifts within intelligences as well as between intelligences.

6. Ways to Teach the Multiple Intelligences

According to Jasmine (1996) the following are ways to teach multiple intelligences:

6.1 ***Infusion***.

For this method of instruction you take an area of the curriculum (or a theme or an objective) and devise an approach that would involve each of the intelligences. In this approach you move from curriculum out into the intelligences. Infusion can be exceptionally successful, as shown in the special "masterpiece" lesson that follows. The advantage is that it does not add another area to the curriculum but the disadvantage is that it demands continuous and innovative planning.

In "Multiple Intelligences: Seven Ways to Approach Curriculum", an article which appeared in Educational Leadership, Thomas Armstrong write about the lesson that has already become a classic. He details his experiences in creating and teaching lesson in telling time (logical/mathematical) for first graders. He started by telling an exciting and original story (verbal/linguistic) about the O'clocks, and Irish family with 12 children who lived in the Land of Time. The children (named One, Two, and so on) in this family announced the time hourly with a catchy little rhyme (musical/rhythmic). After hearing the whole story, the first graders took turns standing in front of a huge, handless clock and acting out the roles of the O'clock children who, incidentally, each had one tiny hand and one huge (bodily kinesthetic). The first graders then went on to play more clock games (interpersonal) with numbers, dance around to the tune off "Rock Around the Clock" (bodily/kinesthetic and musical/rhythmic), and write original stories (verbal/linguistic and intrapersonal) illustrated with clock faces (visual/spatial).

6.2 Center-Based. Curriculum is based on theme. Centers are keyed to intelligences. The center-based multiple intelligences is usually combined with thematic teaching because the theme provides unifying topic that holds the instructional plan together but also the subject matter and ideas for individual centers. The advantage is that centers

can be ongoing but initial preparation is extremely time consuming and scheduling is complex.

6.3 Project-Based. This resembles the "jigsaw" method of cooperative learning. Each student responds differently to the same topic. Project based approaches to learning allow students to explore knowledge from the vantage point of their own dominant intelligences. Thus, for example, the student who is strong in bodily/kinesthetic intelligence is not forced to write about a topic but can build something to demonstrate mastery of the subject matter. Not everyone will be expected to do the same thing, and no one will be expected to do everything. Students choose those projects or those pieces of a project that appeal to their dominant intelligences.

In the theme method a broad overall topic is selected, in some cases for a whole school. Each student is expected to create a project that will show knowledge and understanding of the subject area. When this method is used to full advantage, students are taught how to choose and develop their own projects.

The Jigsaw method bears a resemblance to the "jigsaw" method of cooperative learning originated by R. Slavin, Lyman, L, Foyle, H., & Azwell, T. Cooperative Learning in the Elementary Classroom. New York: National Education Association (1993). In Slavin's version various members of a group are responsible for researching different areas of an assigned topic and bringing their findings back tot he group to be taught to the other members and pieced together into a whole. I responding to a multiple intelligences project, everyone participates in the same unit or theme but is free to choose the topics and/or the approaches that best suit his or her interests and talents.

The advantage is that each intelligence can be met and enriched. Assessment can be intelligence-fair but there can be no expectation that students will experience the entire topic.

6.4 As a separate subject. This is a method of instruction in which you take one (or more) of the intelligences and demonstrate it in such a way that an environment will be provided to support a crystallizing experience. In this approach you move from the intelligences out into the curriculum. First and most important, this method allows for archetypal experiences. Archetypes, according to *Webster's New World Dictionary*, are perfect examples of a type or a group. The advantages are that material will not be forced,

artificial, or insignificant. Secondly, this method will automatically involve the processes of meta intelligence (metacognition applied to the intelligences) with all its benefits.
This approach immediately validates students as learners who are capable of dealing with high-level of subject matter . The disadvantage is that it adds to the area of curriculum.

Adapted from Jasmine, J. (1996). Multiple Intelligence Activities

7. The Relationship of Multiple Intelligences Theory to Other Intelligence Theories

Gardner's theory of multiple intelligences is certainly not the first model to grapple with the notion of intelligence. In more recent time theories of intelligence have emerged from 1 (Spearman's "g") to 150 (Guilford's Structure of the Intellect) types of intelligence.

A growing number of learning styles deserve to be mentioned. Broadly construed, a person's learning style is the intelligences put to work. In other word learning styles are pragmatic manifestations of intelligence operating in natural contexts. Multiple intelligences theory has a different type of underlying structure than many of the most current learning-style theories. Multiple intelligences is a cognitive model that seeks to describe how individuals use their intelligences to solve problems and fashion products. Unlike other models that are process oriented, Gardner's approach is particularly geared to how the human mind operates on the contents of the world while Visual-Auditory-Kinesthetic model is a sensory model multiple intelligences is not specifically tied to senses; it is possible to be blind and have spatial intelligence and to be deaf and quite musical. Myers-Briggs model is a personality theory based on Carl Jung's theoretical formulation of different types of personality.

7.1 Some Theories of Intelligence Related to Learning Process

1. Psychologists say that it is "the capacity to acquire and use knowledge" Theoretical Underpinnings

2. Piaget's Theory of developmental psychology: "Intelligence is developmentally constructed in the mind of the learner and moves from concrete to abstract stages of understanding."

3. Vygotsky theory of social mediation. “Intelligence is a function of activity mediated through material tools, and other human beings.”

4. Feuerstein’s theory of structural cognitive modifiability. “Intelligence is function of experience and can be changed through guided mediation.”

5. Gardner’s theory of Multiple Intelligences. “Intelligence is made up of nine or more realms of knowing (verbal, visual, mathematical, musical, bodily, interpersonal, intrapersonal, naturalistic, existential) for solving problems
and creating values in culture.”

6. Sternbergs successful Intelligences. “Intelligence is triarchic, with creative, analytic and practical components that need to be balanced.”

7. Perkin’s theory of learnable Intelligence. “Intelligence is made up of neural, experiential, and reflective components that helps us know our way around the good use of our minds.”

8. Costa’s theory of Intelligence behaviors. “Intelligence is composed of acquired habits of states of mind that are evident in such behaviors such as persistence, flexibility, decreased impulsiveness, enjoyment of thinking and reflectiveness.”

9. Goleman’s theory of Emotional Intelligences. “Intellignece is both cognitive and emotional, with the emotion (self-awareness, self-regulation, motivation, empathy and social skill) ruling over the cognitive.”

10. Cole’s theory of moral intelligence. “Intelligence is composed of cognitive, psychological, or emotional and moral realms.

8. Meta-cognition

Meta-cognition refers to higher order thinking that involves active control over the thinking processes involved in learning. Activities such as planning how to approach a given learning task, monitoring comprehension, and evaluating progress toward the completion of a task are meta-cognitive in nature. Because meta-cognition plays a critical role in successful learning it is important for both students and teachers. Meta-cognition has been linked with intelligence and it has been shown that those with greater meta-cognitive abilities tend to be more successful thinkers. Most definitions of meta-cognition include both knowledge and strategy components. Knowledge is considered to be meta-cognitive if it is

actively used in a strategic manner to ensure that a goal is met. Meta-cognition is often referred to as **"***thinking about thinking"* and can be used to help students **"***learn how to learn***."** Cognitive strategies are used to help achieve a particular goal while meta-cognitive strategies are used to ensure that the goal has been reached.

Meta-cognitive knowledge involves executive monitoring processes directed at the acquisition of information about thinking processes. They involve decisions that help:

1. to identify the task on which one is currently working,
2. to check on current progress of that work,
3. to evaluate that progress, and
4. to predict what the outcome of that progress will be. Meta-cognitive strategies involve executive regulation processes directed at the regulation of the course of thinking. They involve decisions that help
5. to allocate resources to the current task,
6. to determine the order of steps to be taken to complete the task, and
7. to set the intensity or the speed at which one should work the task.

9. The Application of Multiple Intelligences Theory to English Language Teaching

It appears logical that Multiple Intelligence Theory can move us in a renewed direction. It offers a model that can help language educators understand how their own learning style affects their teaching style and, ultimately, how that teaching style can affect student learning.

According to Lin (2002), it seemed that ever since the arising of the learner-centered instruction, every ELT method/technique with its specific emphasis has been developed to meet students' different needs, or interests (somewhat as Gardner's intention of developing and/or using different kinds of "intelligences"). The Silent Way, for example, emphasizes the development of students' inner thinking (intra-personal intelligence); Total Physical Response, however, emphasizes language learning through physical action (bodily/kinesthetic intelligence); Suggestopedia, on the other hand, emphasizes the use of music (musical intelligence) to facilitate language cognition; both the Communicative Approach and cooperative learning emphasize the importance of interpersonal relationship

(interpersonal intelligence) to language learning; and the whole language learning not only emphasizes the wholeness and reality of language (verbal/linguistic intelligence) but also believe language learning.

Research indicates that verbal-linguistic intelligence starts developing while a fetus is still in the womb and that babies who have been read to, sung to, and talked to before birth have a head start in this area Campbell, Campbell & Dickinson (2004). This intelligence continues to develop in children as they listen to others and are included in discussion. Perhaps even more important to this development is their interaction with others as they formulate sentences to express their opinions and feelings and make choices and decisions. Thus developing verbal-linguistic intelligence is not a passive activity but demands involved and active participation, and curiosity about the world in which we live.

9.1 Characteristics of Linguistic Intelligence

Campbell, Campbell and Dickinson (2004), in their book *Teaching & Learning through Multiple Intelligences,* have identified twelve characteristics that a person with well-developed verbal-linguistic intelligence usually exhibits the following:

1) Listens and responds to the sound, rhythm, color, and variety of the spoken word.

2) Imitates sounds, language, reading, and writing of others.

3) Learns through listening, reading, writing, and discussing.

4) Listens effectively, comprehends, paraphrases, interprets, and remembers what has been said.

5) Reads effectively, comprehends, summarizes, interprets or explains, and remembers what has been read.

6) Speaks effectively to a variety of audiences for a variety of purposes, and knows how to speak simply, eloquently, persuasively, or passionately at appropriate times.

7) Writes effectively, understands and applies rules of grammar, spelling, punctuation, and uses an effective vocabulary.

8) Exhibits ability to learn other languages.

9) Uses listening, speaking, writing, and reading to remember, communicate, discuss, explain, persuade, create knowledge, construct meaning, and reflect upon language itself.

10) Strives to enhance his or her own language usage.

11) Demonstrates interest in journalism, poetry, storytelling, debate, speaking, writing, or editing.

12) Creates new linguistic forms or original works of writing or oral Communication.

Every classroom needs to be language rich, i.e. to have students speaking, debating, expressing opinions, and asking questions, instead of passively listening to a teacher.

The technical writer, public-relations spokesman, translator, and the poet – all of these use linguistic intelligence-but how different the skills! Many teachers have the belief that if a student is strong in a certain intelligence that means she excels holistically in the intelligence-but this is by no means certain. A student can show great musical intelligence by writing and composing piano concertos-but be an absolute failure playing the drums or in dance. In reality, the number of separate intelligences may be in the hundreds (Gardner, 1996).

Multiple intelligences approach does not ask if a person is intelligent, but how they are intelligent Torff (1996) and it is up to the learner to demonstrate particular domain skills. Even a very specific domain skill such as reading uses different parts of the brain depending on whether the word is alphabetic (e.g., English words made up of letters) or pictographic (e.g., Chinese characters with one character equal to one word). There is evidence that some students with reading learning disabilities are able to learn whole word characters much easier than words composed of letters Smith (1994). Multiple intelligences is not something that the absence of performance or personal distaste will entirely discount intelligence in that area. What counts is not across-the-board success in an intelligence but successful accomplishment in real-world domains Sternberg (1996).

10. Multiple Intelligences Syllabus

Integrative learning is simply the term used to describe our efforts to involve our different intelligences and learning styles in how we teach. It is how we express creativity.

It is weaving together how information is presented, understood, and applied in our daily lives.

The idea that there are different ways of being smart reaffirms what we as teachers have always sensed- that our students are each uniquely gifted with intelligence. If we treat all children the same, then we tend to cater to just one type of intelligence, usually verbal-linguistic. We can improve our lessons by using an understanding of intelligences to identify our students' strengths and weaknesses, and to consciously plan lessons designed to incorporate as many intelligences as possible.

We can use our knowledge of the types of multi-intelligence as effective tools in planning our lessons. By including activities to reach different intelligences, we can be sure that our lessons are balanced, and that all of our students have an equal chance to master new language.

When Planning a Lesson, Ask the Right Questions! Certain questions help us look at the possibilities for involving as many intelligences as possible:

Linguistic: How can I use the spoken or written word?

Logical-Mathematical: How can I bring in numbers, calculations, logic, classifications, or critical thinking?

Spatial: How can I use visual aids, visualization, color, art, metaphor, or visual organizers?

Musical: How can I bring in music or environmental sounds, or set key points in a rhythm or melody?

Bodily-Kinesthetic: How can I involve the whole body, or hands-on experiences?

Interpersonal: How can I engage students in peer or cross-age sharing, cooperative learning or large-group simulation?

Intrapersonal: How can I evoke personal feelings or memories, or give students choices?

You won't always find ways of including every intelligence in your curriculum plans. But if this model helps you reach into one or two intelligences that you might not otherwise have tapped, then it has served its purpose very well indeed!

11. Multiple Intelligence in the classroom

Often in articles in MI we might see a MI syllabus similar to the following:

Linguistic: Read a poem in English

Musical: Sing a song in English or make up an English rap song

Bodily-Kinaesthetic: Do an American or English dance or play soccer

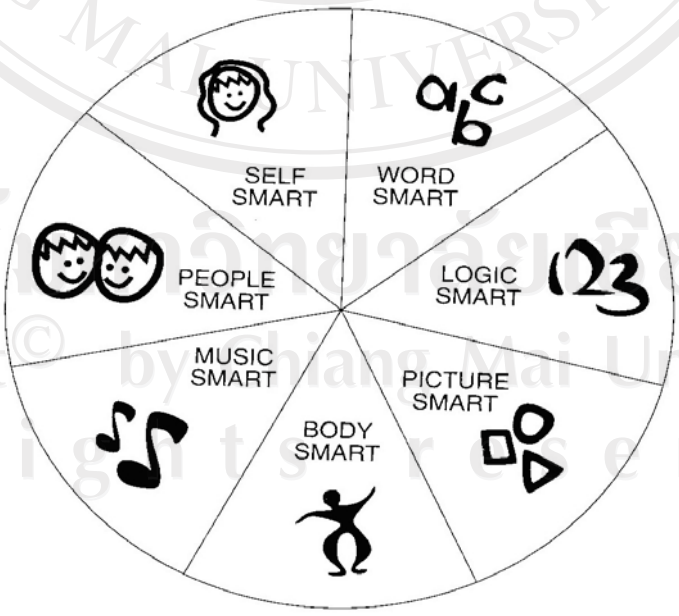
Mathematical: Do the multiplication table in English

Intra-personal: Think & write in your English reflective class journal. Do you prefer dogs or cats? Why?

Interpersonal: Work in a cooperative group and make a list in English on the uses of a pencil. Be creative!

Spatial: Make snowflakes with the teacher giving the instructions in English. This shows an incomplete understanding of the theory of multiple intelligences or perhaps an overly broad acceptance of what constitutes a multiple intelligences classroom. When one is acquiring a foreign language, one is using one's linguistic intelligence-no other! If you're trying to understand an abstract math concept-you're using your mathematical/logical intelligence-no matter if you're doing it listening to music or dancing.

Figure 1 Multiple Intelligences Pizza



According to Gardner (1991), any topic can be addressed in at least 5 different ways. By addressing a concept in multiple ways, it helps students acquire understanding. These are all intellectually challenging tasks. Unfortunately, many teachers believe having students draw and design imaginary evolutionary monsters on Mars (spatial), or pretending that we human beings had evolved to communicate only by tap-dancing (or walking while reading about evolution) (bodily-kinesthetic), or performing a rap about evolution (musical), illustrate the use of MI in the classroom. Music in the classroom does not necessarily mean that musical intelligence is being used. There must be a focus on the performance. The use of music may be nice and pleasant - but its use is trivial (Gardner, 1995). Unless there is a focus on the performance-the activity risks being a meaningless, objectiveless exercise (Torff, 1996).

With the reference to Christison (1996), there are four steps to show how MI theory applies to ELT. The **first step** is to identify the activities frequently used in our classes and categorize them to each particular type of intelligence. Through literature review (Lazear, 1999 & 1993, Christison, 1990, 1996 & 1998, Haggerty, 1995, Li's translation of Armstrong, 1994 and Campbells & Dickinson, 1993), (Lin, Po-Ying, 2000).

11.1 Verbal-Linguistic Intelligence

1) Vocabulary and grammar Learning -- learning new words and grammatical points and practicing using them accurately in regular communication

2) Formal and informal speaking -- making verbal presentation to others, making conversations, having discussions and debates, etc.

3) Humors or jokes -- creating puns, limericks, and telling jokes on topics of study

4) Impromptu speaking -- instantly speaking on a randomly drawn topic

5) Storytelling -- telling stories about any topic one is studying

6) Reading -- silent reading, oral reading, and group/choral/chain reading for comprehension

7) Writing -- doing written exercises, note-taking, summary/report writing, and journal/log/diary keeping to keep track of one's own thoughts and ideas

8) Creative writing -- writing original pieces (e.g., stories, essays, poems, novels, etc.)

11.2 Logical-Mathematical Intelligence

1) Logic pattern games -- creating riddles or puzzles that challenge students to find a hidden rationale or pattern

2) Logical/sequential presentation -- inventing point-by-point logical explanations for items or making systematic presentation of subject matter

3) Number sequences/patterns -- investigating numerical facts or gathering and analyzing statistics on a topic

4) Problem solving -- listing appropriate procedures for problem solving situations

5) Forming Relationships -- creating meaningful connections between different ideas

6) Syllogisms -- making "if…, then…" logical deductions about a topic

11. 3 Visual-Spatial Intelligence

1) Visual Aids Using/Making -- using flash cards, pictures, paintings, charts, collages, graphs, grids, diagrams, flowcharts, slides, sculptures and video/film-viewing, etc. to facilitate learning and encouraging students to make the visual aids by themselves

2) Active Imagination -- finding connection between visual designs or patterns, and prior experiences or knowledge

3) Mind Mapping -- creating or arranging visual mapping activities (e.g. word maze, visual webs of written information)

4) Environment Arranging/Decorating -- encouraging students to decorate bulletin boards, and arranging learning corner (e.g. English reading corner) to achieve the effect of peripheral learning

11.4 Bodily-Kinesthetic Intelligence

1) Physical Actions -- arranging and doing TPR and hands-on activities

2) Body Language -- "embodying" meaning, interpretation, or understanding of an idea in physical movement

3) Role Playing/Mime -- performing skits or characters to show understanding of topics of study

4) Dramatic Enactment -- creating a mini-drama that shows the dynamic interplay of various topics of study

5) Sports Games -- creating a contest or game based on specific knowledge about a topic of study

6) Field Trips -- arranging trips to gain firsthand knowledge away from the classroom.

7) Writing and Talking about their own experience.

11.5 Musical-Rhythmic Intelligence

1) Music/Song Listening -- listening to rhythmic patterns, recorded music, or songs

2) Singing/Humming -- creating songs for a class, a team, a topic of study or finding existing songs that complement a topic

3) Musical Instruments Playing -- employing musical instruments to produce sounds for a lesson (e.g., background accompaniment, enhancement for the teaching)

4) Music Composition/Creation -- composing and creating music for the sound effect of a play performance or for the enhancement of teaching

5) Jazz Chants/Rapping -- producing or using rhythmic patterns, such as jazz chants, or raps to help communicate, or to remember certain words, sentence structures, concepts, ideas, or processes

6) Vocal Sounds/Tones -- producing sounds with one's vocal cords to illustrate the meaning of a word, or a concept (e.g., hiccup, gasp, etc.)

11.6 Interpersonal Intelligence

1) Person to Person Communication -- focusing on how teachers and students relate to each other and how to improve their relating

2) Giving and Receiving Feedback -- offering input on one's performance or about one's opinions; and accepting another's input or reaction to one's performance/opinions

3) Cooperative Learning Strategies -- using structured team works for topic learning and/or practicing peer learning

4) Pair Works and Group Projects -- investigating and discussing a topic problem with a partner or with others in teams

5) Jigsaw Puzzle/Strip Story -- dividing a picture or a story into distinct segments so that students can learn from each other on the process of putting it back to its original form

11.7 Intrapersonal Intelligence

1) Independent Studies/Projects -- encouraging students to work independently for goal-setting, process-planning, self-assessing, and homework choosing

2) Journals/Logs/Diaries keeping -- working with reflection tools, such as reflective journals, thinking logs, learning diaries, etc.

3) Focusing/Concentration Skills -- learning the ability to focus one's mind on a single idea or task

4) Thinking strategies -- learning what thinking patterns to use for what task

11.8 Naturalist Intelligence

1) Nature Encounters/Field Trips -- going outside for firsthand experiences in nature and/or bringing nature in the classroom via videos, objects, animals, plants, etc.

2) Species Classification -- working with classification matrices to understand characteristics of natural objects

3) Sensory Stimulation Exercises -- exposing the senses to nature's sounds, smells, tastes, touches, and sights

4) Hands-On Labs -- performing experiments or activities that use objects from the natural world

5) Nature World Simulations -- re-creating or representing nature in some form (e.g. photographs, drawings, etc.)

Step two is to make plans by selecting appropriate classroom activities/tasks, taking the following factors into consideration: students' needs, strengths, levels, learning styles, learning strategies, learning potentials, the nature of the subject matter, the teacher's personal teaching rationales, his/her multiple intelligence profile, and teaching styles, etc.

Step three is to use ELT Multiple Intelligences weekly/monthly checklist to keep track of different activities/tasks conducted in the class. We need not include activities for developing all the eight multiple intelligences within each lesson; we may, however, follow the ***Step four*** is to expand our classroom activities for the neglected intelligences by way of examining and analyzing our checklists for a period of time.

12. Multiple Intelligences Assessment in the Classroom

Gardner looks at the process of intelligence-fair assessment from the point of view of a psychologist.

12.1 Observation. It must be structured, documented, and repeated at regular intervals. Observation can be structured by being linked to specific activities. For example, you might decide to formally observe your cooperative group to determine their levels of performance in the area of interpersonal intelligence. After thinking this through, your would design an easy-to use checklist representing the goals you want your groups to reach. Then document your observation by using the checklist you designed and repeat this process once a month or at whatever intervals work for you. This process will give you consistent record of progress over a period of time.

12.2 Checklist. In order to make meaningful checklist, you must do task analysis Figure out what really goes into the achievement of a particular goal.

12.3 Anecdotal Records. Observations can also be documented through thee use of anecdotal records. Anecdotal records used to be lists of comments stated objectively and use to document behavioral problems. The new style of anecdotal records is positive comments that document the development and growth of students. They depend on teacher interpretation and judgment and focus on the things students can do, not what they can not do.

12.4 Portfolios. Portfolios can be thought of as containers in which to gather and store all of the records generated by the new methods of assessment. They can also be thought as an assessment method, which provides a way to take a look at and compare work in order to observe progress over a period of time. Portfolio assessment is most often though of in connection with written work (thus documenting the products of the verbal/linguistic and logical/mathematical intelligence); however, it is just as possible to collect, store, and compare video and audio tapes documenting products of the visual/spatial, bodily/kinesthetic, musical/rhythmic, and interpersonal intelligences. Art objects, athletic activities, dance and musical performances, and group activities, such as debates are all examples that come to mind.

12.5 Reflections. Reflections are a form of self-assessment. They engage the intrapersonal intelligence, the hardest intelligence to see in a section. Reflections are originally developed for, and have been associated with, the writing process. They are, however, equally adaptable to any other work that has been completed. They can be removed from the written emphasis of the verbal/linguistic domain by allowing students to reflect orally using a tape recorder and documenting the oral account with photographs.

12.6 Rubrics. The word "rubric" literally means, "rule". When used in connection with assessment, a rubric is a scoring guide based on the requirements that were established to differentiate among the degrees of competency displayed in completing a task. Rubrics can be developed by either a teacher or by the district testing office or with students.

12.7 Translation. It is a technique in which information taken in through one intelligence is put out through another. You might ask your bodily/kinesthetic students to dance their summary of a poem or mime their understanding of a rule. Or, let students with visual/spatial intelligence paint their impressions of a piece of music or draw what the other side of a pictured object would look like. A checklist could be constructed to document the observation of this technique.

13. Self-directed Learning

Not much research has been done on self-directed as a theory. Several researches stated that multiple intelligence activities enhance self-directed learning of the students.

Engaging them in different multiple intelligence activities direct students to become independent learners who are responsible for their own learning.

Knowles (1975) described self-directed learning as "a process in which individuals take the initiative, with or without the help of others," to diagnose their learning needs, formulate learning goals, identify resources for learning, select and implement learning strategies, and evaluate learning outcomes.

Brockett and Hiemstra (1991) view the term self-directed learning as an instructional process centering on such activities as assessing needs, securing learning resources, implementing learning activities, and evaluating learning. Hiemstra and Sisco (1990) refer to this as individualizing instruction, a process focusing on characteristics of the teaching-learning transaction. In essence, this aspect of self-direction centers on those factors external to the individual. Several things are known about self-directed learning:

1. Individual learners can become empowered to take increasingly more responsibility for various decisions associated with the learning endeavor.

2. Self-direction is best viewed as a continuum or characteristic that exists to some degree in every person and learning situation.

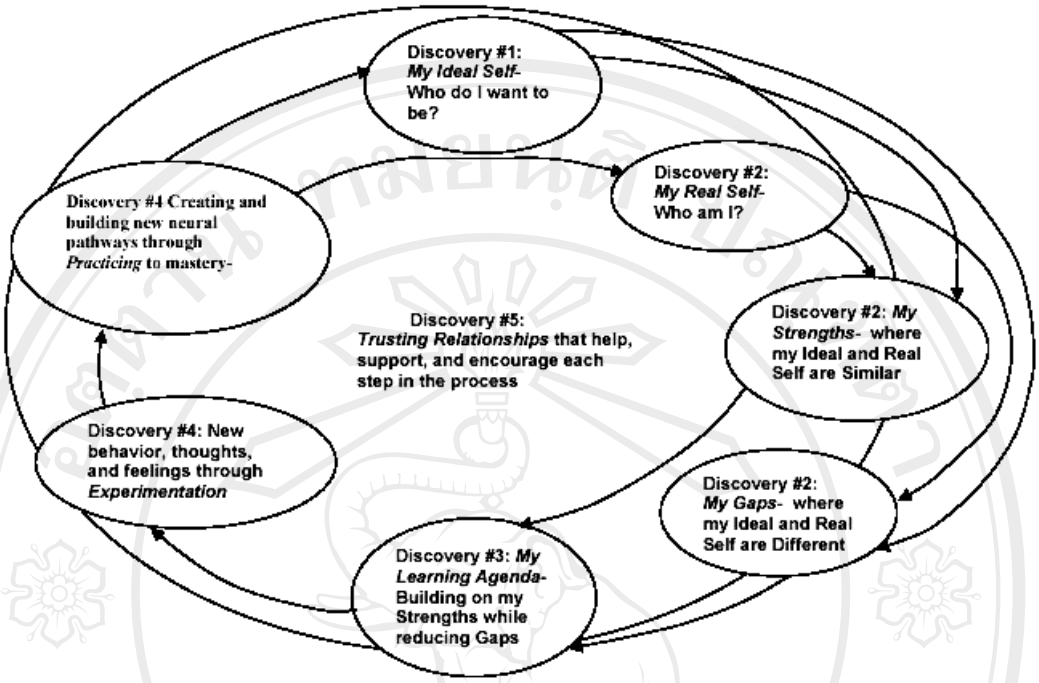
3. Self-direction does not necessarily mean all learning will take place in isolation from others.

4. Self-directed learners appear able to transfer learning, in terms of both knowledge and study skill, from one situation to another.

5. Self-directed study can involve various activities and resources, such as self-guided reading, participation in study groups, internships, electronic dialogues, and reflective writing activities.

6. Effective roles for teachers in self-directed learning are possible, such as dialogue with learners, securing resources, evaluating outcomes, and promoting critical thinking.

Figure 2 Boyatzis' Theory of Self-Directed Leaning



Some educational institutions are finding ways to support self-directed study through open-learning programs, individualized study options, non-traditional course offerings, and other innovative programs.

14. Related Research

14.1 Multiple Intelligence and Language Minority Students

Nicole Beaulieu (2002) conducted a research entitled "Engaging Language Minority Students through the Multiple Intelligences in Ninth grade classes" in Wakefield High School Arlington County Public school. The result showed that eight out of 10 students had improved attendance, and improved grades. The other two did not make improvements beyond more class participation. She believed that both have very low self-esteem and never "bought into" MI theory during the year. Generally her students had fun and seemed to have no boundaries in learning.

14.2 Student Achievement and Multiple Intelligences

Student achievement has been low in language arts in Suburban Chicago, Illinois school districts. This action research project was designed to determine the effect of

incorporating multiple intelligence strategies into the language arts curriculum. The targeted students were in the second, third, and fifth grades, in a western suburb of Chicago, Illinois. The documentation to prove low achievement included chapter/unit tests and quiz scores, teacher observation of low time on task, limited work completion, state standardized test scores, and other teacher assessments. Upon analyzing the probable causes, it was discovered that reading was the lowest academic area tested on the Illinois Goal Assessment Program (IGAP). Further concern was indicated through teacher observation of student performance. Other factors that impact low student achievement are mobility, lack of teacher training and support in implementing existing curriculum, and teachers not addressing students' various learning styles. After reviewing possible interventions from current literature works, Howard Gardner's theory of multiple intelligences repeatedly appeared as a suggested solution. The selected intervention led to a comparison between traditional methods of teaching and multiple intelligence strategies. Post intervention data indicated a general trend toward an increase in achievement through the use of multiple intelligences strategies. A major increase was seen in students with Individual Education Programs (IEPs) and lower achieving students. An improvement was also noted in homework completion, quality of homework, student time on task, and student enjoyment of activities.

14.3 Improving Student Motivation through the Use of Engaged Learning, Cooperative Learning and Multiple Intelligences.

A dissertation conducted by Janes, Koutsopanagos, Mason and Villaranda, (2000) noting that poor student motivation and problematic social skills may interfere with the academic growth of elementary school students, this action research project examined the impact of a multifaceted intervention on student motivation and achievement. Participating in the study were second and third graders from 3 schools. The 12-week intervention was comprised of 3 elements: (1) use of the theory of multiple intelligences in instruction; (2) the incorporation of cooperative learning; and (3) the provision of an engaged learning environment. Students worked in teacher-selected base groups weekly for 15 minutes for data collection and reflection and in randomly-assigned cooperative learning groups at least twice weekly for 30 to 45 minutes. Cooperative learning activities taught appropriate social skills. Multiple intelligence activities and a series of engaged learning activities were incorporated

into classroom practices. Data were collected through student surveys and journals completed weekly, teacher observation checklists, attendance records, and unit reading test scores.

The findings of the post-intervention data illustrated that implementing the theory of multiple intelligences had a positive effect on the targeted classrooms. There were decreases in missed reading assignments for two sites, and an increase for one site. Students revealed positive attitudes toward themselves and their school. Students' reading scores increased moderately from first to second quarter. Participating teachers concluded that cooperative learning and engaged learning were used together to successfully increase student motivation and achievement.