Incorporating Multiple Intelligences Theory into English classes

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ABSTRACT
The purpose of this thesis is to analyze the influence of Multiple Intelligences Theory on the process of acquiring a foreign language. MI theory developed by Howard Gardner (1983), says that every single individual possesses eight different types of intelligences: Linguistic, Logical-Mathematical, Musical, Spatial, Bodily-Kinesthetic, Interpersonal, Intrapersonal, and Naturalist. It stands in opposition to the belief that intelligence is an innate entity which we inherit or are born with. Nevertheless, not everybody has eight very well-developed intelligences, some may be dominant or underdeveloped. Moreover, Gardner claims that all these types of intelligence may be improved. As a result, learners of English language are able to know themselves better and find appropriate milieu in which they would feel comfortable and safe. Different intelligence capacities provide various ways of knowing, acquiring, understanding, and learning about the surrounding world. Hence, teaching with the knowledge concerning students’ dominant intelligences is perceived as fruitful and lucrative because then educators may nurture their intelligences.

Keywords: Multiple Intelligences Theory; Howard Gardner; English language; learners

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Dr. Marek Derenowski, Poznan College of Modern Language, Poznan, Poland
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INTRODUCTION

Chapter One defines humanism and provides specific data about human learning. As far as humanism is concerned, it is the field of study that concentrates the whole attention on uniqueness of each individual, human values, needs, abilities, and interests. Crucial facts about Humanistic Approach and its influence on teaching a foreign language are also presented in Chapter One. Moreover, the division of individual differences is mentioned in this chapter. It describes three groups: cognitive, personality, and affective ones. In Chapter Two, the author presents the notion of intelligence, IQ tests, and various types of intelligence according to Gardner’s MI Theory. Furthermore, all eight intelligences are described in a very detailed way to introduce the specific data and facts concerning the particular kind of an intelligence. Chapter Two focuses on the necessary elements of them in order to understand learners’ cognitive skills, abilities, needs, and feelings. Chapter Three contains the research which was conducted among English language learners. Its purpose was to recognize and analyze their levels of particular intelligences, differentiate between highly developed or underdeveloped, and to create a class intelligence profile. After collecting data, learners from a science class were given a series of lessons with the specific lesson plans which were invented by the author of this dissertation. On the basis of them, the results were meticulously discussed and practical tips to educators were given.

CHAPTER ONE. HUMAN LEARNING

1.1. Humanism

The theory of humanism is perceived as the theory of individual growth and development. It studies the whole person and the uniqueness of each individual. Encyclopaedia of the Sciences of Learning (2012) provides following definition of humanism: “humanism centers on human values, interests, capacities, needs, worth, and dignity. It is a belief that people have an unlimited potential for growth and development and that they are inherently good”. However, Bushnell (1996:1) claims that humanist education is believed to be “a system of values, a pedagogical program, or a constellation of academic fields”. Humanistic psychologists try to understand what a particular person may feel and identify themselves with this feeling. They truly believe that an individual’s behaviour is related to their inner feelings. According to Fowler (1999:5), everyone is a humanist to some degree if only such a person is interested what it is to be human, and humanism is called a factor of life. As far as humanism is concerned, high conceptual levels, self-evaluation, and the respect of individuals differences must be borne in mind. McLeod claims that “humanism rejected the assumptions of the behaviorist perspective which is characterized as deterministic, focused on reinforcement of stimulus-response behavior and heavily dependent on animal research. It also rejected the psychodynamic approach because it also is deterministic, with unconscious irrational and instinctive forces determining human thought and behavior. Both behaviorism and psychoanalysis are regarded as dehumanizing by humanistic psychologists” (http://www.simplypsychology.org/humanistic.html).

Veugelers (2001:1) claims that humanism is considered to be wide and open viewpoint in the world that emphasizes autonomy and humanity. Because of the different cultural, social, and political conditions humanism is characterized by diversity in thinking. Furthermore, Veugelers (2001:1) points out that “education from a humanist perspective
focuses on developing rationality, autonomy, empowerment, creativity, affections, and a concern for humanity”. Learners must feel safe, confident, and appreciated. As far as human beings are concerned, they are likely to take a strong effort and may easily resist if they are not satisfied. Threats, anxiety, hostility, and indignity may influence negatively on the commitment to it. Humanism emphasises that people must not feel uncomfortable with it. Autonomy implies opportunities of taking responsibility for an individual’s life, ideas and knowledge. Meaningful learning has to be self-initiated. The desire and motivation of discovering unknown must come from the human’s inside because self-realization is one of the most basic needs of human beings. (Nunan, 2013:48-49)

1.2. Humanistic Approach

Sammons claims that one of the most basic assumptions of humanistic psychology is that “every person possesses their own and unique way of perceiving and understanding the world and that the things they do only make sense in this light” (http://www.psychlotron.org.uk/newResources/approaches/AS_AQB_approaches_HumanisticBasics.pdf). Even if they are not fully realized, people are considered to have free will, to be able to choose and decide independently, and moreover, they possess the tendency to reach the fulfilment of their potential. The fundamental desire of human beings is to be “well”, and look only for right things, not the wrong ones. This idea motivates people to find particular ways which enable them to achieve mental health. As Humanistic Education “has the cultivation and nurturance of people as its foundation” (Ellsworth, 1987:31) every little aspect of a human life, including learning and teaching, should be taken into consideration. As Ellsworth claims that “the advocacy for using a humanistic approach to education underscores individual dignity and worth” (1987, 32). Dignity and worth become the parts of the process which recognizes the following facts: learners are believed to be the part of the environment, education is considered to appear in a social system, and the fact “that the process of education must prepare the students with sufficient self-control, and understanding of successful interdependent social skills to responsibly allow himself individuality and personal freedom” (Ellsworth, 1987:32).

1.3. Humanistic Psychology

Humanistic psychology is believed to be the psychological approach which consider a human being as the most important creature, “more important than the complex, the disorder, the behavior, or the environment” (http://www.psychologistworld.com/issues/humanistic-approach.php). It is originated from existential philosophy that existentialists perceive themselves as completely free and able to determine their destinies while humanistic psychologists claim that their behaviour is related to their inner feelings and self-concept. According to Nunan (2013:48), Humanistic Psychology “attempts to make sense of experience at the point where sociology and psychology intersect. It captures the fact that as humans we are simultaneously looking inwards and operating outwards, and that any attempt to understand what motivates behaviour must necessarily capture the individual in relation to the group”. Humanistic psychologists try to identify themselves with individuals, understand human behaviour, and advise them how to cope with life more successfully. As Royce (1981:20) points out humanistic psychology is “certainly centering on man”, but also “has difficulty in expressing itself scientifically”. Actually it is the dominant voice opposite the medical model as it refers to humanistic, existential, transpersonal and constructivist
approaches (Elkins, 2009:43). The impact of the Humanistic Psychology can be understood in these three major areas:

1) it offers a new set of values for approaching an understanding of human nature and the human condition;
2) it offers an expanded horizon of methods of inquiry in the study of human behaviour;
3) it offered a broader range of more effective methods in the professional practice of psychotherapy.

The quintessential assumption of Humanistic Psychology is that phenomenology is considered to be crucial and the fact that people possess free will. Individuals make difficult decisions in life, choose their own life path, and sometimes suffer the consequences of them. Another significant belief is the fact that people are basically good and consequently try to make the world better, improve the living conditions and relationships. This innate need motivates and encourages them to fulfill their aims and overcome difficulties, hardship, despair, and pain they may encounter in their lives. The subsequent premise refers to the personal growth and satisfaction in life. McLeod claims that “each person, in different ways, seeks to grow psychologically and continuously enhance themselves” (http://www.simplypsychology.org/humanistic.html). It directly refers to the notion of self-actualization which is based on the desire for self-fulfilment, and the tendency to become more and more who you really are. Humanistic Psychologists do not accept scientific methodology, they prefer qualitative research methods which are beneficial especially to find out the different ways people may think or feel. They consider research on animals as useless because they do not provide much information about human thoughts, behaviour, and experience. Humanistic psychologists perceive human beings as the most important creatures who differentiate from other animals by virtue of that people are able to think, reason, and speak a language. Humanistic Psychology “is defined in such a way as to make individualism a core value, then a core value indeed must be sacrificed if humanistic psychology is to become more inclusive of many cultures” (Schneider, 2015:48).

1.4. Rogers’s Humanistic Psychology

Rogers’s Humanistic Psychology is concentrated mostly on emotions rather than cognition, so as Brown (2000:89) claims “it may be said to fall into the perspective of a constructivist view of learning”. Rogers dedicated his professional life to be the therapeutic help to individuals. His clinical work was based on analyzing human behaviour, including the learning process, by virtue of nineteen formal principles of human behaviour. All these principles were totally opposed to Skinner’s behaviouristic perspective. Rogers research was based on studying the whole person in terms of physicality, cognition, and emotions. His principles concentrated on “the development of an individual’s self concept and of his or her personal sense of reality, those internal forces that cause a person to act” (Brown, 2000:89).

As Brown (2000:89) writes, Rogers believed that human beings are able to adapt and to grow in a way that improves their existence. They create a conforming picture of reality, grow and learn in the harmless milieu. People who are capable to reach their full potential, live peacefully in consonance with their feeling and emotions are called by him “fully functioning persons”. He’s influenced education and changed the focus from teaching into learning
“learning how to learn is more important than being taught” (Brown, 2000:89). According to Rogers (as cited in Brown, 2000:90), teachers should become facilitators of learning. In order to be facilitators teachers must meet the following rules: first of all, they must be real and genuine. They must get rid of the supremacy and omniscience. Secondly, teachers should try to have the trust and approval of worthy and valuable students. Finally, communication between teachers and students must be based on empathy and openness. If teachers follow these rules, they will definitely understand themselves better and succeed in educating students. Moreover, materials in the process of learning a language should contain substantial contexts of authentic communication with students who are involved in the process of becoming „persons”.

Rogers (1951, as cited in Brown, 2000:90) believed that individuals will learn everything they need to if only the context for learning is prepared in an appropriate way. As a result of this, he was not worried about the cognitive process of learning. Rogers’ theory seems to be flawless, however, some of disadvantages exist. Criticism consists of two factors. The first one refers to time, which is considered to be valuable and simultaneously lost in the process of permitting students to find out and discover particular facts and rules for themselves. Secondly, despite the broad research concerning positive effects of competitiveness, it is believed that competitiveness may devastate the level of self-esteem as well as interfere students’ motivation to learn. A nonthreatening environment may cause the absence of the facilitative tension. Rogers’s theory has taken part in redefining the educational process. It’s adaptation to language learning and teaching has contributed to the changes of the perception of learners as communicative and capable to understand themselves effortlessly. Teachers as facilitators have a significant role because learners must be provided with the nurturing context in order to create their own meanings in cooperation with other students. If the quantities of knowledge are pragmatically delivered by teachers, the threat of encouraging learners to defensive learning may occur. Defensive learning negatively affects the self-esteem of learners, as a result of it, they fear of humiliation, embarrassment, and failure. Therefore, they hide themselves behind defence mechanism in order to protect their confidence (Brown, 2000:89-91).

### 1. 5. Learner-Centered Approach

Learner-Centered Approach considers learner as the central point of interest in the learning process. Syllabuses have usually been used in a prior position, but they are believed to be self-directed and do not focus on the whole person, their values, and experiences. Learner-Centered teachers are not welcome to use only one teaching method as it does not develop the different skills learners possess. Learner-Centered Approach underscores the necessity of using various types of teaching methods in order to facilitate students the process of learning. As opposed to the traditional teaching, Learner-Centered Approach does not concentrate on the work of teachers and what they do, but rather on the students and their learning. The emphasis is put on learners, not instructors (http://www.usciences.edu/teaching/Learner-Centered/). The creation of learner-centered environment is considered to be the most important thing which must be created in order to develop students’ learning. Teachers should be familiar with the fact that such an idea may be inconvenient for learners who have been taught in the teacher-centered environment. Being taught in such environment does not allow them to make their own decision what and how to learn, they are dependent on the educators’ will. Doyle (2008:xv) claims that “they have spent
most of their time in traditional learning environment, and, for most, their academic success has reinforced the value of those traditional experiences”. Students need to face new learning roles and responsibilities in the learner-centered environment. It has nothing in common with compulsory taking notes or passing tests, it allows students to take control and inspires them to make crucial decisions concerning their educational path; what and how they prefer to learn.

The main point of learner-centered classes is the collaboration which occurs frequently and is perceived by Doyle (2008) as a norm. This type of learning may be uncomfortable and unknown for plenty of learners, nevertheless, with the helping hand of instructors they will accept and understand these changes. As Weimer (2013:7) points out, “learner-centered teachers let students start experiencing the consequences of decisions they make about learning, like not coming to class prepared, not studying for the exam, not contributing in groups”. Their role is to convey the love and joy of learning and make students more responsible for learning. As a result of this, the following features seem to be noticeable in the learner-centered environment. First of all, the atmosphere in the classroom is engaging, encouraging, and supportive. Meeting learners’ needs, interests, and opinions are welcomed. Assumptions which learners know best are taken into consideration in the learning process; learning itself is flexible and responsive. Secondly, cooperation occurs not only between learners but also in the student – teacher relation. Partnership is based on combined designing of courses and delivering knowledge. Thirdly, the attitude of educators is positive. They willingly listen to their learners, engage them, motivate to act, and care about them. As a consequence of their openness, students have the possibility to contribute what they want to the content and to decide what type of exercise they will practise.

Finally, learner-centered approach supports students to make a use of self-evaluation (http://www.aontas.com/commed/traininglinkspr/bookletth/5/theory-of-learner-centered-approach/).

Contrasts between Teacher-Centered Approach (TCA) and Learner-Centered Approach (LCA) illustrate best in the five dimensions: the Function of Content, the Role of the Instructor, the Responsibility for Learning, the Purposes and Processes of Assessment, the Balance of Power. Blumberg’s fundamental difference between Teacher-Centered and Learner-Centered Approaches in the first dimension is concentrated on acquiring the content. In the Teacher-Centered Approach students are allowed to learn content by heart while in the Learner-Centered Approach they are encouraged to modify and alter it in order to figure the meaning out individually. The second dimension differentiates in terms of the Role of the Instructor. In TCA educator does not detail the learning goals and uses these teaching and learning methods which disagree with the learning goals. In LCA various learning and teaching methods are used deliberately, moreover, they are suitable for students’ learning goals. In TCA all responsibility for learning is assumed by the teacher only, and in LCA opportunities for students are provided in order to assume the responsibility for their own learning. The fourth dimension creates a distinction concerning assessment. Teachers in TCA deliver no formative assessment and no constructive feedback whereas LCA instructors do it. The last dimension describes the power of making decisions. It defines the educators’ behaviour in terms of commanding, mandating, and complying. Instructors in TCA are not able to comply the deadlines whilst teachers in LCA are flexible and are prone to listen to students’ opinion, postpone or alter deadlines. The table below presents crucial distinctions among these two approaches.
Table 1. Contrasts Between Teacher-Centered and Learner-Centered Approaches on Each of the Five Dimension of Learner-Centered Teaching (Blumberg, 2009:19-20).

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Definition of this dimension</th>
<th>An essential component</th>
<th>Teacher-centered approach</th>
<th>Learner-centered approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) The Function of Content</td>
<td>Content includes building a knowledge base, how the instructor and the students use the content.</td>
<td>Level to which students engage in content.</td>
<td>Instructor allows students to memorize content.</td>
<td>Instructor encourages students to transform and reflect on most of the content to make their own meaning out of it.</td>
</tr>
<tr>
<td>2) The Role of the Instructor</td>
<td>An essential role of the instructor is to assist students to learn.</td>
<td>Instructor uses teaching and learning methods appropriate for student learning goals.</td>
<td>Instructor • Does not have specified learning goals and/or • Uses teaching and learning methods that conflict with learning goals.</td>
<td>Instructor intentionally uses various teaching and learning methods that are appropriate for student learning goals.</td>
</tr>
<tr>
<td>3) The Responsibility for Learning</td>
<td>Students should assume greater responsibility for their own learning over time.</td>
<td>Responsibility for learning should rest with the students.</td>
<td>Instructor assumes all responsibility for student learning (provides content to memorize, does not require students to create their own meaning of content, tells students exactly what will be on examinations).</td>
<td>Instructor provides increasing opportunities for students to assume responsibility for their own learning, leading to achievement of stated learning objectives.</td>
</tr>
<tr>
<td>4) The Purposes and Processes of Assessment</td>
<td>There are additional purposes and processes of assessment beyond assigning grades.</td>
<td>Formative assessment (giving feedback to foster improvement).</td>
<td>Instructor • Uses only summative assessment (to make decisions to assign grades) • Provides students with no constructive feedback.</td>
<td>Consistently throughout the learning process, instructor integrates • Formative assessment • Constructive feedback.</td>
</tr>
<tr>
<td>5) The Balance of Power</td>
<td>The balance of power shifts so that the instructor shares some decisions about the course with the students.</td>
<td>Flexibility of course policies, assessment methods, learning methods, and deadlines.</td>
<td>Instructor mandates all policies and deadlines, or Instructor does not adhere to policies.</td>
<td>Instructor is flexible on most • Course policies • Assessment methods • Learning methods • Deadlines And Instructor always adheres to what instructor has agreed to with the students.</td>
</tr>
</tbody>
</table>

The syllabus plays an important role in the learning process. Grunert O'Brien et al. (2008:22) believe that syllabus is a learning tool in a course and “it can convey the logic and organization of the course and clarify instructional priorities, providing a common plan and reference”. The more instructors tell their students about the syllabus itself, its content, and the expectations towards the course, the more likely it is to gain student’s cooperation, attention, and interest. Thus, learners are allowed to modify the goals of the course, positions in the syllabus, and responsibilities for successful learning; syllabus must become the invitation to share these responsibilities. As Grunert O'Brien et al. (2008:22) point out “a
learning-centered syllabus includes more, rather than less, information. It provides students with the resources of a course manual, with each component crafted to promote their learning”.

1. 6. Individual Differences

It is commonly believed that there are no two individuals who are exactly duplicated. Dörnyei (2005:1) points out that “one of the most important ways in which the social sciences differ from the natural sciences, in fact, stems from the existence of individual differences. The molecules of a cell, if treated identically, will respond identically, whereas human behaviour – even that of identical twins – may vary significantly in response to a certain stimulus”. People differ from each other in many aspects of life. Their uniqueness, similarities, and differences are still being analyzed by researchers who have revealed quite a big number of them. Dörnyei (2005:1) defines individual differences as “characteristics or traits in respect of which individuals may be shown to differ from each other”. Individual differences are divided into three main categories: cognitive (i.e. learner styles, learning strategies, memory, sex), social (i.e. extraversion, ego permeability) and affective (motivation, attitudes, language anxiety).

1. 6. 1. Cognitive differences

1. 6. 1. 1. Learner Styles

- **Converges**: these are students who are by nature solitary, prefer to avoid groups, and who are independent and confident in their own abilities. Most importantly they are analytic and can compose their own structures on learning. They tend to be cool and pragmatic.

- **Conformists**: these are students who prefer to emphasise learning ‘about language’ over learning to use it. They tend to be dependent on those in authority and are perfectly happy to work in non-communicative classrooms doing what they are told. A classroom of conformists is one which prefers to see well-organised teachers.

- **Concrete learners**: though they are like conformists, they also enjoy the social aspects of learning and like to learn from direct experience. They are interested in language use and language as communication rather than language as a system. They enjoy games and groupwork in class.

- **Communicative learners**: these are language use oriented. They are comfortable out of class and show a degree of confidence and a willingness to take risks which their colleagues may lack. They are much more interested in social interaction with other speakers of the language than they are with analysis of how the language work. They are perfectly happy to operate without the guidance of a teacher.

**Figure 1.** Four Learner Styles (Harmer, 2007:88)

As a class is composed of individuals, it is worth thinking about their abilities, needs, personality, and styles. According to Wright (1987:117-118), there are four different learner styles within a group. The ‘enthusiast’ looks to the teacher as a point of reference and is concerned with the goals of the learning group. The ‘oracular’ also focuses on the teacher but is more oriented towards the satisfaction of personal goals. The ‘participator’ tends to
concentrate on group goals and group solidarity, whereas the ‘rebel’, while referring to the learning group for his or her point of reference, is mainly concerned with the satisfaction of his or her own goals. Harmer (2007:88) mentions four learner categories: converges, conformists, concrete learners, and communicative learners.

1.6.1.2. Learning Strategies

Learning strategies are used by students to help them understand information and solve problems. A learning strategy is an individual’s approach which is used to learn, understand, and use the information consciously. It helps learners to achieve goals, use a language more effectively, and be successful. Learning strategies were divided into three main categories: metacognitive, cognitive, and socioaffective. Brown (2007:134) claims that metacognitive is a term “used in information-processing theory to indicate an executive function”. It is thinking about your thinking. Metacognition refers to appreciation of what one already knows, a correct apprehension of the learning task, what knowledge and skills it requires, the agility to make correct inferences, and, finally, to do so efficiently and reliably.

Table 2. Metacognitive strategies (Brown, 2007:134).

<table>
<thead>
<tr>
<th>Learning Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metacognitive strategies</td>
<td></td>
</tr>
<tr>
<td>Advance organizers</td>
<td>Making a general but comprehensive preview of the organizing concept or principle in an anticipated learning activity</td>
</tr>
<tr>
<td>Directed attention</td>
<td>Deciding in advance to attend in general to a learning task and to ignore irrelevant distracters</td>
</tr>
<tr>
<td>Selective attention</td>
<td>Deciding in advance to attend to specific aspects of language input or situational details that will cue the retention of language input</td>
</tr>
<tr>
<td>Self-management</td>
<td>Understanding the conditions that help one learn and arranging for the presence of those conditions</td>
</tr>
<tr>
<td>Functional planning</td>
<td>Planning for and rehearsing linguistic components necessary to carry out an upcoming language task</td>
</tr>
<tr>
<td>Self-monitoring</td>
<td>Correcting one’s speech for accuracy in pronunciation, grammar, vocabulary, or for appropriateness related to the setting or the people who are present</td>
</tr>
<tr>
<td>Delayed production</td>
<td>Consciously deciding to postpone speaking in order to learn initially through listening comprehension</td>
</tr>
</tbody>
</table>
Self-evaluation | Checking the outcomes of one’s own language learning against an internal measure of completeness and accuracy

As Brown (2007:134) points out, cognitive strategies “are more limited to specific learning tasks and involve more direct manipulation of the learning material itself”. They include repetition, summarizing, deduction, grouping, note taking, translation, guessing meaning from context, and using imagery for memorization. All of these strategies involve deliberate manipulation of language to improve learning. A cognitive strategy is a mental process or procedure for accomplishing a particular cognitive goal.

**Table 3.** Cognitive Strategies (Brown, 2007: 134-135).

<table>
<thead>
<tr>
<th>Cognitive Strategies</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repetition</td>
<td>Imitating a language model, including overt practice and silent rehearsal</td>
</tr>
<tr>
<td>Resourcing</td>
<td>Using a target language reference materials</td>
</tr>
<tr>
<td>Translation</td>
<td>Using the first language as a base for understanding and/or producing the second language</td>
</tr>
<tr>
<td>Note taking</td>
<td>Writing down the main idea, important points, outline, or summary of information presented orally or in writing</td>
</tr>
<tr>
<td>Deduction</td>
<td>Consciously applying rules to produce or understand the second language</td>
</tr>
<tr>
<td>Recombination</td>
<td>Constructing a meaningful sentence or larger language sequence by combining known elements in a new way</td>
</tr>
<tr>
<td>Imagery</td>
<td>Relating new information to visual concepts in memory via familiar, easily retrievable visualizations, phrases, or locations</td>
</tr>
<tr>
<td>Auditory representation</td>
<td>Retention of the sound or a similar sound for a word, phrase, or longer language sequence</td>
</tr>
<tr>
<td>Keyword</td>
<td>Remembering a new word in the second language by</td>
</tr>
<tr>
<td></td>
<td>1) Identifying a familiar word in the first language that sounds like or otherwise resembles the new word and</td>
</tr>
<tr>
<td></td>
<td>2) Generating easily recalled images of some relationship between the new word and the familiar word</td>
</tr>
</tbody>
</table>
Contextualization | Placing a word or phrase in a meaningful language sequence
Elaboration | Relating new information to other concepts in memory
Transfer | Using previously acquired linguistic and/or conceptual knowledge to facilitate a new language learning task
Inferencing | Using available information to guess meanings of new items, predict outcomes, or fill in missing information

Brown (2007:134) says that socioaffective strategies “have to do with social-mediating activity and interacting with others”. They involve learning through establishing a level of empathy between the instructor and student. They help learners regulate and control emotions, motivations, and attitudes toward learning. It may be observed during the discussions, debates, and cooperative group learning.

Table 4. Socioaffective Strategies (Brown, 2007: 135).

<table>
<thead>
<tr>
<th>Socioaffective Strategies</th>
</tr>
</thead>
</table>
| Cooperation | Working with one or more peers to obtain feedback, pool information, or model a language activity
| Question for clarification | Asking a teacher or other native speaker for repetition, paraphrasing, explanation, and/or examples

1.6.1.3. Memory

Memory is one of the factors which play a very important role in the process of learning. Memory is involved in processing vast amounts of information. This information takes many different forms, e.g. images, sounds or meaning. New vocabulary and grammar rules cause that the diversity of students in this respect have serious consequences for the success of learning. Individual differences occur here in three stages: encoding new material, storing it in a memory, and retrieving it if it is necessary (Komorowska, 2005:125-126).

Stage 1 – encoding

There are three main ways in which information can be encoded: visual, acoustic, and semantic. Some of the students do not have difficulties with remembering things, they do it so easily that they may rely on their involuntary memory. They learn parenthetically by hearing the new phrase and simultaneously do a completely different thing. They need neither full concentration nor a countless number of repetition of a new material. The abilities to remember a new kind of a material differ as well. Students with so called mechanical memory
possess the ability to remember single elements like forms or words so, for example, they learn poems very easily. Nevertheless, they may have difficulties with the general understanding of i.e. a grammar rule. Students with the logical memory are able to remember regularities because they have the capabilities of analyzing and reading sense into a new material. However, they may not remember irregular forms of verbs or new vocabulary as easily as students with the mechanical memory (Komorowska, 2005:125-126).

Stage 2 – storage

Storing information is about keeping the information available so that it can be recalled at a later point. Storing, as a hidden stage, may be solely checked on the basis of an earlier memorized material. The better new material is associated with the old one, and the more abundant and repetitive associations are, the more persistent and effective the storing is. The way information is stored affects the way it is retrieved (Komorowska, 2005:125-126).

Stage 3 – retrieval

The retrieval stage refers to getting information out of a storage stage. If an individual cannot remember a thing, it means they are unable to retrieve it. Learners perceive both stages, storing and retrieval, differently because some of them may remember a new material enduringly, whereas other learners are not able to store and retrieve it the next day. It is caused by many differences, for example: quickness and durability of memorizing, closeness, accuracy, capacity, and readiness of memory (Komorowska, 2005:125-126).

1. 6. 2. Social differences

1. 6. 2. 1. Gender

Gender is a factor that significantly differentiates humans’ and learners’ behaviour. Komorowska (2005:121) claims that it is not completely obvious whether these differences are innate or are caused by the upbringing process. Scientists have carried out the research concerning various types of parents’ behaviour and expectations towards girls and boys. It emerged that daughters and sons are treated distinctively and the time parents spend with them is diverse as well. The woman’s and man’s brains differ a bit. The connection between left and right hemisphere of the brain of women is stronger than of men. The left brain is responsible for a language and the right brain for emotions and movement. Komorowska claims that these differences may be revealed in the process of learning a foreign language (2005: 121). According to the researchers, girls tend to have a tendency to create spontaneous utterances, which means their readiness to speak is bigger and stronger. Secondly, although they are slower in acting, they are more conscientious, precise, and meticulous. Thirdly, girls appreciate the teachers’ approval, hence they are willing to do their homework and the teachers’ commands. Finally, teamwork does not cause any problems for them as their easily and enthusiastically cooperate with others. On the other hand, statistics say that boys show more initiative in individual work, tend to present their logical memory more often, appreciate competitiveness and rivalry, hence they participate in contests and language games. On no account must above-mentioned data be generalized. Komorowska says that even if there is such a tendency among respondents, it should not be perceived as prevailing because this is the way the stereotypes are built. However, it is worth bearing them in mind in the teacher’s work (2005: 121-122).
1.6.2.2. Age

Age is one of the most obvious differences among learners. Students of different ages possess various needs, competences, abilities, and cognitive skills. As Harmer (2007:81) points out “we might expect children of primary age to acquire much of a foreign language through play, for example, whereas for adults we can reasonably expect a greater use of abstract thought”. As far as children are concerned, the easiness and the speed of acquiring a foreign language are perceived as common beliefs about young learners. Those who start learning a foreign language early do not have problems with pronunciation and intonation. Komorowska (2005:120) claims that this phenomena occurs when a child moves to a new country and picks up a language effortlessly. Nevertheless, the same as adults children tend to have some strengths and weaknesses. They are dominant because of the unlimited free time and lack of obligations, their speech organs are not still formed so that they are able to produce almost any sound, they are spontaneous, are not afraid of speaking, they are willing to take risk, and they adapt to new conditions quickly and easily. However, the list of their weaknesses is not so short as it could be expected. Although they memorize words in a fast way, they do not remember them for a long time; it is caused by little durability of children’s memory. They are able to concentrate only for a while and, what is more, their proficiency in reading and writing is scant (Komorowska, 2005:120-121).

Adolescents, however, usually perceived as problematic students possess the ability for abstract thought and surprisingly understand the need for learning. Their passionate commitment to what they do is admirable. There are some adolescents who devote a lot of eagerness and passion into the given tasks. According to Harmer (2007:84), “there is almost nothing more exciting than a class of involved young people at this age pursuing a learning goal with enthusiasm”. On the other hand, motivation among teenagers is rather low. They may behave rebelliously and inadequately, especially when they consider something useless and unnecessary. Adults are perceived as experienced learners who may share and bring their worldly wisdom into classes. They are definitely more disciplined than children and adolescents. They are intrinsically motivated, know the reason of learning, and treat it with the great importance. Nevertheless, adults possess a lot of duties and they can resign from them; this causes the lack of time for learning. Adult learners are rather anxious, shy, and afraid of failures. As a result of this, they may answer very unwillingly or even refuse it (Harmer, 2007:82-85).

1.6.2.3. Attitudes

As predispositions or tendencies to respond positively or negatively towards a certain idea, person, object, or a situation, attitudes are considered to influence the second language learning. Brown (2007:192) claims that “second language learners benefit from positive attitudes and that negative attitudes may lead to decreased motivation and, in all likelihood, because of decreased input and interaction, to unsuccessful attainment of proficiency”. Each individual possesses both, positive and negative attitudes. Moreover, they influence learners’ choice of action, responses to particular challenges, incentives, and rewards. As Larsen-Freeman (1991:175) points out, attitudes “have an important but indirect effect on SLA”. The positive attitudes are expected to enhance learning of the second language and students may want to be able to speak and communicate with native speakers of the foreign language they learn. In other words, the positive attitudes are related to the learners’ willingness and attention paid to the countries where the language or languages, they are interested in, are
spoken (Noels et al., 2003:36). Negative attitudes, however, may be changed by exposure to reality. Brown (2007:193) presents following example of such exposure: “by encounters with actual persons from other cultures”. Negative attitudes are often caused by the individual’s indirect exposure to a culture or a group that usually emanates from rather unreliable sources like television, films, books, and news media. Nevertheless, learners’ attitudes may be altered. At the beginning of learning a language their attitude is rather negative and it can take some time to realise that learning it is really useful and may bring lots of advantages.

1. 6. 3. Affective differences
1. 6. 3. 1. Personality

According to Komorowska (2005:126-127), the biggest differences among students refer to learners’ personalities. The most crucial ones from the learning point of view are: extroversion and introversion. Extroverts have a very strong need to direct attention to the outside world. They are very energetic and dynamic. It is easier for them to learn speaking as they are not shy and do not have any difficulties with creating spontaneous utterances. Extroverts tend to participate in dialogues and team work. They are not willing to work individually, hence they may come across obstacles in writing, make grammar mistakes, and write carelessly. The development of reading and getting detailed information may be troublesome. Brown (2000:155) defines extroversion as “the extent to which a person has a deep-seated need to receive ego enhancement, self-esteem, and a sense of wholeness form other people as opposed to receiving that affirmation within oneself”. However, introverts are rather close, shy, and prefer to spend time alone. They possess well-developed abilities of understanding rather than speaking so it is easier for them to create a correct, but not fluent, utterance. As Brown (2000:155) points out, introversion is “the extent to which a person derives a sense of wholeness and fulfillment apart from a reflection of this self from other people”. As far as self-esteem is concerned, it turns to be significant in terms of individual differences. Learners whose level of self-esteem is low underestimate themselves and their abilities. They avoid uttering and do not make strong effort in order to learn because are convinced they are not able to acquire the knowledge. Learners with a balanced self-esteem do not resist talking, believe in themselves, and reach good results. Nevertheless, they may sometimes overestimate their capabilities and do not put so much effort into learning.

1. 6. 3. 2. Anxiety

Anxiety is one of the factors which influences on and plays a main role in second language acquisition. According to Spielberger (1983:1), anxiety is “the subjective feeling of tension, apprehension, nervousness, and worry associated with an arousal of the automatic nervous system”. Brown (2007:161) writes that researchers claim that this rather unpleasant state occurs and may be experienced at various levels. Trait anxiety is “a more permanent predisposition to be anxious” at the deepest level whereas state anxiety is “experienced in relation to some particular event or act” (Brown, 2007:161). Learners may predictably be fearful about many things. As a reason of this, educators ought to determine where the anxiety is emerged from: global trait or a particular situation at the moment. Brown (2007:161-162) describes the recent research on language anxiety in three elements of foreign language anxiety:
1) communication apprehension – which stems from the students’ inability to express sophisticated, mature, and sensible ideas;
2) fear of negative social evaluation – which arises from a student’s need to make social impression on others;
3) test anxiety – attributable to academic evaluation.

1.6.3.3 Motivation

Motivation is one of the factors which are necessary to be successful. It stimulates the desire and energy in order to make an effort and achieve the goal. Motivation plays an important role if we ardently want something. According to Harmer (2007:98) it is “some kind of internal drive which pushes someone to do things in order to achieve something”. Motivation is defined as the process that initiates, directs, and maintains human goals. It is the kind of force which inspires and activates people to act. Nevertheless, having the desire and the goal is not enough to successfully accomplish it. Persistence, endurance, and stubbornness in overcoming difficulties are needed. Motivation consists of three major elements: activation, persistence, and intensity.

The decision to initiate a reaction and behaviour is involved in activation. As far as persistence is concerned, keeping up with the goal, being concentrated on it, and dealing with any appearing obstacles is the key to success. Finally, intensity, as a very strong desire to be succeeded in achieving a particular aim, should be constantly enhanced in order to pursue a goal (http://psychology.about.com/od/mindex/g/motivation-definition.htm). As the definition of a Business Dictionary says: “motivation results from the interaction of both conscious and unconscious factors such as the intensity of desire or need, incentive or reward value of the goal, and expectations of the individual and of his or her peers” (http://www.businessdictionary.com/definition/motivation.html).

However, Brown (2007:169) presents it as the need “for the self to be known and to be approved by the others”. In his book “Principles of Language Learning and Teaching” Brown (2007:160-161) describes also three different perspectives of a term “motivation”. The first of them is called the behaviouristic perspective where motivation is perceived as a realistic term. Although the anticipation of reward comes easily it stands for acquiring positive reinforcement. Brown (2007:161) claims that “in this view, our acts are likely to be at the mercy of external factors”. In cognitive perspective, more emphasis in put on the individual’s decisions and choices. Cognitive theories of motivation focus on learners’ beliefs, expectations, and needs for order and understanding. They are responsible for the effects of engaging their experiences, efforts, and enthusiasm into achieving their aims. Brown (2000:160-161) mentions Ausubel (1968:368-379) who identified six needs reinforcing the construct of motivation:

1) exploration – for seeing “the other side of the mountain”, finding out the unknown;
2) manipulation – for operating on the environment and causing change;
3) activity – for movement and exercise, both physical and mental;
4) stimulation – by the environment, by other people, by ideas, thoughts, and feelings;
5) knowledge – need to process the results of exploration, manipulation, activity, and stimulation to resolve contradictions, to quest for solutions to problems and for self-consistent systems of knowledge;

6) ego enhancement – for the self to be known and to be accepted and approved by others;

Constructivist’s belief in based on the conviction that every person is unique, acts individually, and is motivated in a different way. Brown (2009:161) points out that “these unique facts are always carried out within a cultural and social milieu and cannot be completely separated from that context”.

The most common types of motivation are: intrinsic and extrinsic. Intrinsic motivation refers to innate needs of individuals, and as Deci et al. claim that intrinsic motivation is “based in the organismic needs to be competent and self-determining” (1985:5). It refers to the behaviour that is led by internal rewards. Nevid defines Intrinsic Motivation as “a reflecting desire for internal rewards, such as the self-satisfaction derived from accomplishing a particular goal” (2013:294).

This kind of motivation comes from the inside pleasure, enjoyment, and satisfaction of an individual who completes a task. Moreover, a person feels contentment during working on a task not only after finishing it. Brown (2000:162) points out that “those who learn for their own self-perceived needs and goals are intrinsically motivated”. It may be said that intrinsic motivation occurs when individuals act without obvious external rewards, such as money or presents. Deci et al. (1985:11) believe that intrinsic motivation “is the energy source that is central to the active nature of the organism”. It is when they feel a pure sense of pleasure, enjoy doing a task itself, and perceive it as a possibility to learn and develop their potentials without getting any external reward. Intrinsic motivation occurs when individuals act without obvious external rewards, such as money or presents. Brown (2007:8) points out that intrinsic motivation “encourages behaviours for their own sake”.

Extrinsic motivation refers to motivation that comes from outside an individual. Brown claims that “extrinsically motivated behaviours, are carried out in anticipation of a reward from outside and beyond the self” (2000:164). The motivating factors are external and they provide satisfaction and enjoyment which the task itself may not provide. These rewards, such as money, grades, fame, prizes or trophies arise from the outside of an individual. Nevid defines Extrinsic Motivation as “a reflecting desire for external reward, such as wealth or the respect of others” (2013:294). Nevertheless, behaviours which may help to avoid punishment are also considered to be extrinsically motivated. If students have a little interest of what they learn and want to expand their knowledge in a particular field, it means they are intrinsically motivated. However, if they do something because they have to, or they were forced to do it, in order not to get a bad mark it means they act based upon extrinsic motivation. Harmer (2007:98) believes that “extrinsic motivation is the result of any number of outside factors, for example the need to pass an exam, the hope of financial reward or the possibility of future travel”. Individuals who are extrinsically motivated will take up working on a task or project even if they are not interested in it. Brown claims that “those who pursue a goal only to receive an external reward from someone else are extrinsically motivated” (2000:162).
They will accomplish the task because of the anticipated satisfaction and contentment from a reward, not the realization of it.

1. 7. Summary

In conclusion, every student is special and unique. Although everyone differs a lot, human beings possess at least one common aim – they want to reach their full potential. Therefore, the education has changed and focused on learning how to learn than only on being taught. Learners have different skills, needs, and they should acquire knowledge in a way that suits them best. The necessity to facilitate the process of learning appeared and initiated using various types of teaching methods. As far as individual differences are concerned, their diversity proves the fact that there are no identical people in the world. Students possess diverse learning and learner styles; the changes are also noticeable in aspects such as: memory, age, gender, attitudes, anxiety level or personality traits.
CHAPTER TWO. INTELLIGENCE

2. 1. Definition of intelligence

The meaning of the word intelligence may be perceived individually in many various ways. As Komorowska claims the notion of intelligence is not strictly defined (2005:122). Oxford English Online Dictionary describes it as: the ability to acquire and apply knowledge and skills. According to Gardner (2002:60-61), intelligence must involve subsequent skills: problem solving skills which enable resolving genuine problems and an ability to think in a logical and creative way. The notion of intelligence provides a lot of controversy and that is why the opinions of scholars may be divided. Some believe that intelligence is an adaptation, a part of the biological aspect consisting of six phases. At the particular moment of the intellectual growth of an individual, intelligence does not appear as well-developed mechanism, it reveals the steady correlation with the acquired processes. (Piaget, 1963:14,33). Nęcka (2003:16) writes that Galton was truly convinced that genius is inherited and he tried to prove this concept in his broad statistical research.

On the other hand, Lewowicki (1977:43-44) writes that Stern (1927:4), the creator of the notion of Intelligence Quotient, considered intelligence as general innate ability to adapt ourselves to new assignments and conditions of life. This definition was believed to be one of the most common ones in those days. Another interpretation of intelligence is that one introduced by Hilgard: intelligence is what an appropriately normalized intelligence test measures. In spite of its vagueness, caused by the lack of clear data concerning knowledge of particular thought processes responsible for indicating intelligence, and uncertainty related to the unawareness of subject matter / what intelligence tests actually measure (Lewowicki, 1977:43-44).

2. 2. IQ tests

As far as defining and measuring of intelligence are concerned, they have been used in terms of such abilities as linguistic and logical-mathematical (Brown, 2007:100). There has been an emphasis on teaching children at schools with the substantial use of the following capacities: linguistic symbolization and logical-mathematical symbolization and the significance of them (Gardner & Hatch, 1989). Alfred Binet, the inventor of the first practical intelligence test, carried out the research concerning IQ (intelligence quotient). He was the first scholar who coined the term “intelligence quotient” which is based on estimating the amount of cognitive abilities and memory capacity of particular individuals. As a result of this and certain generations of testing of these two spheres, the notion of IQ corresponds to the success in educational and ordinary life and “occasionally the tests did discover intellectual diamonds in the rough” (Gardner, 1999 http://www.theatlantic.com/magazine/archive/1999/02/who-owns-intelligence/377435/).

As Komorowska (2005:122) points out, the work of the teacher with an intelligent learner is easier because of their irrepressible reactions, rapidity of understanding instructions, and the ability of coping with the new situation and material. The following quotation superbly confirms above-mentioned utterance: "It seems to us that in intelligence there is a fundamental faculty, the alteration or the lack of which, is of the utmost importance for practical life.

This faculty is judgment, otherwise called good sense, practical sense, initiative, the faculty of adapting one's self to circumstances. A person may be a moron or an imbecile if he
is lacking in judgment; but with good judgment he can never be either. Indeed the rest of the intellectual faculties seem of little importance in comparison with judgment” (Binet & Simon, 1916:42-43). Binet claimed that appropriate judgement is the pivotal intellectual ability, which was determined by him as common sense (Nęcka, 2003:16). More intelligent students are better at understanding the complexion of the language learning assignments, comprehension of the teachers’ justifications and learning materials and deducting rules as well as developing/improving techniques in order to ease the process of learning (Gardner, 1985:18).

Jensen describes Galton as a father of psychometrist, the measurement of quantitative behavioural traits, who devised a lot of methods and devices. His “brass-instrument”, created to measure intelligence, was abandoned in the first decade of the twentieth century. It was commonly believed that Galton’s techniques were imprecise and unreliable, which had a significant value in terms of evaluating his hypothesis properly. Nevertheless, the analysis of variance was later added to his data and it proved that he was right. After all, scholars and educators approved Binet’s more complex test as a practical measuring instrument of intelligence (Jensen, 2002:148).

2.3. Criticism of IQ tests

A huge controversy caused by the fact of existing disadvantages of using the intelligence tests arose because they were considered to be confined and narrowed the scope of the extraordinary notion of intelligence; they were not perceived as faultless. According to Fleetham “the items in an IQ test measure only a limited set of human talents, including verbal reasoning, numerical reasoning, visual thinking and logical problem solving” (2006:18). It was believed that learner’s future may be predicted with the use of aptitude tests. However, each student is different and their particular abilities may be developed in various levels/ways and as Harmer points out, “some students are better at learning languages than others” (2007:85).

According to Harmer (2007:86), aptitude tests measured only general intellectual ability and favoured analytic-type learners. This phenomenon discriminates students with a general view of things and use of language in a message-oriented way. They were perceived as worse because tests appeared to be suited to learners with highly-developed ability to solve grammar tasks. Moreover, the results of such tests divide students into two groups: the most and the least intelligent ones. Badly scored learners may feel unmotivated and disheartened and as their IQ is lower they may simply make a contribution to the to their own, predicted by the test, future failure. There is a huge probability that great scholastic test scores can be achieved with the high IQ. However, as Brown mentions they “may not indicate success in business, marketing, art, communications, counselling, or teaching” (2007: 102).

The subsequent disadvantage of the results of IQ tests may be unequal students’ treatment by teachers. They can be willing to praise, favour and award students with higher scores although it would be better for both, students and teachers to optimistically think about all students and their future (Harmer, 2007:85). Furthermore, Gardner (1999: http://www.theatlantic.com/magazine/archive/1999/02/who-owns-intelligence/377435/) believes that intelligence tests are biased. Some questions included in such test are tendentious and directed to the particular class/group of people i.e. the wealthy. A question concerning playing polo is an excellent example presented by Gardner as ordinary people may not be able to answer immediately. This situation became a controversial topic which needed
a broad discussion “the still unresolved question of the causal relationship between IQ and social privilege has stimulated many a dissertation across the social sciences” (Gardner, 1999: http://www.theatlantic.com/magazine/archive/1999/02/who-owns-intelligence/377435/).

2. 4. Multiple Intelligence Theory

Howard Gardner, Professor of Cognition and Education at Harvard University, has developed the theory of Multiple Intelligences in order to go beyond three well-known and general categories of human potential: visual learners, auditory learners, and kinesthetic learners. Moreover, MI theory implies that the traditional notion of intelligence, which is based on IQ tests, is too limited. Gardner’s theory of Multiple Intelligences consists of the division of the intelligence into eight various/distinct types of intelligence: Linguistic, Logical-Mathematical, Musical, Spatial, Bodily-Kinesthetic, Interpersonal, Intrapersonal, and Naturalist.

Figure 2. Multiple Intelligences Pizza (Armstrong, 2009:46)

However, the first version of his theory, which was published by Gardner in 1983 in his book Frames of Mind: The Theory of Multiple Intelligence, initially suggested seven
independent intelligences possessed by all humans. The Naturalist Intelligence, the eighth cognitive strength, has been added recently. Gardner claims that everybody is able to develop each intelligence to a particular and satisfactory level because each person has capacities in all eight intelligences. Nevertheless, some of these intelligences may be overdeveloped and others may be underdeveloped. It means that individuals may possess higher levels of some intelligences but also deficiencies in different areas of intelligence (Armstrong, 2009:15).

2. 4. 1. Linguistic Intelligence

This one of two intelligences typically valued at schools is perceived as the ability to use the language in a creative and effective way. It deals with the understanding of spoken and written language and mastering the ability to speak and write. According to Gardner, language “is a preeminent instance of human intelligence” (1993:83). This intelligence refers to the meaning of words, the word order, and the sounds, rhythms, inflections, and meter of words. “Linguistic intelligence involves sensitivity to spoken and written language, the ability to learn languages, and the capacity to use language to accomplish certain goals” (Smith, 2002). Language is used as a means to remember information and rhetorical expression of ourselves. Gardner postulates that “Linguistic competence is, in fact, the intelligence – the intellectual competence – that seems most widely and most democratically shared across the human species” (Garden, 1993:82). As far as strongly linguistic people are concerned, their language competences, especially wide vocabulary, excel in verbal communication but also in reading, writing, listening to the spoken word and other activities such as playing word games or storytelling. Individuals with well-developed linguistic intelligence learn by memorizing, spoken communication and listening. Campbell et al. (2004:2-11) claim that they possess the ability to paraphrase, interpret, remember, and analyse; therefore, they listen effectively. Furthermore, they are able to read efficaciously because they summarize, interpret and remember the content of a text. The knowledge concerning speaking simply, eloquently and persuasively to a diverse audience and doing it at the appropriate time and for purpose allows them to speak fruitfully. With regard to writing abilities, human beings with highly developed linguistic intelligence do not have to struggle understanding and applying grammar rules, punctuation and spelling.

Otherwise, Gardner (2002) points out that the specific region in the frontal lobe of left hemisphere of the human brain called Broca’s Area is responsible for production of grammatically correct sentences. Thus, the connection between human brain and language development has an influence on linguistic intelligence. Individuals with the damages Broca’s Area may understand words and sentences may hardly be able to put these words together in complex sentences.

Figure 3 confirms Gardner’s beliefs that writers, poems, lawyers and public speakers posses high level of linguistic intelligence. According to Gardner, learners with the dominant linguistic intelligence are willing to do various tasks, such as: oral presentations, making lists, and writing directions. Notwithstanding, the existence of different uses of language is strictly related to four aspects of using linguistic knowledge that, as Gardner states, “have proved of striking importance in human society” (1993:82).

Gardner (1993:82-83) describes the rhetorical aspect of language as the capacity which is used in order to persuade others or even force them to change their mind. This phenomenon can be observed among legal experts and the milieu of political leaders. Surprisingly, children who have a craving for a second helping of cake, consciously or not, tend to rule. The second
aspect is called the mnemonic potential of language. As a result of it, an individual is able to remember various types of information such as: lists of possessions, rules of games, right directions of the ways and procedures for operating machines.

<table>
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<tr>
<th>Learning style and preferences</th>
<th>Description</th>
<th>Roles</th>
<th>Tasks, activities and assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Words and language</td>
<td>written and spoken words</td>
<td>copywriters</td>
<td>edit a peer’s paper</td>
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<tr>
<td></td>
<td>interpretation and explanation of ideas and information via language</td>
<td>editors</td>
<td>give an oral presentation</td>
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<td></td>
<td>understands relationship between communication and meaning</td>
<td>historians</td>
<td>list the strengths and weaknesses of a product</td>
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<td></td>
<td></td>
<td>journalists</td>
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<td></td>
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<td>lawyers</td>
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<td>linguists</td>
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<td>poets</td>
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<td>PR and media consultants</td>
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<td>TV and radio presenters</td>
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<td>voice-over artists</td>
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<td>writer</td>
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Figure 3. A diagram with details on attribute for Linguistic intelligence
Adapted from: http://www.niu.edu/facdev/resources/guide/learning/howard_gardner_theory_multiple_intelligences.pdf

Thirdly, the role of the language in explanation is perceived as significant owing to the fact that language is the main element used in teaching and learning; ranging from simple explanations to oral instructions, from collection of adages to the word in its written form. As Gardner points out “language remains the optimal means for conveying the basic concepts in textbooks” and “supplies the metaphors that are crucial for launching and for explaining a new scientific development” (1993:82-83). Lastly, the potential of language, based on explaining its own activities, refers to “the ability to use language to reflect upon language, to engage in meta-linguistic analysis” (Gardner, 1993:83). With the revolution in the study of
language initiated by Noam Chomsky, we have understood what language is and how it works.

2. 4. 2. Logical-Mathematical Intelligence

The latter of two intelligences typically valued at schools is based on analyzing problems in a logical way, carrying out mathematical operations, and handling long chains of reasoning. “Logical-mathematical intelligence involves numerous components: mathematical calculation, logical thinking, problem-solving, deductive and inductive reasoning, and discerning patterns and relationships. At the core of mathematical thinking is the ability to recognize and solve problems. Although this intelligence has proven highly valuable Western society and is often credited with guiding the course of human history, Gardner (1983) contends that logical-mathematical intelligence is not necessarily superior to other intelligences.” (Campbell et al, 2004:32) It involves number and computing skills such as: timeliness and order. Because of the conceptualization of the logical relations among actions and symbols, Logical-Mathematical intelligence is most often associated with scientific and mathematical thinking. Gardner writes that “for Piaget, logical-mathematical thought is the glue that holds together all cognition” (1983:141).

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<tr>
<th>Learning style and preferences</th>
<th>Description</th>
<th>Roles</th>
<th>Tasks, activities and assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logic and numbers</td>
<td>- analyze problems</td>
<td>- analysts</td>
<td>- analyze how a computer works</td>
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<td></td>
<td>- detecting patterns</td>
<td>- arbitrators</td>
<td>- assess the value of a business or a proposition</td>
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<td>- perform mathematical calculations</td>
<td>- bankers</td>
<td>- create a process</td>
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<tr>
<td></td>
<td>- scientific reasoning and deduction</td>
<td>- certified public accountants</td>
<td>- devise a strategy to achieve an aim</td>
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<tr>
<td></td>
<td>- understands relationship between cause and effect toward a tangible outcome or result</td>
<td>- computer programmers accountants</td>
<td>- perform a mental mathematical calculation, create a process to measure something</td>
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</table>
Learners with a highly developed logical-mathematical intelligence are willing to solve various kinds of puzzles or riddles and play number and logic games. This intelligence may be practiced through numerous classifying and sequencing activities because students with strongly developed/logically-developed logical-mathematical intelligence often figure out how different things work. Green and Tanner (2005: http://203.72.145.166/elt/files/59-4-5.pdf p. 313) claim that “They enjoy statistical, factual input and often connect new input with what they have already learnt”. Learners gifted in the logical-mathematical intelligence enjoy analytical and ranking tasks and are able to notice logical patterns. As Gardner points out “At the center of mathematical prowess lies the ability to recognize significant problems and then to solve them” (1983:151). Figure 4 shows the heterogeneous activities which may be done by students with the dominant logical-mathematical intelligence. Analysis, arrangement, understanding, reasoning, and creation are stable elements of these tasks.

The wide range of infinite number of mathematical expressions in an individual contains such examples as: perceiving patterns and relationships, using abstract symbols to represent notions and objects, making hypotheses, creating strong arguments and possessing the knowledge of quantity, time, and cause and effect (Campbell et al., 2004). “On his own (or with help), the child can evolve the understandings needed for the gamut of basic numerical operations: adding, subtracting, multiplying, and dividing. And by the same token, he should be able to call upon these operations in negotiating the tasks of daily life—buying goods at the store; trading with friends; following cooking recipes; playing marbles, balls, cards, or computer games” (Gardner, 1993:138).

2.4.3. Musical Intelligence

Musical Intelligence is one of the intelligences which is usually related to arts. It refers to the sensitivity to rhythm, pitch, tone, timbre and melody. It involves the ability to sing, compose music and play the musical instrument. Musical Intelligence is believed to be the appreciation of the forms of musical expressiveness and the capacity to recognize and produce particular musical pitches, rhythms, and tones. The development of Musical Intelligence may be based on practising singing, humming, whistling, tapping feet, clapping hands or listening. Smith (2002) writes that according to Gardner, musical intelligence runs in an almost structural parallel to linguistic intelligence. Gardner (1983:114) claims that an individual “can tease apart a series of levels of language – from the basic phonological level, through a sensitivity to word order and word meaning, to the ability to appreciate larger entities, like stories – so, too, in the realm of music, it is possible to examine sensitivity to individual tones or phrases, but also to look at how these fit together into larger musical structures that exhibit their own rules of organization”.

Learners whose Musical Intelligence is highly developed are able to manipulate and combine pieces of music and hear these elements of it that may be inaudible for others. They are believed to think musically rather than in a verbal way. That is why, they effortlessly create a particular rhyme in order to memorize information. Learners enthusiastically respond and listen to the extraordinary array of sounds, cast around for possibilities to hear music in the learning milieu, play with sounds, have a strong willing to improvise and simply enjoy being immersed in music. The pronunciation is acquired effortlessly and the musical statement is completed rationally (Campbell et al., 2004). Green and Tanner (2005:313) claim that “these learners especially appreciate video and audio input and tasks involving thinking about or using music, thyme, or rap”. Moreover, the radio or the television, which are on, may
cause distraction and divert their attention from crucial issues (Heming, 2008). Learners who are gifted the Musical Intelligence may manifest following examples of behaviours: humming quietly under breath, tapping out rhythms on desk, using personal stereo mp3 player. Fleetham writes that such behaviours have been identified and called “disruptive” behaviours by Liz Flaherty during her research (2006:51).

Figure 5. A diagram with details on attribute for Musical intelligence
Adapted from:

2.4.4. Bodily-Kinesthetic Intelligence

This, associated with the arts, intelligence involves the movement of an individual’s whole body or parts of the body in order to find a solution to a particular problem and express ideas or various feelings. It is considered as the relation of mental and physical activity whereas the bodily movements are coordinated by the mental abilities. Gardner (1993) is of the opinion that Bodily-Kinesthetic Intelligence unites body and mind as “the Greeks revered the beauty of the human form and, by means of their artistic and athletic activities, sought to develop a body that was perfectly proportioned and graceful in movement, balance, and tone. More generally, they sought a harmony between mind and body, with the mind trained to use the body properly, and the body trained to respond to the expressive powers of the mind” (Gardner, 1993:219).
Thanks to this intelligence human beings may make use of their bodies in an unique and usually talented way. Bodily-Kinesthetic Intelligence inevitably entails thinking in movement and manipulation of several physical skills. Bodily-Kinesthetic Intelligence is believed to be the ability to control an individual’s body movements and to handle objects skilfully (Smith, 2002). According to Green and Tanner (2005:313) “learners with a powerful bodily-kinesthetic intelligence can express themselves physically and are skilled in sport. They enjoy physical manipulation tasks, such as dancing or acting something out.” Several professions, where highly-developed Bodily-Kinesthetic Intelligence is crucial, are enumerated by Gardner; these include: dancers, actors, athletes, and inventors (Gardner, 1983:235-247). The undermentioned figure presents the variety of tasks which learners with the dominant Bodily-Kinesthetic Intelligence may do. As it is shown, these tasks consist of arranging, demonstrating, designing, preparing, interpreting. Learners possess well-developed manual skills, coordination, balance, and agility.

| **BODILY KINESTHETIC Intelligence** |
| **Learning style and preferences** | **Description** | **Roles** | **Tasks, activities and assessments** |
| **Body movement control** | – eye and body coordination | – anthropologists | – arrange workplace furniture |
| | – manual dexterity | – athletes | – demonstrate a sports technique |
| | – physical agility and balance | – biologists | – design a window display |
| | | – dancers | – interpret a speech using American sign language |
| | | – geologists | – prepare samples for magnification and testing |
| | | – instrumentalists | – put together a piece of modular furniture |
| | | – nurses | – ride a horse |
| | | – physical education teachers | – stack books on a shelf |
| | | – physical therapists | |
Learners with the dominant Bodily-Kinesthetic Intelligence experience new things through movement, touch, and mimicry. As Gardner (1993:239) claims “in all forms of performance, but particularly in acting, one’s ability to observe carefully and then to re-create scenes in detail is at a premium”. Such mimetic ability may be observed in the first days or weeks of life of infants, who carefully watch other individuals and then try to reproduce their behaviour accordingly/appropriately to an occasion. The best way for them to learn consists of: touching, moving and acquiring knowledge through bodily sensations. They are willing to exercise, do sports, and simultaneously reconsider significant issues. As they easily get bored, the more commitment in their learning style is, the more satisfied they feel. Disassembling things and putting them together seem to be more fascinating for them than reading the instruction manual. (http://www.learning-styles-online.com/style/physical-bodily-kinesthetic/)

2. 4. 5. Spatial Intelligence

As one of three associated with the arts intelligences involves the abilities to discern patterns, shapes, designs, and colours. It deals with recognizing, using, and modifying them. Gardner states that “central to spatial intelligence are the capacities to perceive the visual world accurately, to perform transformations and modifications upon one’s initial perceptions, and to be able to re-create aspects of one’s visual experience, even in the absence of relevant physical stimuli” (Gardner, 1993:182). Spatial intelligence is defined as the capacity to perceive a form or an object. According to Gardner it is the most elementary operation among numerous aspects of spatial intelligence. It is responsible for creation and manipulation of mental images in order to solve problems. This intelligence includes the ability to imagine, dream, and visualise and it copes with the position, direction, distance, and relation of objects in space. It is also considered to be the ability to use the three-dimensional perception. Armstrong claims that this intelligence “involves the sensitivity to color, line, shape, form, and the relationship that exist between these elements” (Armstrong, 2009:7).

Learners with highly developed Visual-Spatial Intelligence are able to think in pictures, therefore, they acquire knowledge with the help of visual input i.e. charts, diagrams, tables, illustrations or charts. As Green and Tanner state they are willing to do “graphic tasks that require responses, such as making schemes or tables” (Green and Tanner, 2005:313). Organization of a given material and information as well as communication with other people are achieved by using maps, images or pictures. They incorporate a lot of imagery into their visualisations. Learners with the dominant Spatial Intelligence are believed to possess a good sense of direction, which is called a spatial sense. That means they are able to find their way easily, rarely get lost, and instinctively choose the right direction. (http://www.learning-styles-online.com/style/visual-spatial). Figure 7 provides the information concerning various tasks learners with Spatial Intelligence may accomplish. Among the wide range of them such activities as composing, designing, interpreting, creating, and organizing may be perceived.

Piaget conducted a few studies concerning the development of spatial understanding in children, which is not frequent as relatively few researchers have undertaken such studies. Piaget claimed that at the end of the first stage of cognitive development, called sensori-motor stage, children become competent enough to imagine a place, a scene or an event without being there before; they gain the mental imagery. Gardner writes that Piaget established two central abilities: “the initial appreciation of the trajectories observed in objects and the eventual capacity to find one’s way between various locales” (Gardner, 1993:188). It may
prove that, thanks to the Visual-Spatial Intelligence, learners are able to design, visualise, and choreograph.

<table>
<thead>
<tr>
<th>Learning style and preferences</th>
<th>Description</th>
<th>Roles</th>
<th>Tasks, activities and assessments</th>
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</thead>
<tbody>
<tr>
<td>Spatial-visual Images and space</td>
<td>- interpretation and creation of visual images, pictorial imagination and expression</td>
<td>- architects</td>
<td>- compose a photograph</td>
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<tr>
<td></td>
<td>- understands relationships between images and meanings and between space and effect</td>
<td>- artists</td>
<td>- create an organizational logo</td>
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<td></td>
<td></td>
<td>- cartographers</td>
<td>- design a building</td>
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<td></td>
<td></td>
<td>- city-planners</td>
<td>- design a historic costume</td>
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<td></td>
<td></td>
<td>- engineers</td>
<td>- design a landscape</td>
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<td></td>
<td></td>
<td>- graphic designers</td>
<td>- interpret a painting</td>
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<td></td>
<td></td>
<td>- inventors</td>
<td>- organize a storage room</td>
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<td></td>
<td></td>
<td>- landscape architects</td>
<td>- pack an automobile trunk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- photographers</td>
<td>- paint a landscape</td>
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<td></td>
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<td>- sculptors</td>
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</tbody>
</table>

Figure 7. A diagram with details on attribute for Spatial intelligence
Adapted from:

2. 4. 6. Interpersonal Intelligence

Interpersonal Intelligence is one of two intelligences, which Gardner called “personal intelligences.” It is the ability to understand people, their intentions, motivations and desires. It gives the knowledge how to work practically and effectively with them. This capacity of establishing and maintaining human relationships requires interlocutors to notice and respond to the moods, intentions, temperaments, and feelings as well as learn from them and contribute this knowledge to their own personal development. Gardner claims that the fundamental capacity in Interpersonal Intelligence is “the ability to notice and make distinctions among other individuals” (Gardner, 1993:253). As Armstrong believes it includes the sensitivity to voice, gestures, and facial expressions (2009:7).

This intelligence has been investigated in its two forms: elementary and advanced. In the first one, a young child uses the ability for discriminating among others and to identify their diverse moods. Interpersonal knowledge in the latter form “permits a skilled adult to read the intentions and desires—even when these have been hidden—of many other individuals and, potentially, to act upon this knowledge—for example, by influencing a group of disparate individuals to behave along desired lines” (Gardner, 1993:253). Learners with the highly developed Interpersonal Intelligence are considered to be able to involve into social
activities, come for advice, counsel, and teach (Armstrong, 2009:25).

<table>
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<tr>
<th>Learning style and preferences</th>
<th>Description</th>
<th>Roles</th>
<th>Tasks, activities and assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other people’s feelings</td>
<td>- ability to relate to others</td>
<td>- advertising professionals</td>
<td>- affect the feelings of others in a planned way</td>
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<td></td>
<td>- interpretation of behavior and communications</td>
<td>- care givers</td>
<td>- coach or counsel another person</td>
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<tr>
<td></td>
<td>- understands the relationship between people and their situations, including other people</td>
<td>- coaches and mentors</td>
<td>- demonstrate feelings through body language</td>
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<td></td>
<td></td>
<td>- counselors</td>
<td>- interpret moods from facial expressions</td>
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<td></td>
<td></td>
<td>- educators</td>
<td>- mentor a new faculty member</td>
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<td>- health providers</td>
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<td></td>
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<td>- HR professional</td>
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<td></td>
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<td>- mediators</td>
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<td></td>
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<td>- politicians</td>
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<td></td>
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<td>- psychologists</td>
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<td>- sales-people</td>
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<td></td>
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<td>- teachers</td>
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<td></td>
<td></td>
<td>- therapists</td>
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<td></td>
<td></td>
<td>- trainers</td>
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</tbody>
</table>

Figure 8. A diagram with details on attribute for Interpersonal intelligence
Adapted from: http://www.niu.edu/facdev/resources/guide/learning/howard_gardner_theory_multiple_intelligences.pdf

Learners with Interpersonal Intelligence are able to read moods from facial expressions, influence or even manipulate the feelings of others, and demonstrate their own feeling through body language. They may deliberately assume control during the conversation. Moreover, they are willing to work in groups, enjoy the interaction, and get the energy from it. Students with dominant interpersonal intelligence like organizing, sharing ideas with others, and thinking about major issues. They are often identified with leaders among their peers who are good at communicating, understanding others, and acting empathetically. These learners get on well with others, like learning in a group, and exchange information (Green and Tanner, 2005:33). The ones who have interpersonal intelligence recognize and use a numerous ways in order to relate to others, conform their behaviour to the particular milieu or groups of people, and understand and communicate in both verbal and non-verbal ways (Campbell et al., 2004). Gardner points out that the forms of Interpersonal Intelligence can be
seen in political and religious leaders, teachers, therapists, counsellors, shamans, and in skilled parents (Gardner, 1993:253).

2. 4. 7. Intrapersonal Intelligence

Intrapersonal Intelligence entails the ability to realize one’s own goals and interests and to act on the basis of self-knowledge which includes the familiarity of strengths, desires, motivations, moods, temperaments, limitations and anxieties. Gardner states that Intrapersonal Intelligence “involves the capacity to understand oneself, to have an effective working model of oneself – including one’s own desires, fears, and capacities – and to use such information effectively in regulating one’s own life” (1999:43). Moreover, as one of the “personal intelligences” it refers to the consciousness about self-understanding, self-discipline, and self-esteem. Intrapersonal Intelligence involves the appropriate perception of oneself as well as awareness of their strengths and weaknesses (Armstrong, 2009:7). As Gardner states the major ability here is “access to one’s own feeling life” (Gardner, 1993:253). It may basically be examined in two forms: elementary, where the distinction of pleasant and painful feelings occurs and on the basis of it a decision concerning further involvement or presumptive withdrawal can be made, and advanced, where tremendously distinctive and complicated feelings are noticed and symbolized (Gardner, 1993:253).

<table>
<thead>
<tr>
<th>Learning style and preferences</th>
<th>Description</th>
<th>Roles</th>
<th>Tasks, activities and assessments</th>
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</thead>
<tbody>
<tr>
<td>Self-awareness</td>
<td>– one’s own needs for and reaction to change, ability to deal with change in the workplace</td>
<td>– one who is self-aware and involved in the process of changing personal thoughts, beliefs, and behavior in relation to their situation</td>
<td>– consider and decide one’s own aims and personal changes required to achieve them (not necessarily reveal this to others)</td>
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<tr>
<td></td>
<td>– one’s relationship to others and the world</td>
<td></td>
<td>– consider and decide one’s own position in relation to the Emotional Intelligence Model</td>
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<tr>
<td></td>
<td>– personal cognizance</td>
<td>– other people, their purpose and aims</td>
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<tr>
<td></td>
<td>– personal objectivity</td>
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<tr>
<td></td>
<td>– the capability to understand oneself</td>
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</table>

Figure 9. A diagram with details on attribute for Intrapersonal intelligence

Adapted from:

Learners with the dominant Intrapersonal Intelligence are believed to be “talented at reflecting on their experiences and feelings, and learning from these reflections” (Green and Tanner, 2005:313). They usually work and think individually, know their mind, appreciate
their emotions, motivations, and goals; moreover, they are able to come up with strong and controversial ideas. They are considered to be self-reflective, willing to study independently in peaceful atmosphere and they need self-based projects as they usually spend time on self-analysis. Figure 9 shows the roles that learners with the dominant Intrapersonal Intelligence may play. It presents them as people who know themselves very well, are self-aware, and are able to change personal beliefs, and thoughts. Learners endowed highly developed Intrapersonal Intelligence possess strong self-respect, self-enhancement and are able to solve personal problems. Finding ways of sorting particular issues out and expressing feelings does not make them an earthly problem. Learners “with the intrapersonal intelligence involved chiefly in an individual’s examination and knowledge of his own feelings” (Gardner, 1993:254-255) understand the deepest thoughts, motivations, feelings, persistence, and interests better. What is more, they are believed to be good at planning, setting and following their goals (Al-Balushi http://files.eric.ed.gov/fulltext/ED493516.pdf).

2. 4. 8. Naturalist Intelligence

This recent intelligence has been added to Gardner’s Theory of Multiple Intelligences as the last one. However, it has not been welcomed so pleasantly as the rest of them and it has even met considerable defiance and reluctance. Armstrong describes it as the ability to “discriminate among inanimate objects such as cars, sneakers, and CD covers” (2009:7). It is also the ability to distinguish and classify species in both animal and plant kingdoms. Naturalist Intelligence involves recognition, categorization, knowledge, and appreciation of the natural world as well as the perception of the relationships among the forms of life. It is the capacity to use the features and diverse components of the environment. Communing with nature, flora and fauna, and natural surroundings allows people to understand the world better and be more interested in aspects of the natural world. Green and Tanner state that “learners possessing a strong naturalist intelligence are able to organize and categorize the natural world” (Green and Tanner, 2005:313). They are also fascinated by it and may notice even slight alteration of their environment. Students with the dominant Naturalist Intelligence are willing to look after, scrutinize, and acquire knowledge concerning the nature. Moreover, they are perceived to live in a harmony with nature and enthusiastically coexist with it. The professions which suit best for this type of intelligence refer to farming, hunting, and gardening. “Farmers, gardeners, botanists, geologists, florists, and archaeologists all exhibit this intelligence” (Veenema et al., 1997).

2. 5. Five minds

Another theory which has been developed by Gardner recently is the theory of five minds. It concentrates mostly on cognitive abilities which are indisputably essential in a changing world; they guarantee success and prosperity. These five minds are “ways of thinking and acting in the world that students need to develop” (Larsen-Freeman, 2011:194). Three of them are focused on intellectual development and two minds on character development, human sphere, respect and ethics.

2. 5. 1. The Disciplinary Mind

The Disciplinary Mind is the first which is related to the intellectual development. Learners master the most fundamental and traditional knowledge. They acquire general
principles of various fields of knowledge such as physics, law, science, history, marketing. Likewise, employees constantly practice and hone their work position. “All of these educational efforts are dedicated toward the acquisition of the appropriate disciplinary knowledge, habits of minds, and patterns of behaviour.” (Gardner, 2006:26) All disciplines have their own ways of investigating ideas, that is why, it may take a lot of time to achieve a disciplined mind in any of them.

The Disciplinary Mind concerns two senses of discipline: possession of some profession and constant development of it. That is why, individuals should not rest on their laurels and should not give up refining their craft. All people must constantly improve their own abilities and participate in a training in which they will feel fulfilment, achieve such level of proficiency that they could not be replaced by a machine and become experts. (Gardner, 2006:5)

2.5.2. The Synthesizing Mind

As the second mind concerning intellectual development, synthesizing is a skill used to put things together and organize them. It is an attempt to make sense of numerous sources of information in order to create a new, fruitful concept. Larsen-Freeman claims that “the focus shifts to bringing together, organizing, understanding, and articulating information from various disciplines in a unified and coherent whole” (Larsen-Freeman, 2001:194). It may seem to be a time-consuming activity because we live in the world which floods us with information. Notwithstanding, thanks to this vital skill the individual may be able to integrate disparate data, decide what should be ignored and omitted or to what the attention should be paid. The Synthesizing Mind has to cope with the problem of choosing the way of conveying a new synthesis. Picking an appropriate method of presenting a new unit may be as demanding as creating it. The Synthesizing Mind searches for connections, incorporates new findings and correlate dilemmas (Gardner, 2006:6).

2.5.3. The Creating Mind

The last element of intellectual development is the Creating Mind. Larsen-Freeman describes it as “thinking outside a box” (Larsen-Freeman, 2011:194). Learners are asked to develop new ideas, come up with innovative solutions to particular problems and creative questions. This is the mind which is able to break new ground, broad the world view and change the thoughts against any criticism. Gardner states that an individual may not be consider to be creative unless at least one particular subject of study, art or craft, has not been mastered (Gardner, 2008:10).

Creative learners seek solutions which may turn out to be invaluable and eventually accepted, they are not afraid to take risks and end in prospective failure but their strive for success. Students undertake such effort by going beyond the curriculum, asking additional questions or coming up with unexpected but appropriate school projects. They look at things in completely new ways and create answers which have never been devised before (Gardner, 2009:153). Nevertheless, some people are convinced they possess the ability of creativity. They believe that creativity is a property of the individual and they deliberately consider themselves creative. However, there is an enormous uncertainty of becoming successful. Gardner calls it – “no cigar” creativity, where forms which may look right really aren’t and you may possibly fall down in any case (Gardner, 2008:10-12).
2. 5. 4. The Respectful Mind

As far as the Respectful Mind is concerned, this kind of mind deals with the relations to other human beings and is connected with the character development. As we live in an incredibly diverse world understanding, acceptance, openness and awareness of differences and individuality of others are essential and inevitable. Tolerance for various cultures, religions, origins, customs and races should be nurtured because this value maintains humanity. Gardner claims that “it is important to avoid stereotyping and caricaturing” (2006:8). Respecting different nations, skin colour, beliefs or professions makes people more tolerant and they understand diverse human needs and perceptions. Learners and workers sometimes cooperate with others, therefore, tolerance and a good rapport with peers or colleagues are crucial in order to achieve spectacular success. Working effectively regardless of people’s differences brings plenty of benefits as it may contribute to the common triumph (Gardner, 2009:153).

2. 5. 5. The Ethical Mind

This more abstract kind of capacity refers to the character development, defines the role of the individual in the society, and encourages to maintain the sense of responsibility for ourselves and other people. Taking into consideration roles that people play in their everyday life, the attention should not be paid to rights which human beings possess but to their obligations as workers and as citizens. The individual is believed to understand their duties in both areas, serve beyond self-interest, act fairly and as Gardner claims think about “what is my responsibility in bringing such a world into being?” (Gardner, 2006: 9). A higher level of thinking must be involved in the existence in this world. Different roles that people try to stubbornly fulfil and discussions about appropriate ways to conform them are reflected on by the Ethical Mind; sometimes with poor results but they at least make an effort to accomplish determined responsibilities (Gardner, 2009:154).

“The Good Work” project is work which has been done by Gardner with other scholars in order to illustrate good work as embodiment of three Es: excellence, engagement and ethical. Excellence defines the technical way, engagement refers to meaningful/conscious involvement and ethical which presents responsible behaviour of a worker in the world (Gardner, 2008:15). Gardner calls these three Es a triple helix and as he believes “...interestingly these three Es don’t necessarily coexist. You could be excellent but not ethical. You could be ethical but not engaged” (Gardner, 2008:15). Nevertheless, the main point of this project is to concentrate on individuals and institutions that give an example of good work, work which is meaningful to its workers, excellent in quality and socially responsible (Gardner, 2008:15-17).

2. 6. Summary

To sum up, intelligence is perceived as one of the factors which is responsible for learning a foreign language. It is the ability to acquire and apply knowledge. Problem solving skills and thinking in a logical way are parts of the intelligence. This innate ability to adapt new assignments and conditions of life is, according to Gardner’s theory, divided into eight different types of intelligence: linguistic, logical-mathematical, musical, bodily-kinesthetic, spatial, interpersonal, intrapersonal, naturalistic. Every individual possesses all these above-mentioned types of intelligence, however, not all of them may be very well-developed.

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CHAPTER THREE. THE STUDY

3. 1. Aims of the study

The aim of the study was to test the learners’ level of eight intelligences. This information was used to scrutinize learners’ needs and capabilities. The test was taken in four different classes: a science class, a physical-education class, a linguistic class, and a sport class in order to check the expected intelligences with the factual findings. After the meticulous analysis of the results, lessons with the dominant intelligences in a science class were given in order to assess and compare learners’ abilities.

3. 2. Participants

The subjects of the study were fifty-six learners from different classes of II Middle School in Września. Surveyed pupils were at the age of fourteen and fifteen. There were four different groups: learners of a science class, which included ten males and six females, learners of a physical education class with the number of seven males and seven females, learners of a humanistic class with seven males and six females, and finally learners of a linguistic class with five males and eight females in the group. All groups, apart from the linguistic class learners who had five English lessons a week, had three hours of English a week. They started their education of English at the age of seven in the first class of the primary school so they have learnt it for seven or eight years. According to the Common European Framework their proficiency level of English is assessed between A2 and B1. The book which each group uses is called “English Plus 3”, Oxford University Press by Ben Wetz, Diana Pye and Danuta Gryca.

3. 3. Instruments and procedures

The study was carried out in II Middle School in Września at the beginning of April. The Multiple Intelligences tests were given to learners who agreed to take part in the study. The test addressed to the learners consisted of forty questions related to eight kinds of intelligences. These are the numbers of questions from Multiple Intelligences Test from Appendix 1 which refer to each kind of the eight intelligences:

Bodily-kinesthetic: 4, 10, 12, 13, 16. These questions referred to the ways of learning and solving problems. The questions concerned the methods of thinking during the walk or any other kind of movement. Intrapersonal: 8, 21, 25, 31, 35. They were directed at inner feelings and thought of learners. They checked how well pupils knew themselves. Questions 9, 22, 23, 36, 39 were related to Interpersonal Intelligence and were responsible for checking pupils’ sensibility and sensitivity to others. Logical-mathematical questions number: 2, 5, 27, 28, 33, were pointed at pupils’ knowledge concerning logical thinking and the use of it in learning. Inquiries which were orientated towards the Linguistic Intelligence (3, 6, 18, 26, 34) pertained to the ways of thinking, explaining, and expressing particular issues or problems. Musical questions, numbered 1, 7, 17, 24, 38, were asked in order to find out what the learners’ attitudes towards music, tunes, sounds were. They checked inter alia the skills of remembering things by repeating them to the rhythm. Questions 11, 15, 19, 32, 37 were asked to check the pupils’ Naturalistic Intelligence. They were connected with natural environment types of birds or plants and general mindset of nature. Finally, due to the visual-spatial questions (14, 20, 29, 30, 40) learners’ depth perception, ability to reconstruct, and sense of direction could have been measured.
The questions in the test were written in English and the participants had no difficulties with answering them as their proficiency level of English was good enough to understand and answer them. Additionally, one of these classes had four lessons with the special lesson plans. They were prepared by the author of this dissertation and they were focused on the highly developed intelligences which appeared in the particular class. The science class was chosen to this next part of the study, as their lessons take place three times a week. The intelligences used in lesson plans were: visual-spatial, interpersonal, logical-mathematical, and linguistic.

The first lesson took place on the thirteenth of May, 2015 in the II Middle School in Września. The lesson’s topic was “Books and films: genres.” The aim of the lesson was to present various words related to different genres of books and films. At the beginning of the lesson, students could enumerate the genres of films and book they know. Photographs with the popular scenes from films were displayed on the overhead projector so the students were able to name the genres properly. The next exercise for them was a crossword (Appendix 3). Bearing in mind the fact that it is an example of a logical-mathematical type of an activity and simultaneously it is one of the most developed intelligences in class, students did not have any problems with it. Then, they were asked to define all film and book genres in English. Learners worked in pairs. The succeeding task, related to linguistic intelligence, was storytelling. It means that students had to create their own story in groups of four. They were asked to identify themselves with directors or screenwriters in order to make up the new story. They got handouts (Appendix 4) with the selected words concerning: people, verbs, places, things, and time expressions. The minimum number of words from the handout used in a sentence was one. After one sentence, they had to take turns. The last exercises was based on creativity and manual skills. Learners had to design and prepare a film poster telling their film story. The teacher provided them with the materials needed to do the tasks. They worked in the same groups and at the end the results of their work were presented in front of the class. This task enabled learners to use their visual-spatial intelligence.

The next lesson was on the fifteenth of May, 2015. Its topic was: Art – talking about works of art. At the beginning of the lesson, the teacher presented fiendish, tricky, and logical riddles (Appendix 5) connected with the topic of the lesson - art. As riddles are basic elements of the logical-mathematical intelligence, learners did not have difficulties with solving them, however, they needed some time for thinking. After this demanding warm-up, more art words with appropriate names of them were presented on an interactive board. During this lesson students found out words related to art and were able to define them in English. Later, students worked in pairs in order to do the information gap task (Appendix 6) so the linguistic intelligence was activated. They were asked to describe their own pictures to the other person using as many details as possible because they had ten different elements in them. They took turns every sentence. The teacher provided them with the materials needed to do the tasks. The last activity – drawing a picture – was done in pairs again so the students could develop their interpersonal intelligences. They got different illustrations, which had to be described meticulously to their partners because their task was to draw a sketch of them. When they finished, their “masterpieces” were compared to the originals and presented to class.

“The best and the worst job in the world” was the topic of the third lesson which the author of this dissertation took on the nineteenth of May, 2015. The warm-up started with the brainstorming concerning various professions learners remembered. Then, when pupils ran out of ideas, the teacher turned on the game on an interactive board. The aim of the game was to refresh necessary vocabulary by completing the gaps in sentences related to jobs. Playing
games is not only a good source to have fun but also to develop students’ logical-mathematical intelligence. After the game finished, learners had to choose the best and the worst job in the world. They had to do it secretly, with no consultations. The teacher provided them a solitary place where they could choose one of the six the best and the worst jobs in the world (Appendix 7). They voted and when everybody was ready, the votes were counted. Later, the class was divided into two teams and given a topic: the best or the worst job. They had to work together and think about the reasons why their job is the best or the worst in the world. Their next instruction was based on preparing the chart with the results of voting. Each team had to emphasize the best or the worst job. Their work and reasons were then presented to the other group. Creating charts or any other diagrams is related to the development of visual-spatial intelligence so learners had a perfect opportunity to improve it.

The last lesson took place on the twentieth of May, 2015. Its topic was “Hall of Fame” and it was mainly based on developing logical-mathematical, visual-spatial, linguistic, and interpersonal intelligences. Learners’ first thing to do was to tell others about famous people they know and whether they like them or not and briefly justify their choice. Their next step was filling in the table with the words given on a sheet of paper. The teacher provided necessary handouts (Appendix 8). There were three categories of words: people, places, and adjectives – all related to fame which learners had to classify. This task was responsible for developing the logical-mathematical intelligence. After that, they worked in pairs. Their task was to identify themselves with: a reporter and a famous star. They became any person they wanted i.e. a singer, an actor/actress, a director. The reporter had to write the questions down and the star had to create answers. When they were ready, they could go to the next task – video recording. As their linguistic intelligence was trained during the interview, it was the time to improve their visual-spatial intelligence by recording a short video presenting the interview. The result were then presented in class.

3. 4. Presentation of the results

Table 2 presents the result of the study carried out in four different classes. The students may obtain maximum 5 points from each type of intelligence. Number 4 and 5 mean that the intelligence is well-developed, number 3 signifies that the intelligence is averagely evolved whereas number 1 and 2 mean the learners’ intelligence is low-developed.

According to the study, the science class learners scored the highest result concerning visual-spatial intelligence which was equalled 4.2; however, they also gained the average 3.2 as the level of bodily-kinesthetic intelligence was the lowest in this class. Surprisingly, musical intelligence turned out to be the dominant intelligence in the sport class whereas logical-mathematical (average 3.1) was the worst one. The linguistic class was the best at interpersonal skills as the average of interpersonal intelligence was 3.8. The lowest average concerned bodily-kinesthetic intelligence and it was equalled 3.2. As far as the humanistic class is concerned, intrapersonal intelligence scored the highest result 3.9 and simultaneously these learners obtained the average 3.2 for bodily-kinesthetic and linguistic intelligences. It signifies that the profile of the class does not fully reflect learners’ intelligences. I may be assumed that they did not choose the class profile in terms of their levels of particular types of intelligences, but they probably had other reasons. Charts below present the results of the study. The results are presented in charts in order to emphasize the differences among more and less developed intelligences. Chart 1 presents the averages of the intelligences which were developed in all classes.
Table 2. Average values of each kind of intelligences among learners in four types of class.

<table>
<thead>
<tr>
<th>type of intelligence</th>
<th>science class</th>
<th>sport class</th>
<th>linguistic class</th>
<th>humanistic class</th>
</tr>
</thead>
<tbody>
<tr>
<td>bodily-kinesthetic</td>
<td>3.2</td>
<td>3.3</td>
<td>3.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Intrapersonal</td>
<td>3.5</td>
<td>3.8</td>
<td>3.6</td>
<td>3.9</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>3.9</td>
<td>3.8</td>
<td>3.8</td>
<td>3.5</td>
</tr>
<tr>
<td>logical-mathematical</td>
<td>3.8</td>
<td>3.1</td>
<td>3.3</td>
<td>2.9</td>
</tr>
<tr>
<td>Linguistic</td>
<td>3.8</td>
<td>3.2</td>
<td>3.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Musical</td>
<td>3.4</td>
<td>3.9</td>
<td>3.4</td>
<td>3.6</td>
</tr>
<tr>
<td>Naturalistic</td>
<td>3.5</td>
<td>3.4</td>
<td>3.6</td>
<td>3.3</td>
</tr>
<tr>
<td>visual-spatial</td>
<td>4.2</td>
<td>3.8</td>
<td>3.7</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Chart 1. Multiple Intelligences in all classes.
The first analysed Multiple Intelligences Test derived from learners of the science class. As it can be seen in Chart 2, the most developed intelligences among learners from the science class are visual-spatial, interpersonal, logical-mathematical, and linguistic. The Table 5 presents detailed results (average and standard deviation) of the tests among ten males and six females.

![Multiple Intelligences of science class](image)

**Chart 2.** The average value of Multiple Intelligences of science class learners.

When the results of the test were considered, 69% of pupils in the science class obtained the average of four or more answering the questions related to visual-spatial intelligence (questions: 14, 20, 29, 30, 34) from Appendix I. Thanks to these results it can be assumed that they know themselves well and they think in pictures, acquire knowledge with the help of visual input like charts, diagrams, tables, illustrations, and charts. With regard to learners’ answers related to interpersonal intelligence, there are 44% of learners who scored the average of four or more. They answered positively for questions: 9, 22, 23, 36, 39 from Appendix I. Moreover, there were no learners with the average below three. From these results it can be noticed that they work in groups willingly, like the interaction, and share their energy and get it from group tasks. Learners are also good at organizing, sharing ideas, communicating, and understanding other members of their team.

As far as the logical-mathematical intelligence is concerned, there are 44% of pupils of the science class who scored the average of four and above four answering questions (2, 5, 27, 28, 33) from Appendix I.
Simultaneously, there were eight learners who gained the average lower than four, and only one whose average did not exceeded three and it was equalled 2.6. All in all, the average for the whole class was 3.8 which constitutes that they are willing to solve puzzles and riddles as well as play number and logic games. They easily figure out how various things work, notice logical patterns, and enjoy analytical and ranking tasks.

According to the study, there were 50% of pupils of the science class who obtained the average of four and more in terms of linguistic intelligence. They answered questions: 3, 6, 18, 26, 34 from Appendix 1. Seven of them scored the average lower than four and only one person whose result was below three and it was equalled 2.4. This means that learners are good at doing the variety of tasks such as: making lists, writing directions, and preparing oral presentations. Furthermore, their comprehensive reading play an important role here, as they are able to summarize, interpret, and remember the context of a particular text.

Table 5. Results of science class learners.

<table>
<thead>
<tr>
<th>Types of intelligences</th>
<th>average</th>
<th>standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodily-kinesthetic</td>
<td>3.2</td>
<td>0.50</td>
</tr>
<tr>
<td>Intrapersonal</td>
<td>3.5</td>
<td>0.55</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>3.9</td>
<td>0.47</td>
</tr>
<tr>
<td>Logical-mathematical</td>
<td>3.8</td>
<td>0.56</td>
</tr>
<tr>
<td>Linguistic</td>
<td>3.8</td>
<td>0.65</td>
</tr>
<tr>
<td>Musical</td>
<td>3.4</td>
<td>0.50</td>
</tr>
<tr>
<td>Naturalistic</td>
<td>3.5</td>
<td>0.50</td>
</tr>
<tr>
<td>Visual-spatial</td>
<td>4.2</td>
<td>0.62</td>
</tr>
</tbody>
</table>

The second analysed Multiple Intelligences Test derived from learners of the science class. As it can be seen in Chart 3, the most developed intelligences among pupils from the sport class are musical, interpersonal, intrapersonal, and visual-spatial. The Table 6 presents detailed results (average and standard deviation) of the tests among seven males and seven females.

When the results of the test were considered, 43% of pupils in the sport class obtained the average of four or more answering the questions related to musical intelligence (questions: 1, 7, 17, 24, 38) from Appendix 1. Thanks to these results it can be assumed that they are able to combine various pieces of music and hear particular elements of it. They are also willing to memorize information to the rhythm or by creating rhymes. They appreciate video and audio input, possess the ability of improvising, and simply enjoy listening to any piece of music in their learning milieu.

With regard to learners’ answers related to interpersonal intelligence, there are 57% of learners who scored the average of four or more. They answered positively for questions: 9,
22, 23, 36, 39 from Appendix 1. The average of four pupils of a sport class was lower than four. However, there was only one student with the average below three which was equalled 2.6. From these result it can be noticed that they work in groups rather willingly. They enjoy tasks which require the interaction, communication and mutual respect and understanding.

As far as the intrapersonal intelligence is concerned, there are 21% of learners of the science class who scored the average of four and above four answering questions (8, 21, 25, 31, 35) from Appendix 1. Simultaneously, there were ten students who gained the average lower than four, and only one whose average did not exceeded three and it was equalled 2.6. All in all, the average for the whole class was 3.8 which constitutes that these learners possess strong self-respect and are able to solve personal problems. They have no problems with the expression of their feelings, they understand others’ troubles and empathetically respond to them. They understand their feelings, thoughts, motivations, and beliefs.

According to the study, there were 36% of pupils of the science class who obtained the average of four and more in terms of visual-spatial intelligence. They answered questions: 14, 20, 29, 30, 40 from Appendix 1. Nine of them scored the average lower than four and there was nobody who gained the average below three. On the basis of these findings, it can be assumed that they like learning and thinking with the use of various visual materials like pictures, charts, diagrams, tables, and illustrations. They enjoy thinking and simultaneously using their imagination.

Chart 3. The average value of Multiple Intelligences of sport class learners.
Table 6. Results of sport class learners.

<table>
<thead>
<tr>
<th>Types of intelligences</th>
<th>average</th>
<th>standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodily-kinesthetic</td>
<td>3.3</td>
<td>0.48</td>
</tr>
<tr>
<td>Intrapersonal</td>
<td>3.8</td>
<td>0.49</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>3.8</td>
<td>0.55</td>
</tr>
<tr>
<td>Logical-mathematical</td>
<td>3.1</td>
<td>0.57</td>
</tr>
<tr>
<td>Linguistic</td>
<td>3.2</td>
<td>0.59</td>
</tr>
<tr>
<td>Musical</td>
<td>3.9</td>
<td>0.44</td>
</tr>
<tr>
<td>Naturalistic</td>
<td>3.4</td>
<td>0.63</td>
</tr>
<tr>
<td>Visual-spatial</td>
<td>3.8</td>
<td>0.46</td>
</tr>
</tbody>
</table>

The third analysed Multiple Intelligences Test derived from pupils of a linguistic class. As it can be seen in Chart 4, the most developed intelligences among learners from the linguistic class are interpersonal, visual-spatial, intrapersonal, and naturalistic. The Table 7 presents detailed results (average and standard deviation) of the tests among five males and eight females.

When the results of the test were considered, 54% of pupils in the linguistic class obtained the average of four or more answering the questions related to interpersonal intelligence (questions: 9, 22, 23, 36, 39) from Appendix 1. Three of them gained the average lower than four, and there were three learners who scored the following averages: 2.8 and 2.6 and 2.4. Thanks to these results it can be assumed that these learners are willing to do tasks which involve such elements as: communication, understanding, and interaction. They enjoy working in groups or pairs.

With regard to learners’ answers related to visual-spatial intelligence, there are 39% of them who scored the average of four or more. They answered positively for questions: 14, 20, 29, 30, 40 from Appendix 1. The average of six pupils of the linguistic class was lower than four. However, there were also two learners with the averages below three which were equalled 2.8 and 2.6. From these results it can be noticed that they enjoy using pictures, illustrations, diagrams, and charts when they think and learn. They willingly use their imagination and depth perception.

As far as the intrapersonal intelligence is concerned, there are 23% of pupils of the linguistic class who scored the average of four and above four answering questions (8, 21, 25, 31, 35) from Appendix 1. Simultaneously, there were nine learners who gained the average lower than four, and only one whose average did not exceeded three and it was equalled 2.8. All in all, the average for the whole class was 3.6 which constitutes that these learners possess strong self-enhancement and self-respect. They are good at solving personal problems. They express their feeling easily, understand the problems of other people. As they understand their feelings, thoughts, motivations, and beliefs they are able to respond to them with huge empathy.
According to the study, there were 15% of pupils of the linguistic class who obtained the average of four and more in terms of naturalistic intelligence. They answered questions: 11, 15, 19, 32, 37 from Appendix 1. Nine of them scored the average lower than four and there were two learners who gained the average below three; their averages were equalled 2.6 and 2.6. The findings indicate that they easily acquire knowledge concerning the nature. They are willing to look after, coexist, and live in harmony with nature. They are perceived to be good gardeners, farmers, florists, and botanists. These students like to be outdoors when they learn, are able to recognize and categorize various types of birds, trees, and plants.

The forth analysed Multiple Intelligences Test derived from pupils of a humanistic class. As it can be seen in Chart 3, the most developed intelligences among students from the humanistic class are intrapersonal, musical, visual-spatial, and interpersonal. The Table 8 presents detailed results (average and standard deviation) of the tests among seven males and six females.

When the results of the test were considered, 54% of pupils in a humanistic class obtained the average of four or more answering the questions related to intrapersonal intelligence (questions: 8, 21, 25, 31, 35) from Appendix 1. Six of them gained the average lower than four, and there were no learners who scored the average below three. Thanks to these results it can be assumed that solving personal problems is not a big problem for them as they understand and respect other people’s feelings, motivations, beliefs, and thoughts. They willingly respond to these problems and show empathy with others.
Table 7. Results of linguistic class learners.

<table>
<thead>
<tr>
<th>Types of intelligences</th>
<th>average</th>
<th>standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodily-kinesthetic</td>
<td>3.2</td>
<td>0.37</td>
</tr>
<tr>
<td>Intrapersonal</td>
<td>3.6</td>
<td>0.58</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>3.8</td>
<td>0.79</td>
</tr>
<tr>
<td>Logical-mathematical</td>
<td>3.3</td>
<td>0.6</td>
</tr>
<tr>
<td>Linguistic</td>
<td>3.3</td>
<td>0.7</td>
</tr>
<tr>
<td>Musical</td>
<td>3.4</td>
<td>0.57</td>
</tr>
<tr>
<td>Naturalistic</td>
<td>3.6</td>
<td>0.54</td>
</tr>
<tr>
<td>Visual-spatial</td>
<td>3.7</td>
<td>0.6</td>
</tr>
</tbody>
</table>

With regard to learners’ answers related to musical intelligence, there are 23% of learners who scored the average of four or more. They answered positively for questions: 1, 7, 17, 24, 38 from Appendix 1. The average of nine pupils of the humanistic class was lower than four. However, there was also one learner with the average below three which was equalled 2.8. These results say that these students memorize information with the use of independently created rhymes. The possess the ability of combining and also learning with music, thus, they prefer video and audio input to be used during lessons. With regard to improvisation, they do not hesitate and continue their task.

As far as the visual-spatial intelligence is concerned, there are 39% of pupils of the humanistic class who scored the average of four and above four answering questions (14, 20, 29, 30, 40) from Appendix 1. There were six learners who gained the average lower than four, and two of them whose averages did not exceed three and they were equalled 2.8 and 2.8. Otherwise, the average for the whole class was 3.6 which constitutes that these students enjoy creating various types of diagrams, charts, tables and learning with the use of them. Visual materials in the classroom, such as pictures, posters, and illustrations, definitely help them to acquire knowledge. Moreover, they like to make lists, can join things together and pick out patterns with no difficulties. They enjoy logic problems and patterns.

According to the study, there were 15% of pupils of the humanistic class who obtained the average of four and more in terms of interpersonal intelligence. They answered questions: 9, 22, 23, 36, 39 from Appendix 1. Eleven of them scored the average lower than four and there were no learners who gained the average below three. On the basis of these findings it can be assumed that they easily acquire knowledge by doing communicative tasks. They may express and share their ideas during the workgroup, but also sort out arguments between friends. They are sensitive to moods and feeling of others.

Table 9 presents the lowest and the highest values for particular classes. It shows the averages as well as standard deviation rates and shows the differences between classes: science, sport, linguistic, and humanistic. As it is shown, the highest standard deviation (SD) for bodily-kinesthetic intelligence was equalled 0.53 and was scored by the humanistic class.
Chart 5. The average value of Multiple Intelligences of linguistic class learners.

Table 8. Results of humanistic class learners.

<table>
<thead>
<tr>
<th>Types of intelligences</th>
<th>average</th>
<th>standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>bodily-kinesthetic</td>
<td>3.2</td>
<td>0.53</td>
</tr>
<tr>
<td>Intrapersonal</td>
<td>3.9</td>
<td>0.42</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>3.5</td>
<td>0.34</td>
</tr>
<tr>
<td>logical-mathematical</td>
<td>2.9</td>
<td>0.73</td>
</tr>
<tr>
<td>Linguistic</td>
<td>3.2</td>
<td>0.60</td>
</tr>
<tr>
<td>Musical</td>
<td>3.6</td>
<td>0.61</td>
</tr>
<tr>
<td>Naturalistic</td>
<td>3.3</td>
<td>0.57</td>
</tr>
<tr>
<td>visual-spatial</td>
<td>3.8</td>
<td>0.52</td>
</tr>
</tbody>
</table>
The lowest belonged to the linguistic class and constituted 0.37. With regard to the intrapersonal intelligence, the highest standard deviation was 0.58 and it was calculated for a linguistic class whereas the lowest was equalled 0.42 and belonged to the humanistic class. As far as interpersonal intelligence is concerned, the highest calculated SD was equalled 0.79 (a linguistic class), and the lowest was 0.34 (a humanistic class). The biggest value of SD for logical-mathematical intelligence was 0.73 in the humanistic class, and the smallest was equalled 0.56 in the science class. Linguistic SD rate expanded between 0.59 (the sport class) and 0.7 (the linguistic class). For musical intelligences values were a bit different and they constituted 0.44 in the sport class, and 0.61 in the humanistic class. In terms of naturalistic intelligence the science class turned out to have the standard deviation of 0.50 and the sport class 0.63. Finally, SD equalled 0.62 was the highest in the science class, and the lowest (0.46) in the sport class.

Table 9. Averages and standard deviations of each kind of intelligences among learners in four types of class.

<table>
<thead>
<tr>
<th>types of intelligences</th>
<th>science class</th>
<th>sport class</th>
<th>linguistic class</th>
<th>humanistic class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>average</td>
<td>standard deviation</td>
<td>average</td>
<td>standard deviation</td>
</tr>
<tr>
<td>bodily-kinesthetic</td>
<td>3.2</td>
<td>0.50</td>
<td>3.3</td>
<td>0.48</td>
</tr>
<tr>
<td>intrapersonal</td>
<td>3.5</td>
<td>0.55</td>
<td>3.8</td>
<td>0.49</td>
</tr>
<tr>
<td>interpersonal</td>
<td>3.9</td>
<td>0.47</td>
<td>3.8</td>
<td>0.55</td>
</tr>
<tr>
<td>logical-mathematical</td>
<td>3.8</td>
<td>0.56</td>
<td>3.1</td>
<td>0.57</td>
</tr>
<tr>
<td>linguistic</td>
<td>3.8</td>
<td>0.65</td>
<td>3.2</td>
<td>0.59</td>
</tr>
<tr>
<td>Musical</td>
<td>3.4</td>
<td>0.50</td>
<td>3.9</td>
<td>0.44</td>
</tr>
<tr>
<td>naturalistic</td>
<td>3.5</td>
<td>0.50</td>
<td>3.4</td>
<td>0.63</td>
</tr>
<tr>
<td>visual-spatial</td>
<td>4.2</td>
<td>0.62</td>
<td>3.8</td>
<td>0.46</td>
</tr>
</tbody>
</table>

These results show that knowing the most developed intelligences are helpful in organising lesson plans for learners. They give a lot of valuable information about learners' needs and skills and they may be used in order to improve the quality of acquiring knowledge. Hence, tasks which were orientated on particular types of intelligences did not pose the problem for them. Working on the basis of new lesson plans, observing learners, and making notes about how they react to different activities made that teachers may discover their learners even better and decide what is best for them.

Educators may change or tailor curriculum to their learners’ needs in order to ease the process of learning a foreign language. Teachers should give them the possibility to make use of their dominant intelligences and simultaneously allow them to train these which are not so highly developed. Therefore, learners may work on their weaknesses and strengths. It will be
inevitably the best way to fulfil learners’ needs and abilities, to let them feel bright, and to raise their self-esteem because the easier learning is, the more satisfied students are.

3. 5. Discussion of the results

According to the Gardner’s Theory, people possess all eight intelligences which are developed in different levels; some may be better or worse. The study conducted among the learners form different faculties shows that students’ highly developed intelligences are rather related to their class profiles; however, it was not proved in each class. It may be assumed that the correlation between Multiple Intelligences Theory and the main school subjects is caused by the fact that the vast majority of them know their abilities and want to develop them. The quintessential factor is that these intelligences provide specific data concerning individuals themselves and their preferences. Thus, learners may choose the class profile consciously in order to improve their abilities.

The study presents visual-spatial, interpersonal, logical-mathematical, and linguistic intelligences as the most developed intelligences among learners from the science class. Visual-spatial intelligence is responsible for the development of it by means of visual materials. It seems to be natural that pupils who are believed to be good at science scored such results. Similarly, it may be compared to the results of the learners from the humanistic class. Intrapersonal, musical, visual-spatial, and interpersonal turned out to be the best developed intelligences. Doing communicative tasks, expressing ideas, sharing them, and even sorting out arguments are elements of interpersonal intelligence. They react sensitively to various moods of their peers, and may understand them easily. Nevertheless, there were two surprising results during the study.

The first one concerns the sport class. According to the study, the most developed intelligences among learners from the sport class are musical, interpersonal, intrapersonal, and visual-spatial. Undoubtedly, it is a thought-provoking phenomena as there is nothing about bodily-kinesthetic intelligence, which was expected to appear in the sport class. The linguistic class, as well as the sport class showed that its profile does not fully reflect their expected abilities. It was anticipated that the linguistic intelligences were dominant in this class, not interpersonal, visual-spatial, intrapersonal, and naturalistic.

The second part of the study was conducted only in the science class. Its aim was to check the learners attitudes and emotions after the lessons with the use of exercises with particular intelligences. We know for sure that students possess interpersonal, visual-spatial, intrapersonal, and naturalistic intelligences which are dominant in this class. After the lesson learners were positively surprised that the given tasks were adjusted to their special needs, expectations, intelligences, and abilities. They derived great satisfaction out of learning in a new way. Different types of exercises encouraged them to be more active during classes and as a result of this they worked more efficiently.

They were curious about the new style of the lesson and happy about using various techniques. They had a great opportunity to improve their language skills by practising storytelling, information gap, voting, and interview tasks. Using new technology seemed to be very attractive for them as the science class. They had an occasion to use their mobile phones or tablets. Working in groups or pairs also brought them a lot of satisfaction, contentment, and happiness. They said that the exercises which were aimed at developing their logical-mathematical intelligence cause they could feel real excitement, especially during guessing the art riddles (Appendix 3).
Moreover, the exercises such as designing a film poster, drawing a picture, making video, and creating a chart improved their visual-spatial intelligence which, anyway, was at the very high level. Learners assessed the lessons’ scenarios as motivating, encouraging, and creative. On the other hand, few students were not able to do the given tasks properly as their manual skills were not so well-developed as they could wish. These remarks referred mostly to the tasks which concentrated on drawing, cutting things out, and painting. Nevertheless, they were so goal-oriented that they wanted to keep up with the other people in the groups that they tried to cope with the difficulties and do their best, hence, in the end they finished their projects successfully. Taking everything into consideration, lessons turned out to be compelling, educative, informative, and motivating. Learners felt great commitment into them and worked willingly. They confirmed that the new ways in which they were taken gave them a lot of reinforcement, contentment and enjoyment.

3.6. Weaknesses of the study

A questionnaire, as a type of a quantitative research, may be perceived as rather unreliable source of information. The aim of quantitative research is usually to quantify data, generalize results, and to measure the incidence of various views and opinions. Therefore, the questionnaire conducted in the science class may have some disadvantages. Teenagers could ignore the questions they did not know the answer to or were not sure about them and simply answer “don’t know”, luckily, there were not so many of such answers. Learners could make fun of the questionnaire and put the tick in the same column in all forty questions, fortunately, they did not come up with this idea; however, it could be perceived as a threat. Moreover, the second part of the study, which was based on taking lesson with the specific lesson plans, was conducted only in the science class.

Thus, the study may seem rather unreliable as not every surveyed person participated in it. As far as the lessons’ plans are concerned, students might have felt dismayed as the point of the lesson was aimed at developing only a few of their intelligences, even if the intelligences were dominant in their class. Although there was a risk of being disappointed and discouraged, in point of fact, they were pleased and satisfied. As studies are believed to have some disadvantages, this conducted by me could not be approved as fully authoritative.

3.7. Pedagogical Implications

The use of Multiple Intelligences in the classroom has a big influence in teaching English. Their significant division and strategies cause that the Multiple Intelligences are perceived as useful and advantageous. The use of MI in the classroom may positively affect students involvement into the learning process of a foreign language. Thanks to the lesson plans full of tasks related to the development of the dominant intelligences classes change into more valuable ones.

The study was conducted in order to determine the kinds of intelligence learners may have. It may be treated as an attempt to help teachers address all intelligences during their lessons. Educators can make use of it in favour of learners because it may help in planning lessons and provide ideas for the variety of activities, thus, pupils’ potential and abilities may be developed in a more effective way. A series of English lessons, with the emphasis of the dominant intelligences in particular classes, were conducted in order to ease acquiring the language, to make comfortable conditions, and to encourage students to use and develop their intelligences more often.
Teachers who know their learners’ levels of particular intelligences may differentiate their needs and abilities, hence, they may use the best teaching techniques and ways to present the material. The study proved that pupils who were aware of the dominant intelligences worked more willingly, effectively, and productively. As a result, knowing the dominant intelligences in the class teachers can use appropriate exercises and improve learners’ skills. Educators might detail most important aspects of teaching, focus on improving underdeveloped intelligences, and brighten the teaching of a foreign language. Moreover, learners who are aware of possessing eight different types of intelligences, and know their levels may pay more attention and choose their own style of learning. Owing to the intelligence test which could be conducted among students, they are more conscious of their needs and abilities. All in all, Multiple Intelligences Theory has positive effects on both learning and teaching English as students and teachers may use it effectively.

CONCLUSIONS

Howard Gardner’s Theory of Multiple Intelligences has a prominent impact on English language teaching. It provides the number of educational prompts which can be used in the process of learning a foreign language. It suggests a wide variety of activities and tasks which are related to the dominant intelligences students possess. However, all of them must be based on the assumption that each individual has eight different types of intelligences, no matter if they are well-developed or badly-developed. As it is believed, most people have a few: highly developed intelligences, modestly developed, and underdeveloped intelligences. Hence, educators should tailor the lesson plans correspondingly to the learners’ abilities, needs, and aptitudes. Furthermore, choosing right information concerning effective lesson planning, as well as, the ways in which they are given should be taken into account.

Humanists believe that learners must feel safe, confident, and appreciated. Human beings are able to take a strong effort in order to feel satisfied, on the other hand, they also resist easily. Any earthly obstacle may cause the decrease of desire and motivation of discovering unknown aspects of a foreign language as self-realization is perceived as one of the most basic human needs. Hence, teachers often make huge efforts to get to know their students in order to design the appropriate syllabus and lesson plans for them. Finding out their interests, abilities, attitudes, values, learning styles, and finally levels of eight different types of intelligence allows educators to reasonably and adequately plan the teaching methods and techniques. Not only should they use them, but also remember about using the variety of language teaching activities which are related to each intelligence. Gardner’s MI Theory provides suitable guidance to understand students’ learning differences and particular needs. As a result of it, learners may activate themselves during lessons, may change their attitude towards learning, and become more willing to involve into some tasks.

Incorporating MI Theory into English classes has a lot of advantages. It is a fruitful way of improving, honing, and modifying English language classes. Knowing learners’ intelligences brings plenty of benefits and the use of them may help to reach their full potential. Intelligence is believed to be one of the major factors which are responsible for learning a foreign language. Therefore, it can be assumed that students’ intelligences are extremely crucial in terms of acquiring the foreign language.
APPENDICES

Appendix 1

QUESTIONNAIRE

Sex:  Male ☐  Female ☐
Age: .............................................
Course: ........................................................................................

<table>
<thead>
<tr>
<th>QUESTIONS</th>
<th>Never</th>
<th>Not much</th>
<th>Don’t know</th>
<th>Quite a lot</th>
<th>A lot</th>
</tr>
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<tbody>
<tr>
<td>1. I enjoy making music.</td>
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<tr>
<td>2. I like to make lists.</td>
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<tr>
<td>3. I find it easy to explain to others.</td>
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<tr>
<td>4. I like to think through problems while I walk or run.</td>
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<tr>
<td>5. I am good at mathematical problems and using numbers.</td>
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<tr>
<td>6. I like to think out loud.</td>
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<tr>
<td>7. I remember things like telephone numbers by repeating them to a rhythm.</td>
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<tr>
<td>8. I know myself well.</td>
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<tr>
<td>9. I like to work with a team.</td>
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<tr>
<td>10. I like to work with my hands.</td>
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<tr>
<td>11. I enjoy being outdoors when I learn.</td>
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<tr>
<td>12. I have a good sense of balance and like to move around a lot.</td>
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<tr>
<td>13. I get restless easily.</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>14. I can take things apart and put them back together easily.</td>
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<tr>
<td>15. Pollution makes me angry.</td>
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<td></td>
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<tr>
<td>16. I always do things one-step at a time.</td>
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<tr>
<td>17. My mood changes when I listen to music.</td>
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<tr>
<td>18. I enjoy writing things down.</td>
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<tr>
<td>19. I enjoy games involving other people.</td>
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</tbody>
</table>
20. I have a good sense of direction.

21. I enjoy working on my own.

22. I am sensitive to the moods and feelings of others.

23. I am interested in why people do the things they do.

24. I can remember pieces of music easily.

25. I learn best when I have to get up and do it for myself.

26. I can use lots of different words to express myself.

27. I like to use charts and diagrams in my learning.

28. I can link things together and pick out patterns easily.

29. I am observant. I often see things that others miss.

30. I need to see something in it for me before I want to learn something.

31. I like working and thinking on my own and quietly.

32. I keep or like pets.

33. I enjoy logic problems and puzzles.

34. I learn well from listening to others.

35. I am an independent thinker. I know my own mind.

36. I can sort out arguments between friends.

37. I can recognize and name different types of birds, trees and plants.

38. I can pick out different instruments when I listen to a piece of music.

39. I enjoy social events like parties.

40. I can picture scenes in my head when I remember things.

Appendix 2

**Intrapersonal:**
8. I know myself well.
21. I enjoy working on my own.
25. I learn best when I have to get up and do it for myself.
31. I like working and thinking on my own and quietly.
35. I am independent thinker. I know my own mind.

**Interpersonal:**
9. I like to work within a team.
22. I am sensitive to the moods and feelings of others.
23. I am interested in why people do the things they do.
36. I can sort out arguments between friends.
39. I enjoy social events like parties.

**Logical-mathematical:**
2. I like to make lists.
5. I am good at mathematical problems and using numbers.
27. I like to use charts and diagrams in my learning.
28. I can link things together and pick out patterns easily.
33. I enjoy logic problems and patterns.

**Linguistic:**
3. I find it easy to explain to others.
6. I like to think out loud.
18. I enjoy writing things down.
26. I can use lots of different words to express myself.
34. I learn well from listening to others.

**Bodily-kinesthetic:**
4. I like to think through problem while I walk or run.
10. I like to work with my hands.
12. I have a good sense of balance and like to move around a lot.
13. I get restless easily.
16. I always do things one-step at a time.
Naturalistic:
11. I enjoy being outdoors when I learn.
15. Pollution makes me angry.
19. I enjoy games involving other people.
32. I keep or like pets.
37. I can recognize and name different types of birds, trees and plants.

Visual -spatial:
14. I can take things apart and put them back together easily.
20. I have a good sense of directions.
29. I am observant. I often see things that others miss.
30. I need to see something in it for me before I want to learn something.
40. I can picture scenes in my head when I remember things.

Musical:
1. I enjoy making music.
7. I remember things like telephone numbers by repeating them to a rhythm.
17. My mood changes when I listen to music.
24. I can remember pieces of music easily.
38. I can pick out different instruments when I listen to a piece of music.
Appendix 3

FILMS and BOOKS - genres

Complete the crossword below.

Across
5. a story about space travel and visits to other planets
6. a story that makes people laugh
8. a story that leaves you guessing until the end!

Down
1. a book about love and relationship
2. an exciting novel with a fast-moving story
3. a film with singing and dancing
4. a scary film that makes people scream
7. a play or a story about people's lives, often in the past

Appendix 4

FILM STORYTELLING VOCABULARY GAME
Tell a film story, taking turns with your partner(s). Use the vocabulary in at least one of the boxes below each time you take a turn.
Appendix 5

**Art Riddles!**

Directions: Read the riddles and fill in the blanks with the correct letters to solve

D _ _ _

Beginning with D, I'm something you do,
when designing a castle, a boat, or a shoe.
A rocket or cow
can make you say, "Wow!"
Grab a pencil and start.
Can you guess? Aren't you smart!
S_ _ _ _ _ S

My name begins and ends with an S.
   I am an easy tool to guess.
   I'm sharp and snappy, as a rule.
   My blades will help with art at school.
   Always handle me with care.
What's my name? Go on, please share.

T_ _ _

Four letters long, I start with T.
I'll help you fasten things with glee.
Wrap a package snug and tight,
or mend a ripped and ragged kite.
   People use me every day.
What am I? What do you say?

B _ _ _ _

My name starts with B. I'm pointed and strong.
I'm used to place colors where they belong.
   The artist protects me
   and handles with care.
   I'm covered with paint.
State my name, if you dare.

A _ _ _ _ T

I start with A and end with a T.
I make many things that you can see.
With paper or paint, or clay or pen,
   I have an idea and I begin.
I'm six letters long. I love what I do.
Who can I be? Can you guess who?

L _ _ _ _ _ E

Answers: Draw, Scissors, Tape, Brush, Artist, Landscape

(http://pl.scribd.com/doc/28431619/Art-Riddles#scribd)
Appendix 6

1C COMMUNICATIVE At an art gallery

Student A

Describe your picture to B. Find and circle the ten differences between your pictures.

Student B

Describe your picture to A. Find and circle the ten differences between your pictures.
Appendix 7

Choose **the best job** in the world. Put a cross in the right square.

- [ ] a doctor
- [ ] a soldier
- [ ] a babysitter
- [ ] a chocolate tester
- [ ] a teacher
- [ ] a politician

Choose **the worst job** in the world. Put a cross in the right square.

- [ ] a doctor
- [ ] a soldier
- [ ] a babysitter
- [ ] a chocolate tester
- [ ] a teacher
- [ ] a politician

Appendix 8

Put the words in the right columns.

| a celebrity | cinema | luxurious | hard-working | a film set | a star          |
| a composer  | a premiere | busy | a party | famous | a singer | expensive |
| a stage     | a star     | a screenwriter | a theatre | a tour | an actress |
| important   | a red carpet | an actor | a festival | a director | an understudy |

<table>
<thead>
<tr>
<th>PEOPLE</th>
<th>PLACES</th>
<th>ADJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</table>

-59-
References


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ABSRACT IN POLISH

Temat powyższej pracy obejmuje nauczanie języka angielskiego z wykorzystaniem Teorii Inteligencji Wielorakich stworzonej przez amerykańskiego psychologa Howarda Gardnera. W oparciu o fachową literaturę przedstawione zostały w niej zagadnienia dotyczące inteligencji, jej testów i pomiarów, a także kształcenie skoncentrowane na uczniach, ich potrzeby, umiejętności oraz nastawienie. Zaprezentowane zostało również pojęcie humanizmu, które dostarcza odpowiednich informacji na temat wyjątkowości jednostki ludzkiej, jej wartości, zainteresowań, zdolności oraz cech indywidualnych. Co więcej, przedstawiona została definicja inteligencji, Teoria Inteligencji Wielorakich i w końcu wyszczególnione i dokładnie opisane zostało osiem różnych rodzajów inteligencji według Howarda Gardnera: językowa, logiczno-matematyczna, muzyczna, ruchowa, wizualno-przestrzenna, interpersonalna, intrapersonalna oraz przyrodnicza. Dzięki ich rzetelnym omopom istnieje możliwość zapoznania się i zrozumienia umiejętności poznawczych, zdolności, potrzeb oraz uczuć uczniów. Posługując się profesjonalnymi materiałami źródłowymi, wybrane i wnikliwie zostały przedstawione różne sposoby i rodzaje zadań i ćwiczeń, które są charakterystyczne dla każdej poszczególnej inteligencji. Na podstawie przeprowadzonego badania, które miało na celu po pierwsze, zbadać poszczególne rodzaje inteligencji oraz rozważyć wnioski po wykreowaniu i urzeczywistnieniu kilku lekcji z wykorzystaniem tych dominujących, została dokonana szczegółowa analiza dzięki której istnieje podstawa by wierzyć, że Teoria Inteligencji Wielorakich może mieć istotne zastosowanie w nauczaniu języka angielskiego.