

# **The Affect of Multiple Intelligences on Second Language Teaching and Learning**

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## **ABSTRACT**

Learners of second language possess different characteristics that make them different from each other. Multiple intelligences is one of these characteristics, which is considered to affect the acquisition of formal structure and communicative competence of as second language when taught in a formal setting. The research aims at finding out whether this claim is true or not. In order to do so, 20 secondary level students learning English as a second language were tested in terms of their multiple intelligences, linguistic proficiency and communicative competence. The results then were compared to find out the relationship among these variables to determine the effectiveness of multiple intelligences on second language acquisition. The results of the study very remarkably reveal that multiple intelligence affects second language acquisition in terms of linguistic items of the language and communicative competence in Bangladeshi context.



## **Chapter One: Introduction**

Second language acquisition is the study of how learners learn an additional language after they have acquired their mother tongue. The term 'second' can refer to any language that is learned subsequent to the mother tongue. Thus it can also be referred to the learning of a third or fourth language. Whether a language is learned naturally as a result of living in a country where it is spoken, or in a classroom through instructions, it will be generally called 'second' language acquisition. This second language is also called target language. It has been observed that in second language learning classroom some students attain success rapidly whereas some of them struggle a lot making very slow progress. This happens because the characteristics of different individuals are not the same. Numerous factors are related to these individual differences that affect individual's second language learning. Some of them are motivation, aptitude, intelligence, personality, age, culture and so on. The focus of this paper is narrowed down to intelligence and its different types which are called multiple intelligences. This paper makes an effort to analyze how much strong effect multiple intelligences have on the teaching and learning of a second language.

Now-a-days a belief has established on this topic by the existing researches and theories that there is a relation between multiple intelligence and second language acquisition. Multiple intelligences affect the acquisition of second language when it is taught in a formal manner in a classroom setting rather than it is acquired naturally outside the classroom. Moreover, it has also been observed that only the interpersonal intelligence among the eight various types is aimed to foster the need of communicative competence through its tasks, learning styles, roles, preferences etc.

The aim of this research is to find out whether multiple intelligences in fact have any affect on second language acquisition and if the study gets positive data then how strong the impact is. While doing so this paper will also try to analyze whether the consequences of this research



matches with the existing researches conducted on this issue. The researcher has chosen this topic although there is very little research done on this topic. Because it seemed interesting to find out the relationship between these factors as it is a vital issue on current second language acquisition research trend.

In this study, the participants' multiple intelligences have been measured by a verbal multiple intelligences sample test. The participants' success of acquisition of the language has been measured through their competence in the language. It has been assumed that learners who score high are more competent in the language than the learners who are less successful in acquiring the language. The language competence of the learners has been divided into two parts- in one part learners' grammatical knowledge of the language and in another part their communicative competence has been measured.

Secondary level students who are learning English as a second language while studying in schools of Dhaka where the medium of instruction was English participated in the study. The methodology of the survey was testing the participants' multiple intelligences and knowledge of grammatical structures through a proficiency test based on level. The communicative competence of the participants has been measured through individual presentation.

Despite the appropriate methodology, the research was not free from limitations. The researcher had to conduct the survey with a limited number of participants which was the major limitation of the survey. Otherwise, the result of the study might have been more reliable. Moreover, she could not cover enough schools because of time constraints.

The subsequent chapters include review on the existing literature on this topic, the research methods used in the study and the presentation of the analysis of the results of the study. Chapter two describes multiple intelligences along its types and the existing findings on the theory of multiple intelligences into practice consisting the attractions, hypothesis,

impediments and overcoming of impediments of multiple intelligences. It also illustrates the relationship between second language acquisition and multiple intelligences and at the end, the description is narrowed down to the interpersonal intelligence in the form of group work and pair work. In chapter three, the methodology of the study has been described including the participants, the nature of the research, the research instruments employed for data collection, the research design and procedures and the methods of analysis.

## **Chapter Two: Literature review**

During the prime days of the psychometric and behaviorist eras a general belief regarding intelligence was established and the claim stated intelligence as “a single entity that was inherited ; and that human being –initially a blank state- could be trained to learn anything, provided that it was presented in an appropriate way” (Gardner, 1983). And as a consequence of this belief most of the language classes fall short to attain the goal of teaching as well as learning second language in a classroom setting. Since learners’ motivation has an extremely essential function to play in the second language learning process, negligence in identifying learners’ diverse learning styles might end up with creating de-motivated learners (Dornei, 2001).

Nowadays both educators and researchers have recognized the need for treating the learners as individuals to make an ESL class success considering the learning styles of their learners and taking the way their minds work best into serious concern (Tomlinson, 1998). Moreover, Brumfit and Roberts (1983, p.193) argue that individualization involves the organization of learning and teaching in such a way as to allow the abilities, interests and needs of the individual learner to be enhanced as effectively as possible; with the consequence that the traditional notion of the “average student” and “aiming for the middle” in teaching is abandoned (McDonough and Christopher, 1993, p.209).

As the continuance of these insights enormous numbers of researchers are working on the establishment of a new belief exactly reverse of the behaviorist eras. What the researchers have found on this regard is intelligence have multiple dimensions which are “quite independent of each other [and] each intelligence has its own strengths and constraints; that the mind is far from unencumbered at birth; and it is unexpectedly difficult to teach things that go against early ‘naive’ theories of that challenge the natural lines of force within an intelligence and its matching domains” (Gardner 1993, p. xxiii).



## **2. Individual differences:**

Individuals possess dissimilar characteristics that make them unlike from each other. These characteristics are unique for every individual and success of a second language acquisition varies greatly from person to person. For example, many teachers think that extroverted learners who interact without inhibition in their second language learning become more successful than learners who are more introverted and do not interact that much willingly. From the early days, psychologists have been trying to explore this uniqueness of individual mind. This has been called individual difference research. As the term suggest, individual differences (IDs) are those characteristics because of which individuals differ from each other (Dornei, 2005, p.1-2). Learners of second language who possess these IDs have a supportive or hindered affect on their language acquisition. Individual differences are of several types among which IDs like intelligence, language aptitude, motivation, and personality influence second language acquisition a lot. In addition, these different factors affect second language learning depending on the environment in which the language is taught (Harley, 1990). If the language is taught in a formal manner in a classroom setting these factors affect in a way that is different from the way in which it affect when the language is acquired in an informal or naturalistic setting outside the classroom.

### **2.1 What is MI or 'Multiple Intelligences'?**

According to Richards and Rogers (2001, p.115) Multiple Intelligence (MI) is “a learner based philosophy that characterizes human intelligence as having multiple dimensions that must be acknowledged and developed in education.” Richards and Rogers defined MI based on the seminal work of Howard Gardner whose researches and findings are considered as one of the glorious penetrate on this regard and termed as ‘paradigm shifter’ by Smith (1994). His works bring frontward the concept that “human intelligence does not possess a



single dimensions that remains unchanged throughout the life, but has several dimensions and is dynamic” (Harvest, 2008, p.148).

Howard Gardner has raised a question on the idea that states intelligence as a single entity, results from a single factor and that it can be assessed simply using IQ tests. Traditional IQ or intelligence tests are based on a test called the Stanford-Binet, originated on the same idea of Behaviorists ages, are also facing the challenge of MI movement these days. Gardner gives a clarification about IQ tests that it “measures only logic and language, yet the brain has other equally important types of intelligence” (Richards and Rogers: 2001, p.115). He also argues that all these intelligences are manifested in all human beings, but the way they are expanded can vary from individual to individual in different proportions. As a result, while performing a task learners can make use of more than one intelligence at a time. For example, some students learn better as they are shown visual than they listen to teachers. Often the learners learn better if they read the given material instead of simply listening to it. However there can be some learners who learn equally well in either way. According to Levin (1974) estimation shows that “for up to 25 percent of the population, the mode of instruction does make a difference in their success as learners” (Diane Larsen-Freeman, 2000, p.169).

Appropriately designed materials, training and guided practice can assist to enhance all these intelligences and as a consequence MI theory consists of “a group of instructional perspective that focus on differences between learners and the need to recognize learner differences in teaching” (Richards and Rogers, 2001, p.115). Language learning process can be a success if the these differences in learners are acknowledged, analyzed for particular group of learners and accommodated in teaching.

Howard Gardner suggests the “Multiple Intelligence Model” as a view of natural human talents which has been proposed in general education and specially been applied to language education. According to him intelligence is “the capacity to solve problems or to fashion

products that are valued in one or more cultural setting” (Gardner & Hatch, 1989). Howard Gardner posits eight ‘native’ intelligences which all human being possess to a greater or lesser extent. These intelligences represent how we take in and process information in our brain. Each person has an individual intelligences profile, consisting of different capacities relating to all of the intelligences.

The eight intelligences have been illustrated briefly in the following sections:

### **2.1.1. Linguistic Intelligence:**

Linguistic intelligence involves the sensitivity to an absolute understanding of spoken and written language with all its aspects, for instance, grammar, structure, meaning and so on; the ability to learn languages and the capacity to use the language to accomplish certain goals. (Smith 2002, 2008) They have a superior comprehension of performing different communicative functions such as formal request, information conveying through conversations, greetings etc. (Harvest, 2008, p.149) In addition Howard states that this intelligence includes the ability to effectively use language to express oneself rhetorically or poetically; and language as a means to remember information. In other words, language is the mode of interaction and observation to the linguistically intelligent learners because they puts language at the centre and perform through words. This type of learners typically look at all corners of the reading material or text, follow up links and read many of the posted discussions on the online on their own interest. (Catherine, 2005) For evidence, writers, poets, lawyers and speakers are of this category having high linguistic intelligence.



### **2.1.2. Logical- mathematical Intelligence:**

Logical-mathematical Intelligence, the most popularly understood, preferred and identified cognitive faculty of all the intelligences, consists of an individual's capacity to understand and analyze problems logically, carry out mathematical operations, investigate issues scientifically, and to observe the logical and numerical patterns. In Howard Gardner's words, "it entails the ability to detect patterns, reason deductively and think logically" (Smith 2002, 2008).

Logically intelligent individuals are proficient at processing logical problems and equations mentally. They often can perform well in the multiple choice standardized test (Harvest, 2008, p.149). This intelligence helps the individuals not to use too much verbal articulation since they can solve a complex problem in their head and articulate loudly only when they have solved it.

Moreover, high logical mathematical intelligent individuals can process logical questions at an extraordinarily rapid rate. They enjoy statistical, factual input and often create a connection between the new input and what they have learnt before (Catherine, 2005). This intelligence is most often associated with scientific and mathematical thinking as they like ranking and analytical tasks. Prior to the establishment of MI theory (Harvest, 2008, p.149) this type of intelligence was considered as the archetypal intelligence or the "raw intellect", which was highly valued by the western culture.

### **2.1.3. Musical Intelligence:**

Musical intelligence (Smith 2002, 2008) involves the skill in the performance, composition, and appreciation of music. It encompasses the capacity to recognize and compose musical pitches, tones, tunes and rhythms. According to Howard Gardner (1983) musical

intelligence runs in an almost structural parallel to linguistic intelligence. The ability to perform and compose music has been scientifically pinpointed in certain areas of the brain, and instances of autistic and other impaired children who can perform brilliantly but are unable to talk or interact with others exemplify this fact (Harvest, 2008, p.150). These learners especially appreciate video or audio input and tasks involving thinking about or using music, rhyme, or rap.

Each individual has got a different level of musical aptitude; there are even people who are totally musical, yet continue to have very normal and successful lives. From a neurological view, our ability to work with and comprehend music appears to work independently from other forms of intelligence, though musical intelligence may not seem as obvious a form of intellect as is mathematical or logical intelligence.

#### **2.1.4. Bodily-kinesthetic intelligence:**

Bodily-kinesthetic intelligence comprises of highly developed coordination, balance, dexterity, strength, speed and flexibility in using one's whole body or parts of the body to solve problems. Therefore this intelligence refers to the ability to use bodily movements and capacity to handle objects skillfully. According to Gardner this skill involves mental activity as a sense of timing along with physical activity as a clear sense of the goal of a physical action. This type of intelligence is most observed in athletes and crafts persons. Moreover, they enjoy physical manipulation tasks, such as dancing and acting something out.

#### **2.1.5. Spatial intelligence:**

Learners with keen spatial intelligence possess a potential to recognize, comprehend and use the patterns of wide space, shape, images and more confined areas with a three-dimensional rational sense for instance- trying to put together a puzzle, mold a sculpture, or



navigate the seas with only the stars as a guide. They feel comfortable thinking in pictures and seeing visual relationships and that is why they learn well with visual input such as illustrations, video clips, charts, tables and so on. The specialty of this intelligence is, it makes individuals' capable of perceiving and interpreting things which we may or may not physically see. Actually the ability to see things beyond the surface is an act of spatial intelligence and it is the foundation for all writing that has to be done on observation and perception of things happening around. It is the elegance of a writer who portrait a wide variety of mental images of his writing in readers' mind through precise expression of spatial intelligence which is referred as 'visual thinking'. However, Gardner (1983) makes clear statement on this regard that "Spatial is, therefore, more than visual and includes abstract and analytical abilities that go beyond seeing images" (Harvest, 2008, p.150). In other words, spatial intelligence does not, in fact, stick the visual sense; it can be developed by a blind person as well.

#### **2.1.6. Interpersonal Intelligence:**

Interpersonal intelligence includes the capacity to understand the intentions, motivations and desires of other people; interact with them and interpret their behavior. Gardner sees this intelligence as we "notice distinctions among others; in particular, contrasts in their moods, temperaments, motivations and intentions" (Harvest, 2008, p, 150). It makes people skilled to work effectively with others. Learners with a high interpersonal intelligence enjoy working in groups and gain energy from the interaction of the group members. Educators, salespeople, religious and political leaders and counselors all these people attain a great success in their individual work by mastering the interpersonal intelligence.

### **2.1.7. Intrapersonal intelligence:**

Unlike the interpersonal intelligence, intrapersonal intelligence leads to the capacity to understand oneself, to appreciate one's feelings, fears and motivations and to apply them successfully. In simple words, this intelligence allows us to explore our very being- who we are, what feelings we have, and why we are the way we are. Howard Gardner views it as an effective working model of us, and to be able to use such information to regulate our lives. A strong sense of this intelligence creates self-esteem, self-enhancement, and strength of character which ultimately help out in solving internal problems of individuals.

Learners having this intelligence benefit from working alone and are talented at reflecting on their experiences and feelings. In opposite, learners who do not possess a sound sense of intrapersonal intelligence come across difficulties in recognition of his/her self as a separate entity from the world s/he is surrounded by. Intrapersonal intelligence often is not recognized from the outside unless it is expressed in some form- be it invisible as rage or joy, or obvious as a poem or a painting. For an intrapersonal intelligent self-study is more effective rather than a face-to-face classroom situation.

### **2.1.8. Naturalist Intelligence:**

The name of this intelligence suggests the theme that is it creates opportunities for human beings to recognize, categorize and draw upon certain features of the environment. It specifically enables individuals to characterize different roles of many cultures with a core capability of recognizing the general features of diverse cultures. For example, an individual of these days can identify the culture or norms of his or her ancestors relying on the naturalistic intelligence. Learners of this intelligence prefer tasks involving natural objects or thinking about or going into natural world, which go beyond the confines of the virtual classroom.



Botanists, archeologists, anthropologists, and soil scientists possess a strong naturalist intelligence.

All of these intelligences can be addressed in a language class for a sound learning process of second language.

## **2.2: Theory of MI in practice:**

### **2.2.1. Response of the Educators towards MI:**

Since the theory of multiple intelligences sort of diminishes the trend of using traditional language teaching theory, Howard Gardner's MI theory has been not accepted at first with a great pleasure within academic psychology. Numerous questions were aroused on this regard like- It is difficult to teach one single intelligence; what would be the situation if seven new are to be included taking the idea into consideration that there are distinct limits and strong constraints on human cognition and learning? Howard states that "psychology does not directly dictate education, it merely helps one to understand the conditions within which education takes place" (Howard Gardner, 1993, p.xxiii). He further clarifies this issue that these seven more kinds of intelligences can be handled through new seven ways of teaching instead of just relying on one.

However, it has eventually got a strong positive reaction from many educators and been praised by an enormous number of educational theorists. In the course of its positive response, many teachers and policy makers of various North American schools have adopted this theory into practice by structuring curricula according to the intelligences and designing classrooms even the entire schools. This allows students to explore receiving and communicating information in ways that suited them best. Educators could see ways in which students learned most easily, enjoyably, and efficiently and they could assume that they corresponded with students' strongest intelligences. Since this theory of individuals intelligence has attain a

massive acceptance nowadays, this theory can be found in use within pre-school, higher, vocational and adult education initiatives.

#### **2.2.1.1. The attraction of MI:**

Thomas Hoerr (2002) has sorted out two reasons or features of theory of multiple intelligences for which educators mostly select this theory to be implemented in the class. First one is, under the umbrella of an MI lens the possibilities of children success become superior. In other words, when teachers offer different pathways for students to learn in spite of just filtering all information and learning through the "scholastic intelligences", more students find success in school rather than boredom.

Applying MI theory does not in fact replace the direct instruction and memorization of facts entirely from the teaching-learning process. It is rather an approach of 'child or learner centered' environment of learning. This is the prime reason behind why the educators or policymakers are adopting this theory in a great proportion. Hence, MI is a tool to help the teachers reach more kids, as a way to become better educators.

The second feature of MI theory works like remaining behind a shade as it transfers the role of the teacher. Traditionally teachers completely rely on text books, pens, pencils and other mandated curriculum materials provided by the authority. Moreover these materials are purchased from the commercially available sources whose designers do not have time to think about the multifaceted intellectual faculty of the individuals. And the interest or pleasure of leaning is submerged by the pressure of scoring well on standardized tests in this type of classroom situation. On the contrary, teachers using MI theory in class have to act out depending on the lessons or theme of particular class. Often they participate in the game item, take part in conversation, simply monitor when learners are comfortable in doing tasks by themselves. Most teachers went into this profession because they enjoy working with children



and playing a role in a child's growth. They also get pleasure from being creative, being "on stage," using their talents, and, most of all, being a problem solver.

More specifically, teachers following MI theory relish the identification of a way to reach the learners and the excitement of helping out a learner to believe in his or herself. At the end of a day, when a teacher returns at home being tired, s/he thinks of the satisfaction that comes from making a difference into a child's life rather than reflecting on how many workbook pages were covered or how well the teacher's guide was followed. MI creates an opportunity for teachers to get closer to learners for their development in learning. Therefore, there can have innumerable ways in which student may learn, but it is the wisdom of a teacher which will lead to find the right brush and the right colors to make learning meaningful.

Leslie Owen Wilson (1998) teaches courses in educational psychology, theories of learning, curriculum, and creativity. She has made a use of Gardner's MI concepts into two of her university courses of graduate theories of learning class and undergraduate sections of educational psychology for the last seven years. Among the students who were the practicing teachers raised a strong voice for the MI theory. Moreover, most students consistently choose to illustrate the impact of MI in their graduate exam in response of the question which seemed helpful in either changing their teaching practices, or in fostering a better understanding of learners' differences. Perceptions shared by both Leslie Owen Wilson and most of her students regarding the most common reasons why student educators or both current and future teachers are so much inspired in using MI are expounded at the following:

- Many intermediate writers have adapted and interpreted to make the MI theory easy for both teachers and parents for perceiving the value of the concept and its applicability to uses in the classroom. And interpretations on this issue at a greater extent have transformed the related techniques to an easy and understandable point for both pre-

service and practicing educators. Besides MI has become so popular because of related conference presentations, accessible classroom materials and associated articles for parents in current media.

- Teachers using MI easily experience creating more personalized and diversified instructions for individual learners.
- Teachers can aid students in empowering their learning by extending and promoting cognitive bridging techniques based on the seven intelligences; by encouraging profound meta-cognitive understanding; and by advancing ideas for a wide range of diversified study skills techniques.
- Using MI theory teachers can explain and advance understanding even better at intrapersonal, interpersonal and cultural levels.
- Just the way MI theory deals with natural talents of students tapping into their intrinsic levels of motivation, thus it helps teachers to construct self-motivating educational experiences and promote the stream of concepts in the classroom.
- Often it causes teachers to be insightful in the case of assessments of students' natural talents and proposes them justifications which would help learners in development.
- Precisely, it provides teachers, parents and students with a more extensive and clear conceptualization of giftedness.



#### **2.2.1.2. Hypothesis based on MI:**

Bruce Campbell (1994) has mentioned an action research project undertaken during the 1989-1990 school year and the objective was to investigate student reactions to a multiple intelligences-based instructional model. Student behavior, attitudes, and abilities were observed on the basis of some non-traditional ways of teaching such as with music, movement, visual arts and cooperation.

To gather the information and to analyze the data on a weekly basis researcher has to go through some process for example, keeping a daily journal was with specific entries, administering a classroom climate survey eighteen times during the year and governing a student assessment inventory of work at the seven centers nine times during the year. After testing the collected observations twice, the data were modified and refined which achieved a status of hypothesis for using it in future analysis. Ten hypotheses were formed based on this procedure and they were (Campbell, 1994):

1. Increased independence, responsibility and self direction were shown by the students over the course of the year.
2. Students were observed to develop at a great extent in their behavioral problems.
3. Skills involving cooperation with others have improved significantly throughout the duration of the year.
4. Since students had to work in group to make their classroom reports using three-five intelligences concurrently, an improvement was also observed in their ability of student presentations.
5. Specifically the kinesthetic students benefited from the active process of moving from center to center on every fifteen to twenty minutes.



6. Most students who felt shy in presenting something in the class, showed leadership abilities in the Music Center, the Building Center, the Art Center and particularly in the Working Together Center.
7. Positive reaction was coming out from parents as their children were showing an interest towards the school lessons and eventually the attendance reached the peak.
8. A higher proportion of the students were capable of retaining most of the important school information which was practiced through using music and movement techniques.
9. Most significant thing is, the role of the teacher transformed throughout the year from a less directive and less of a taskmaster to a more facilitative, more diversified, and more of a resource person and guide.
10. Finally students seemed proficient in working effectively in this unique and non-traditional classroom format.

#### **2.2.1.3. Impediments of MI:**

Regardless of this enthusiasm of such highly positive attraction and hypotheses, the use of MI has only scratched the surface among educators. Thomas Hoerr (2002) sees the following impediments as the reasons behind the refutation of MI:

- Parents often cannot notice the value of MI approach for the development of their children and do not understand how to use this theory to help the children to get a success.
- Typically teachers and the administration give more importance to the short-term gains and the standardized test results rather than focusing on the improvement of individual intelligences of students.

- Very often the reluctant mode of the teachers in spending time and energy to make MI theory in practice obstacle the development of the learners to explore their intelligence of multifaceted intellectual in the classroom.

#### **2.2.1.4. Overcoming the impediments of MI:**

To drag the impediments of MI to an approximate zero position Hoerr (2002) emphasizes on taking care of the above mentioned barriers individually. Among them the first and most serious issue is parent education which is highly taken into account in a MI school rather than traditional schools. Educators can initiate an effort to make the students' parents understand how the intelligences are used and that their children are learning so that when their children starts to think school as fun they do not seem skeptical to the administration of the school. Though it appears logical and simple to instruct students' parents about MI, it actually takes a reverse form because of several reasons like- most educators don't appreciate the value of educating parents, often there raises a contrastive relationship among parent-teacher, teachers try to avoid more parent communications because it creates a scope of more parent criticism and lastly even if teachers make an effort to involve and educate their students' parents, the parents do not always respond. Parents often do criticisms because they become cautious about the learning of their children, but once if they are realized the progress of the children through 'MI glasses' they become helpful in attaining that goal even more enthusiastically.

In case of the second barrier of MI theory, Thomas Hoerr (2002) states that when the educators focus on the narrow goal of standardized test results, education is in fact politicized. Sometimes administrators and educators give a cause such as they have no other choice rather being limited in their goal. At this point, teachers need to help administrators understand that



students will perform even better on any measure under a MI approach; particularly those children did consistently bad in the standardized test. Since neither the teachers nor the students enjoy failing in the tests, by creating an environment of more talents recognition and children centered learning, students will gradually approach school with more enthusiasm and interest.

Finally to create an enthusiasm among the teacher Christison (1996) suggests teacher can be invited in a lecture class to discover their own multiple intelligence profiles and to reflect on how that might affect their approach to teaching. Moreover she encourages the MI theory in their classrooms by developing tasks which include more of the intelligences or by using MI as a framework for thinking about lesson planning.

### **2.3: Relationship between second language acquisition and MI:**

Intelligence is not considered as a determining factor in terms of first language acquisition since almost everyone acquires his or her first language successfully under the availability of adequate and appropriate exposure to the language. Eric Lenneberg who proposed 'Critical Period Hypothesis' observed that even people who are suffer from mental disorders acquire their first language if they are exposed to proper environment of language learning within their critical period (Lightbown and Spada, 1999, p.19). However, learning a second language does not work in the same way as first language acquisition (Fernandez-Corugedo, 1999, p.29). Numbers of reasons can be placed behind this. For instance, while learning a second language people already have their first languages that interfere the acquisition of the second language; mostly they do not get the similar exposure as first language; their motivation towards learning as second language highly varies from the mother tongue and so on (Lightbown and Spada, 1999). These works as negative effect on second



language acquisition and ultimately second language learners fail to attain native like competence, performance and pronunciation (Fernandez-Corugedo, 1999, p.29). So learning procedure of second language is different from the first language.

McLaughlin (1987) suggests that intelligence is an important factor in determining the success of second language acquisition though it does not have any role at all in case of first language acquisition. Depending on the setting in which learning takes place when emphasis is given on reasoning analytically about verbal material, intelligence plays a great role (p.171). Verbal materials are those linguistic materials that are developed based on language and used in written or spoken form. McLaughlin says that when verbal material is taught in classroom setting, verbal intelligence has a role on the acquisition of the language. Moreover, findings show that intelligence as a second language learning factor facilitates the adults more than the younger learners. Because students in traditional high schools and college classes consider the language they are taught analytically and acquire it in formal ways whereas children get to learn second language in an immersion setting or in a bilingual classroom having no analytical approach towards the language (McLaughlin, 1987, p.171). Although diverse type of intelligence has a less strong influence on the acquisition of oral fluency, researches furthermore show that different “intelligences ... correlate with some skills associated with SLA, particularly those used in the formal study of the language, such as reading, writing, language analysis and vocabulary study” (Fernandez-Corugedo, 1999, p.29). When it comes to the development of learners’ communicative competence except the interpersonal one all the other intelligences do not have any role to play on it.

Coustan and Rocka (2005) has referred to several studies conducted in different parts of the world which reveal that MI theory can be a very successful way of teaching an L2 for the following reasons:

- It attempts to explore the full potential of the learners as it places the learner at the centre of the entire learning process.
- It enhances learners' motivation.
- It breaks the monotony of an ESL class as a wide variety of activities are used.
- In it all intelligences are taken care of and developed through practice.

#### **2.4.: Emphasis on group work and pair work as interpersonal skills:**

Since in modern days the major focus of learning a second language is being able to communicate competently, it would be effective to analyze that intelligence which can significantly meet up the communicative needs of second language learners. Interpersonal intelligence is such an intelligence which enables people to communicate with others proficiently and successfully beyond the linguistic constraints of written form of different languages spoken throughout the world. As it is mentioned earlier in this paper that interpersonal intelligence, according to Howard Gardner, includes the capacity to understand the intentions, motivations and desires of other people; interact with them and interpret their behavior, hence this is the intelligence type that should be performed and developed while learning second language in a large extent. Two most widespread interpersonal tasks that can be practiced thoroughly in a classroom setting are group work and pair work. The name of these tasks suggests that learners are required to share their views and knowledge to make a success in such activities based learning.

##### **2.4.1: Pair work:**

Learners practice language items together in pair work, study a text and research language taking part in information-gap activities for example- writing dialogues, predicting the content of reading texts, or comparing aspects of texts they have read or listened to. It will



be effective to shade some lights on the advantages of pair work suggested by Jeremy Harmer (2003) such as-

- It tremendously fosters the student talk time in the class which is the most essential aspect for being competent in interaction with others through second or target language. In the course of pair work teacher can encourage interaction between students rather than only between student and teacher. Learners can ask questions and give explanations to each other rather than always to the teacher (Scrivener, 1994, p.86).
- It promotes learners' independence since they are allowed to work and interact independently without the necessary guidance of teacher (Harmer, 2003, p.116).
- Moreover, it is beneficiary for the teacher since he or she gets time to work one or two pairs while the other learners continue their work.
- When learners perform some tasks through cooperation in the classroom, it creates a more relaxed and friendly environment of learning second language.
- In pair work learners reach a decision agreeably which promote the notion of sharing responsibility rather than having to bear the whole weight themselves.
- Finally it is comparatively less consuming and easy to organize a pair work within a classroom setting. It can be executed in most classrooms by simply having learners work with the person sitting next to them (McDonough and Christopher, 1993, p.196).

Despite of these advantages of pair work it is not independent of drawbacks. Some shortcomings of pair work suggested by Harmer (2003) are following:

- Teachers often come across difficulty to control class doing activities in pairs because sometimes it becomes noisy which is less preferred by both teachers and learners.



- Sometimes learners become distracted from the point of an exercise talking about something else completely in their first language.
- This type of activities is not liked by learners who prefer to be guided by the teachers as individuals and rely on their own decision in learning tasks.
- Learners may suffer complexity with the pair partner if they are not fond of them.

Some of these drawbacks can be overcome by forming small groups in the class. And it is clear from above discussion that pair work is very effective for learners who like being with people and have interest in the interaction with others.

#### **2.4.2: Group work:**

Several learning tasks, for instance- story telling, role play, presentation and group decision, require more people than a pair which can be said as group activities. Harmer (2003) suggests small groups of around five learners to provoke greater involvement and participation than a whole class. Though small groups of five learners do not represent the real interpersonal interaction adequately, learners can be encouraged to progress their communication skills practising within small groups. Therefore Jeremy Harmer lists some benefits of group work such as-

- Group work has the same advantage of pair work in terms of the amount of student talk time in the class and learners' independence.
- Since there are more people engaged in group work, the problem of personal relationships raised in pair work get minimized. Rather learners can have different opinions and varied contributions of the group members.
- Lastly group work offers broader skills of cooperation and negotiation among the people engaged.

There is a general notion among the teachers throughout the world that if new curriculum and instructional approaches are put forward, they need to adopt the proposed method of teaching as widely as possible since every new approach is established by replacing the old methods with something new. But applying MI theory is something different. It does not require disposing activities of ongoing teaching methods which are proven as effective for both teachers and students in teaching and learning of second language. Rather it suggests a new ground of second language teaching and learning by enhancing the previous activities in a wider range and by creating an opportunity for the administrators of language institutions to think about the learners individually and differently.

In order to make the MI approach to be a success, materials need to be designed effectively. For instance, teachers need to be careful about utilizing particular activities and training particular intelligence while designing materials and activities for the class (Larsen Freeman, 2000). It is not possible to deal with all the intelligences in one lesson and there is no such necessity to design every lesson considering eight intelligences altogether. In that case teachers can smartly revolve different activities to fulfill the objective of teaching different intelligences. And according to Larsen- Freeman teachers can easily think of activities based on linguistic, interpersonal and intrapersonal intelligences in a language class. Certainly teachers have to self-monitor to keep track of the tasks related to the other intelligences.



### **Chapter three: Research Methodology**

This chapter explains the methodology of the study to measure learners' multiple intelligence and proficiency level. The research hypothesis will be mentioned in the background information section. The other parts will describe the participants, the nature of the research, the research instruments employed for data collection, the research design and procedures and the methods of analysis.

#### **3.1: Background information:**

Generally testing intelligence means testing people's abilities that are related to intelligence. Multiple intelligences test is quite different from the standard measure of intelligence, IQ test. Multiple intelligences tests assess learners' individual difference in terms of learning styles- linguistic (involved in reading, writing, listening and speaking), logical-mathematical (solving logical puzzles, deriving proofs, performing calculations), musical (playing instruments, composing, singing and performing), spatial (moving from one location to another or determining one's orientation), interpersonal (understanding others' and one's relations to other), intrapersonal (understanding oneself and having insight into one's own thoughts, actions and emotions) and naturalistic (understanding and working effectively in natural world). On the other hand, IQ test estimates a person's current intellectual functioning through his or her performance of various tasks. Most of the MI tests measure some common abilities simultaneously such as- language based reasoning, visual-spatial reasoning, problem solving, logic and awareness of common social realities. Usually there are two kinds of intelligence test- verbal and non-verbal intelligence test. Verbal intelligence tests rely on language to measure participants' intelligence whereas non verbal intelligence tests require participants to complete various tasks based on figures, diagrams and numbers.



In this study, the researcher has used verbal intelligence test to identify the participants' intelligence type because students need to respond to the given statements relying upon their individual learning styles. A problem of language deficiency may occur with the learners with whom the researcher has done her survey because all of their first language is Bangla and they have not yet mastered the target language they are learning. To avoid this problem all the statements included in the intelligence test are simplified considering their language proficiency level. Moreover, they might face problem in using English while answering the questions and that's why they are merely asked to score the statements based on their own learning styles and preferences which will reflect the participants' true intellectual categories. It is notify again that learners will be tested only under two types of intelligences- interpersonal and intrapersonal intelligences. In the intelligence test there is both interpersonal and intrapersonal type statements included. The objective of this test is to find out which learners possess interpersonal skill and which are of intrapersonal type learners.

In order to find out the learners' understanding of English, the researcher has evaluated them based on their proficiency on the language. The notion behind this is that the score obtained by them in the tests would reflect their amount of acquisition of the language. That is, if the participants score better in the proficiency test it would mean that the amount of acquisition is high for them and vice versa. In order to determine the participants' proficiency in English, the researcher has conducted two kind of survey. At first, she gave them a proficiency test which will measure their overall knowledge of English language and grammar. Proficiency test "measure people's ability in a language, regardless of any training they may have had in that language" (Hughes, 2003, p.11). The reading material used in the proficiency test is not based on the content of the language courses that the participants may have followed. Rather it is based on the specification of what the learners should be able to do in order to be

considered proficient (Hughes, 2003). Therefore, the researcher has not followed any syllabus that the students have followed while choosing the proficiency test. However, the criterion of measuring learners' proficiency on a language alone can sometimes give misleading conclusion. It happens because proficiency in a language does not only include the knowledge of the grammatical structure of the language but also it comprises of the communicative competence of the learners in that language. The proficiency test contains several tasks which require all of them to perform individually. The reason behind this test is that the score obtained by both type of learners in these tasks would reflect their amount of acquisition and understanding of the language. Here the learners having intrapersonal skill are expected to do well naturally since they will answer the questions without facing any difficulty in terms of the process of testing. Hence the subject intelligence type of this research is the interpersonal one. Thus the researcher's motive is to find out how the learners possessing interpersonal skill perform in this same test.

Later the researcher gave another proficiency test to the interpersonal learners based on the same reading material which require them to solve several tasks in small groups. This time the researcher want to see whether there is any improvement in the scores of the learners from the previous test. In other words, if the participants score better than the previous test it gives positive evidence to the purpose of the research, that is, if the participants are provided with the environment supporting their learning style they will acquire the second language even better.



### **3.2: Participants and setting:**

The participants of this study were secondary level students of eight standard ranging in the age group of 13-14 years. Though the theory of multiple intelligences suggest to incorporate all the intelligences in learning second language from the primary level, it will take even more years from now to use these learning styles in the context of Bangladesh. That is why the researcher has chosen the students' age group of 13-14 years rather than the elementary learners. This study was conducted in English in a school of Bangladesh where the medium of instruction was English. All the students' first language was Bangla and they are learning English as a second language. All of them have learnt English in their primary schools but the medium of teaching was Bangla. None of the primary schools used English for communicative purpose. As a result, their acquisition of English was not proper in a sense that they did not have enough exposure where they could listen from the teacher and use them to interact with others. Rather they only learned how to use the target language.

However, after entering the secondary school, all of them have got a setting where at least the primary medium of teaching the target language is English and have had an opportunity to use the language they have learned so far in the classroom setting with the teacher and fellow learners. Moreover, they have already passed two secondary level class- six and seven where this same teaching technique was followed. Hence, considering the level of acquisition of English as a second language, the researcher has decided to conduct the survey with these learners.



### **3.3: Nature of the research:**

#### **3.3.1: Primary research:**

The research is a primary research where the data is gathered from direct sources rather than from secondary sources in order to obtain original information (Brown, 1988, p.2). Here the data has been collected from a group of students of English as a second language. This is why this research is a primary research.

#### **3.3.2: Quantitative research:**

Researches where numerical data is used in order to analyze the gathered information are called quantitative research. Mackey & Gass (2005) say that “quantitative research generally starts with an experimental design in which a hypothesis is followed by the quantification of data and some sort of numerical analysis is carried out” (p.2). Quantitative data includes closed ended information such as that found on attitude behavior and performance instruments. In this study, the results of the multiple intelligences test and proficiency test have been derived and analyzed in terms of numerical data. This is why the research falls under quantitative category. In other words, in this primary research quantitative method has been adopted.

### **3.4: Research design:**

#### **3.4.1: Procedure:**

This study has been conducted in three parts. At first, 25 students took part in the study and later among them 20 students were selected for the rest of the research. In the first part, the students were given a verbal multiple intelligences test consisting interpersonal and intrapersonal skill of 30 statements. They had 30 minutes to finish the test. Based on the response of the students in this test researcher divided the students in two groups of interpersonal and intrapersonal learning style. Secondly, all of them were taught a reading material titled 'Black and White Eid' by the researcher. Then both the group were provided with the first proficiency test on linguistic knowledge consisting of 5 questions and they were given time limit of 30 minutes again. The third part of this study aimed at finding out students' communicative competence in English. In order to do so the researcher gave another proficiency test including oral presentation to 10 students who were identified as possessing interpersonal skill. After that, she got a sample results based on their performances. The researcher has taken a sample for the third part because the hypothesis of this study to see whether there is any difference in the acquisition of language if students learning styles differ from each other. That is why she gave the second proficiency test to those students who had the skill to understand relations with others better and had interest in the interaction with others than the intrapersonal learners.

The researcher herself distributed the tests and was present with the students while they were responding them to explain all the statements and items in the test to the students clearly so that they could understand the whole process of testing. Moreover, she provided them help whenever the students asked for understanding the questions appropriately. Besides, the participants in group presented the assigned tasks in front of the researcher in limited time.



### **3.4.2: Research instruments for data collection:**

In this research, multiple-choice tests have been used in order to measure the participant's multiple intelligences and proficiency test of English and group presentation have been taken to measure their communicative competence.

#### **3.4.2.1: Multiple-choice tests:**

Multiple-choice tests consist of questions that require students to choose the best answer of a question from some given answers. Multiple-choice test item is now considered as one of the most useful test of all objective item types (Heaton, 1975, p.14). The advantage of using multiple-choice test is that, as the participants respond by choosing from several possible options, scoring of this test type can be done quickly without consuming much time.

The verbal intelligence test that the researcher has used included 30 questions that required the students to write the possible score beside the statements looking at the four options given above. The four options were 1= mostly disagree, 2= slightly disagree, 3= slightly agree and 4= mostly agree. The test includes 15 statements for interpersonal skill and 15 statements for intrapersonal skill. The researcher has taken the test from a source on the web (Business balls) and then simplified considering the proficiency level of the participants.

The proficiency test was prepared by the researcher to measure the participants' proficiency on the linguistic items of the language. The researcher has designed 5 questions comprises of fill in the blanks, true-false, choosing right answer, question-answer.

#### **3.4.2.2: Oral presentation:**

To test the communicative competence of the students the researcher need to make them speak which can be done through oral presentation. Students were monitored while performing the tasks whether they were interacting with others. Later as they were assigned to present their answers, the researcher scored them in group using numerical values ranging from 1 to 5 points. The speeches were scored based on five criteria. These are pronunciation, grammar, vocabulary, fluency and comprehension. Scores were given on each of these criteria and later these scores were averaged in order to obtain the final score for the participants' communicative competence. Since students were performed in group of two people, both of them were tested interchangeably in five items.

#### **3.4.3: Methods of analysis:**

After collecting the test answers, the data was submitted to statistical analysis. After counting the number of correct answers, the numbers were tabulated and were converted into percentage. Tables and column diagrams we employed for the presentation of the data. The oral presentations were graded instantly based on the five criteria mentioned above. These scores were converted into percentages as well. After all the three data were obtained in percentage, the interrelationship between them was calculated by using correlation. At first, the correlations between the scores of the multiple intelligences test and proficiency test (that was performed by 20 students) for both the interpersonal and intrapersonal learners were calculated. Then, the correlation between the scores of interpersonal learners in the multiple intelligences test and the scores of oral presentation was calculated.

Coefficient of correlation expresses the degree of relationship between two sets of test scores (Harris, 1969). Measures of correlation take value between -1 to +1. A value of -1



means a perfect negative correlation; a value of 0 means no correlation and a value of +1 means a perfect positive correlation between the variables. Values that are more than 0.8 refer that the relationship is strong and values that are less than 0.5 refer that the relationship is weak. Positive correlation means if one variable increases another variable will also increase and vice versa whereas negative correlation means if one variable increases another variable will decrease or vice versa (Hornberger and Corson, 1997).

In determining the relationship between two variables using correlation is necessary because it explains the relationship in terms of numerical values. It is helpful to understand the relation more easily when it is represented in terms of numerical values. This is why, the researcher has used correlation to determine the relation between multiple intelligences and second language acquisition.

## **Chapter four: Results and Discussions**

In this chapter, the raw data obtained from both the tests and the oral presentations are presented. All the data will be analyzed and interpreted in this chapter.

### **4.1: Presentation and analysis of the tests:**

Participants have gone through three different types of testing. At first all of them have been tested on their multiple intelligences type. The total marks allotted for this test was 120 among which 60 marks were for interpersonal skill and another 60 marks were for intrapersonal intelligence type. Using this test the researcher gets to know which participants have interpersonal intelligence and who possesses intrapersonal skill. Secondly, participants of both categories have taken part in the first proficiency test consisting of multiple choice questions which they have had to perform individually. This test has been marked out of 20. Finally, participants with comparatively higher interpersonal skill in the multiple intelligences test have taken part in the second proficiency test of oral presentation, where they have performed the tasks in pairs. After marking the tests, the scores have been converted into percentage. The three tests have been analyzed separately and the results have been shown in graphs and tables.

#### **4.1.1: Multiple intelligences test:**

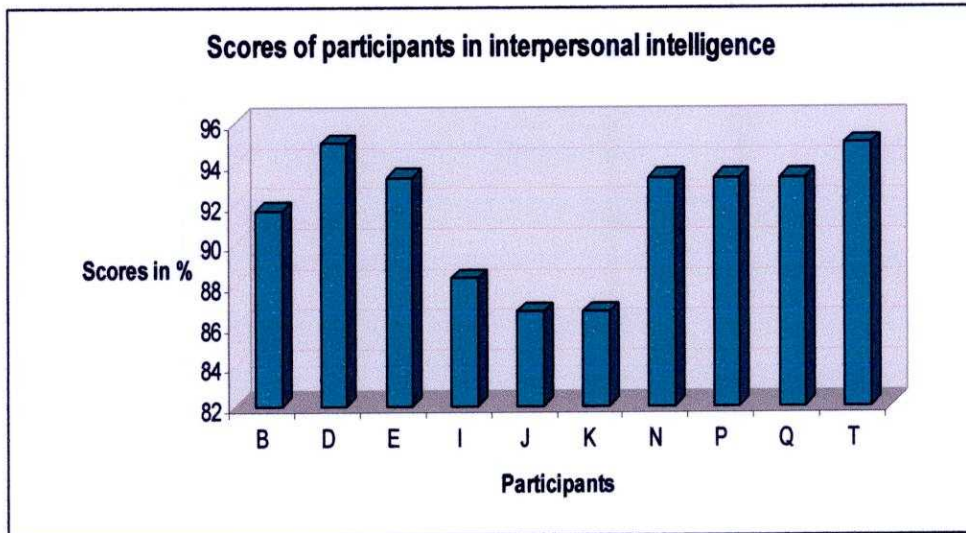
The multiple intelligences test includes 30 statements carrying 1 mark each and among those 30 statements 15 are of interpersonal intelligence type and the other 15 statements are set to find out the intrapersonal intellect of the participants. Participants' multiple intelligences have been measured from the assumption that higher score in any one of the intelligences indicates higher success of language acquisition through that intelligence. The scores obtained by the examinees in the test have been shown in the following table:



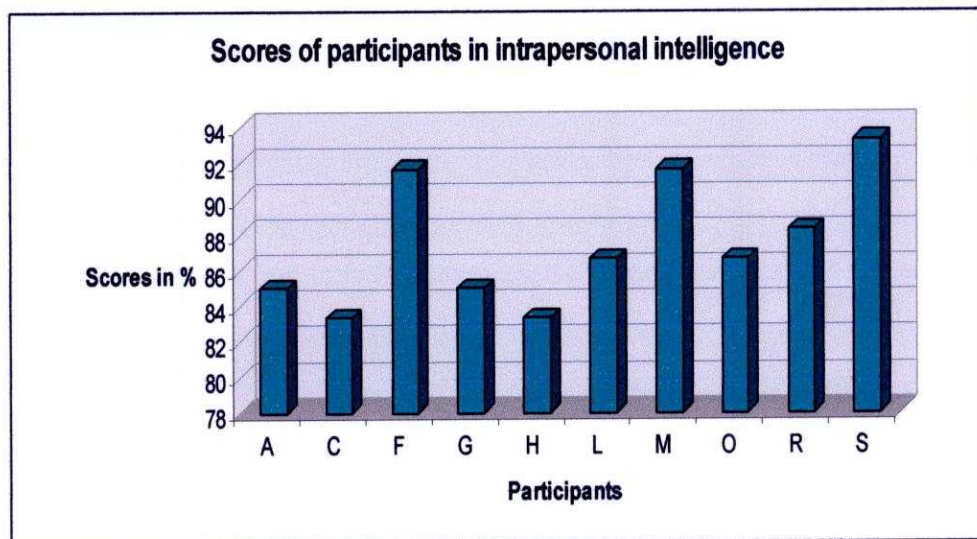
Participants	Score in interpersonal intelligence (out of 60)	%	Score in intrapersonal intelligence (out of 60)	%
A	40	66.67	51	85
B	55	91.67	44	73.33
C	42	70	50	83.33
D	57	95	49	81.67
E	56	93.33	49	81.67
F	44	73.33	55	91.67
G	48	80	51	85
H	49	81.67	50	83.33
I	53	88.33	46	76.67
J	52	86.67	49	81.67
K	52	86.67	49	81.67
L	49	81.67	52	86.67
M	49	81.67	55	91.67
N	56	93.33	48	80
O	45	75	52	86.67
P	56	93.33	41	68.33
Q	56	93.33	42	70
R	49	81.67	53	88.33
S	38	63.33	56	93.33
T	57	95	42	70

**Table 4.1: Scores of multiple intelligences test**

The following graphs represent the above scores.



**Diagram 4.1: Scores of participants in interpersonal intelligence**



**Diagram 4.2: Scores of participants in intrapersonal intelligence**

From the above table and graphs the researcher has sorted out the lists of participants who are interpersonal intelligent and possess intrapersonal skill. So the lists are given below:



Interpersonal participants	Intrapersonal participants
B	A
D	C
E	F
I	G
J	H
K	L
N	M
Q	O
P	R
T	S

**Table 4.2: Interpersonal and intrapersonal participants**

#### **4.1.2: Proficiency test (Multiple choice test):**

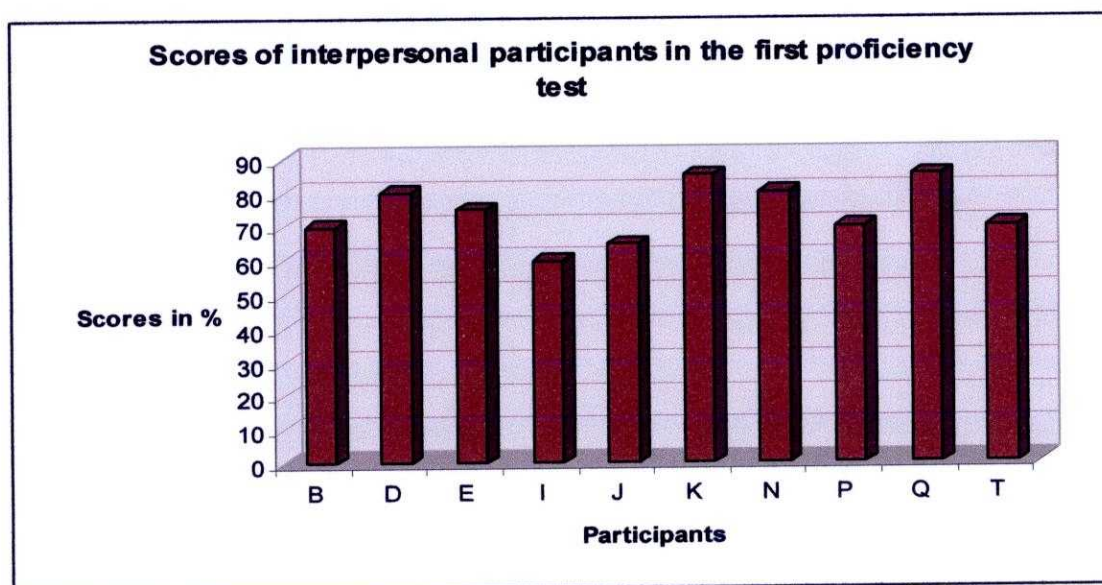
This test has been marked out of 20 and each question carries 1 mark. This test comprises different types of multiple choice items including completion item, true-false, question-answer and choosing the right answer. Participants' scores of two intelligences type are observed here to see whether there is any distinction between their grades. The assumption based on which this distinction can be measured is that learners who like to work on their own will do relatively better than those participants who learn better from interaction. The scores obtained by the participants in the first proficiency test have been shown in the following table:

Interpersonal Participants	Scores	%	Intrapersonal Participants	Scores	%
B	14	70	A	18	90

D	16	80	C	17.4	87
E	15	75	F	19	95
I	12	60	G	17	85
J	13	65	H	18.4	92
K	17	85	L	19	95
N	16	80	M	19.2	96
P	14	70	O	19.6	98
Q	17	85	R	18.08	90.4
T	14	70	S	18.8	94

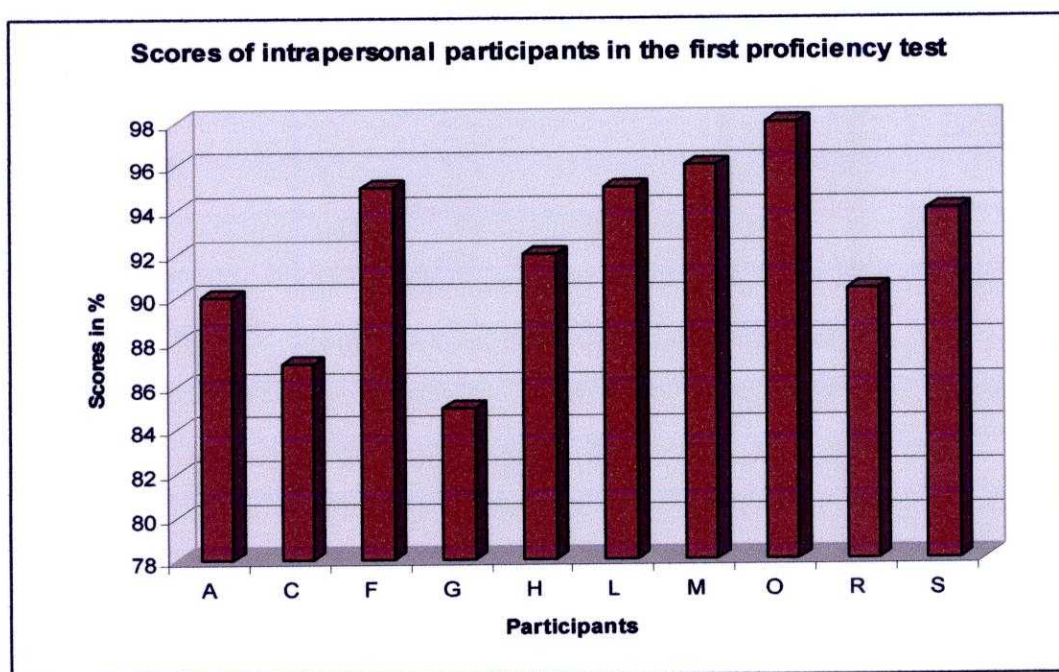
**Table 4.3: Scores of Proficiency test**

The following diagrams represent the scores obtained by the participants in the first proficiency test.



**Diagram 4.3: Scores of interpersonal participants in the first proficiency test**





**Diagram 4.4: Scores of intrapersonal participants in the first proficiency test**

#### **4.1.3: Proficiency test and multiple intelligences test combined:**

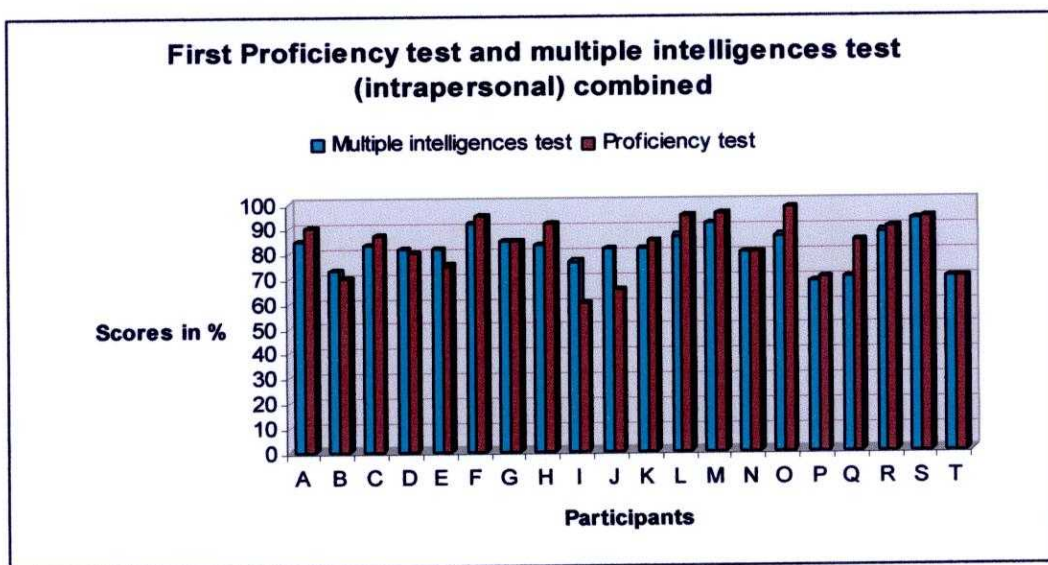
Since the researcher has been set the first proficiency test in such a way that participants had to perform this test individually which falls under the intrapersonal skill, the performances of two groups of participants in first proficiency test are presented only with their performances in the multiple intelligences test's intrapersonal section. The following table and diagrams represent the scores obtained by the participants in the proficiency test of multiple choice items and both intrapersonal and interpersonal sections of the multiple intelligences test, therefore compare the results simultaneously.

Participants	Intrapersonal		Interpersonal	
	(Scores in %)		(Scores in %)	
	Multiple intelligences test	Proficiency test	Multiple intelligences test	Proficiency test
A	85	90	66.67	90

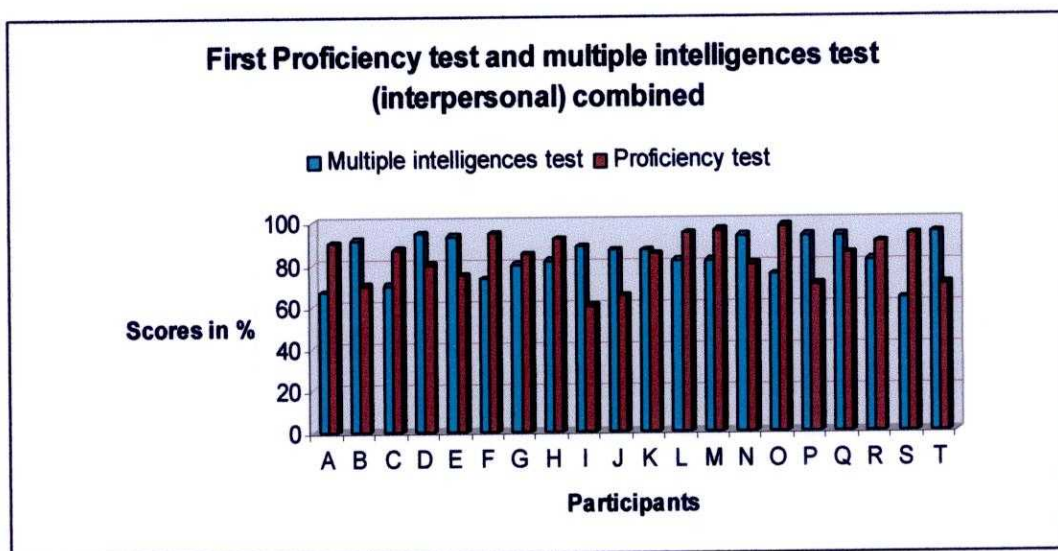
B	73.33	70	91.67	70
C	83.33	87	70	87
D	81.67	80	95	80
E	81.67	75	93.33	75
F	91.67	95	73.33	95
G	85	85	80	85
H	83.33	92	81.67	92
I	76.67	60	88.33	60
J	81.67	65	86.67	65
K	81.67	85	86.67	85
L	86.67	95	81.67	95
M	91.67	96	81.67	96
N	80	80	93.33	80
O	86.67	98	75	98
P	68.33	70	93.33	70
Q	70	85	93.33	85
R	88.33	90.4	81.67	90.4
S	93.33	94	63.33	94
T	70	70	95	70

**Table 4.4: Scores obtained by the participants in multiple intelligences test and Proficiency test**





**Diagram 4.5: First Proficiency test and multiple intelligences test (intrapersonal)**



**Diagram 4.6: First Proficiency test and multiple intelligences test (interpersonal)**

From the above diagrams it can be seen that in most cases there is a relationship between the participants' performance in the multiple intelligence test and in the proficiency test of multiple choice items. In most cases participants who scored higher in the intrapersonal section of multiple intelligences test got higher marks in the proficiency test than rest of the participants

(diagram 4.3.a). On the other hand, participants having higher scores in the interpersonal section of the multiple intelligences test got lower scores than the intrapersonal intelligent ones. Hence it shows that there is a relationship between the participants' intelligence type and the rate of their acquisition of Second language, in this case English.

#### 4.1.4: Correlation analysis:

Correlation analyses the relationship between variables whether they are related or not. It is measured by Pearson's correlation coefficient (Gupta, 2005) and is denoted by  $r$ .

$$r = \frac{\sum_{i=1}^n x_i y_i - n \bar{x} \bar{y}}{\sqrt{\left( \sum_{i=1}^n x_i^2 - n \bar{x}^2 \right) \left( \sum_{i=1}^n y_i^2 - n \bar{y}^2 \right)}}$$

$r$  lies between -1 and +1. Positive values of  $r$  denote that there is a positive relation between the variables, that is, if one variable increases, another will also increase and in one variable decreases another will decrease. A value of +1 indicates that there is an absolutely positive correlation between the variables. On the other hand, negative values of  $r$  denote that there is a negative relation between the variables meaning that if one variable increases, another will decrease and if one variable decreases, another will increase. A value of -1 indicates that there is a perfectly negative correlation between the variables. Values that are more than 0.6 indicate a strong relationship whereas values that are less than 0.5 indicate a weak relationship between the variables. A value of 0 means there is no relation between the variables (Gupta, 2005).

In the following table, the scores obtained by the intrapersonal participants in the proficiency test and multiple intelligences test have been analyzed in terms of correlation coefficient. Here, X denotes scores obtained by the participants in the proficiency test in



percentage and Y denotes scores obtained by the participants in the multiple intelligences test in percentage.

Proficiency test, Xi	Multiple intelligences test, Yi	Xi <sup>2</sup>	Yi <sup>2</sup>	XiYi
90	85	8100	7225	7650
87	83.33	7569	6943.889	7249.71
95	91.67	9025	8403.389	8708.65
85	85	7225	7225	7225
92	83.33	8464	6943.889	7666.36
95	86.67	9025	7511.689	8233.65
96	91.67	9216	8403.389	8800.32
98	86.67	9604	7511.689	8493.66
90.4	88.33	8172.16	7802.189	7985.032
94	93.33	8836	8710.489	8773.02
$\sum Xi = 922.4$	$\sum Yi = 875$	$\sum Xi^2 = 85236.16$	$\sum Yi^2 = 76680.612$	$\sum XiYi = 80785.402$

**Table 4.5: Correlation between proficiency test and multiple intelligences test (intrapersonal)**

$$\bar{X} = 92.24 \quad \bar{Y} = 87.5$$

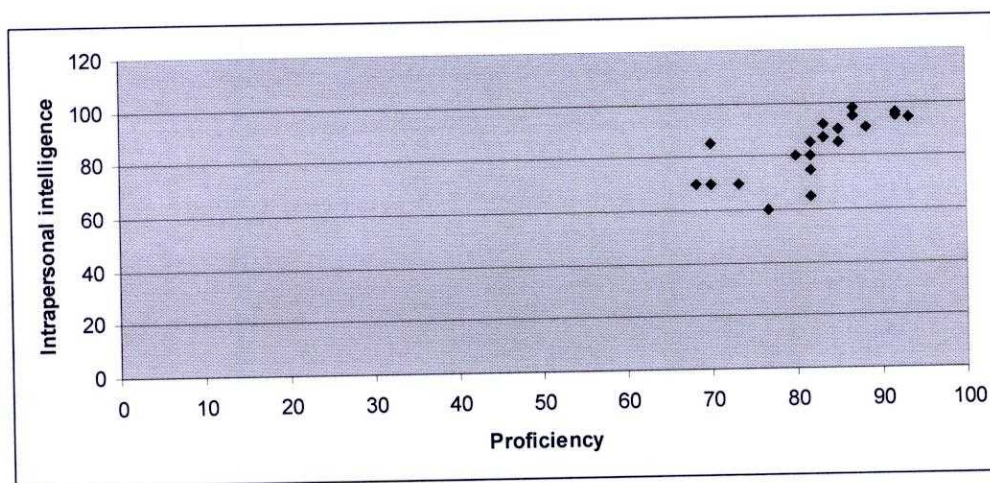
$$r = \frac{80785.402 - 10 \cdot 92.24 \cdot 87.5}{\sqrt{(85236.16 - 10 \cdot 92.24^2)(76680.612 - 10 \cdot 87.5^2)}}$$

$$\text{So, } r = 0.77$$

As the researcher mentioned above that a positive rate of correlation means that there is a positive relation between the variables. As the value of  $r$  in this case is positive, it can be said

that there is a positive relation between intrapersonal multiple intelligence and language proficiency of this type of participants. It means when participants have intrapersonal intelligence their language proficiency in others words the amount of acquisition will be fostered through individual tasks. Furthermore, as the value of  $r$  is more than 0.6, there is a strong positive relationship between these two variables.

The following scatter diagram represents the correlation between the two variables.



**Diagram 4.7: Correlation between language proficiency and intrapersonal intelligence**

As it can be seen in the above diagram, if a straight line is drawn from the origin in a scatter diagram, most of the points fall near the line. Thus there is a relationship between language proficiency and intrapersonal intelligence. In other way, learners with higher intrapersonal intelligence will acquire items of a second language more swiftly and effortlessly than learners with lower intrapersonal intelligence if they are attempted to perform activities which require working unaccompanied.

In the following table, the scores obtained by the interpersonal participants in the proficiency test and multiple intelligences test have been analyzed in terms of correlation coefficient. Here, X denotes scores obtained by the participants in the proficiency test in



percentage and Y denotes scores obtained by the participants in the multiple intelligences test in percentage.

Proficiency test, Xi	Multiple intelligences test, Yi	Xi <sup>2</sup>	Yi <sup>2</sup>	XiYi
70	73.33	4900	5377.289	5133.1
80	81.67	6400	6669.989	6533.6
75	81.67	5625	6669.989	6125.25
60	76.67	3600	5878.289	4600.2
65	81.67	4225	6669.989	5308.55
85	81.67	7225	6669.989	6941.95
80	80	6400	6400	6400
70	68.33	4900	4668.989	4783.1
85	70	7225	4900	5950
70	70	4900	4900	4900
$\sum Xi = 740$	$\sum Yi = 765.01$	$\sum Xi^2 = 55400$	$\sum Yi^2 = 58804.523$	$\sum XiYi = 56675.75$

**Table 4.6: Correlation between proficiency test and multiple intelligences test (interpersonal)**

$$\bar{X} = 74 \quad \bar{Y} = 76.501$$

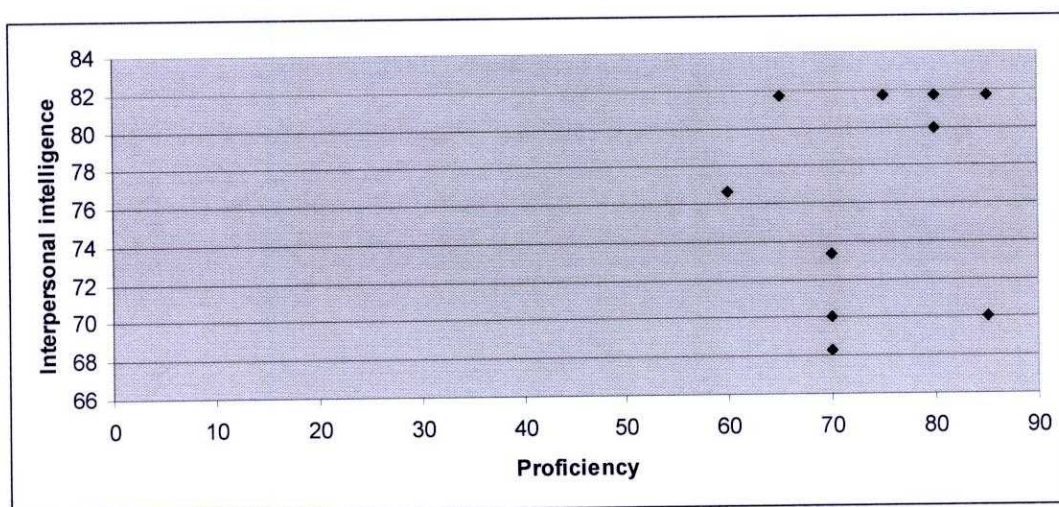
$$r = \frac{56675.75 - 10 \cdot 74 \cdot 76.501}{\sqrt{(55400 - 10 \cdot 74^2)(58804.523 - 10 \cdot 76.501^2)}}$$

$$\text{So, } r = 0.15$$

Since value of  $r$  in this case is positive, it can be said that there is a positive relation between interpersonal multiple intelligence and language proficiency of participants. But this is

relatively a very weak association between the two variables in terms of the notion of correlation that is mentioned beforehand. Therefore for participants having interpersonal intelligence the rate of second language acquisition will be not facilitated through individual tasks rather it will lessen their confidence and motivation as they see intrapersonal learners' to achieve the success with ease. Furthermore, as the value of  $r$  is much lesser than 0.5, these two variables have very little influence on each other.

The following scatter diagram represents the correlation between the two variables.



**Diagram 4.8: Correlation between language proficiency and interpersonal intelligence**

In this case, if a straight line is drawn in a scatter diagram, most of the points fall far apart from the line. Consequently, there is a weak relationship between language proficiency and interpersonal intelligence. In other way, learners with higher interpersonal intelligence will succeed to perform tasks of a second language more promptly and naturally than learners having lower interpersonal intelligence if they are provided with a learning environment where they will perform activities in groups through interaction and discussion.

To form a stronger statement about the association of multiple intelligences and language proficiency the researcher has analyzed the correlation between intrapersonal



participants' scores of proficiency test and their scores of interpersonal section of multiple intelligences test. In the following table the establishment of correlation coefficient is given. Alike before, X denotes scores obtained by the participants in the proficiency test in percentage and Y denotes scores obtained by the participants in the multiple intelligences test in percentage.

Proficiency test, Xi	Multiple intelligences test, Yi	Xi <sup>2</sup>	Yi <sup>2</sup>	XiYi
90	66.67	8100	4444.889	6000.3
87	70	7569	4900	6090
95	73.33	9025	5377.289	6966.35
85	80	7225	6400	6800
92	81.67	8464	6669.989	7513.64
95	81.67	9025	6669.989	7758.65
96	81.67	9216	6669.989	7840.32
98	75	9604	5625	7350
90.4	81.67	8172.16	6669.989	7382.968
94	63.33	8836	4010.689	5953.02
$\sum Xi = 922.4$	$\sum Yi = 755.01$	$\sum Xi^2 = 85236.16$	$\sum Yi^2 = 57437.823$	$\sum XiYi = 69655.248$

**Table 4.7: Correlation between intrapersonal participants' proficiency test and multiple intelligences test (interpersonal)**

$$\bar{X} = 92.24 \quad \bar{Y} = 75.501$$

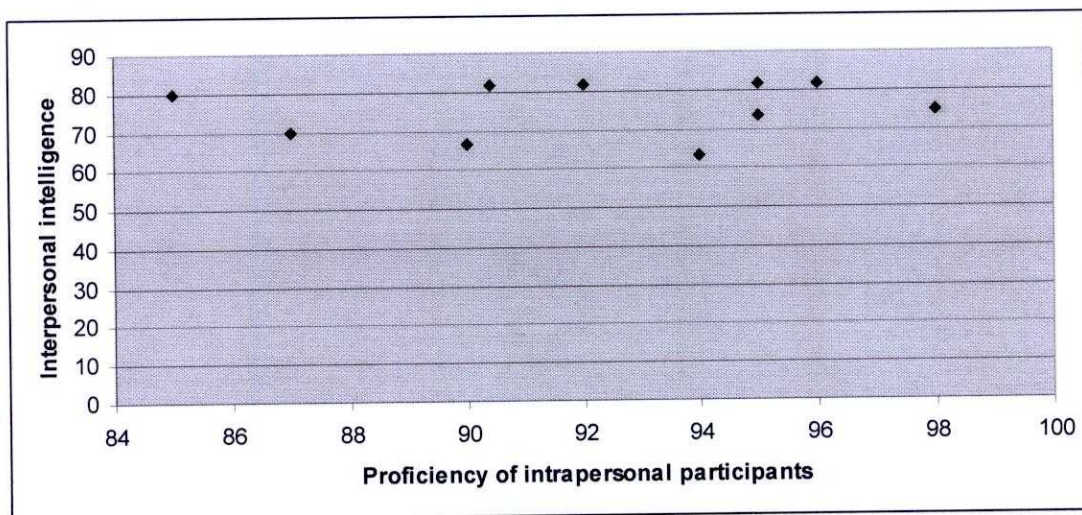
$$69655.248 - 10 \cdot 92.24 \cdot 75.501$$

$$r = \frac{\quad}{\sqrt{(85236.16 - 10 \cdot 92.24^2)(57437.823 - 10 \cdot 75.501^2)}}$$

So,  $r = 0.051$

Again in this case the value of  $r$  is positive which means that there is a positive relation between interpersonal multiple intelligence and intrapersonal participants' language proficiency. This is also a very weak association between the two variables. Furthermore, as the value of  $r$  is almost closer to 0, these two variables have no such influence on each other. Therefore alike the previous case that interpersonal participants' rate of second language acquisition will be hindered through individual tasks, intrapersonal participants will face difficulties acquiring language items naturally if they are required to learn language under such administration in which they feel uncomfortable.

The following scatter diagram represents the correlation between the two variables.



**Diagram 4.9: Correlation between proficiency of intrapersonal participants and interpersonal intelligence**

Here, almost all of the points fall far apart from the line, if a straight line is drawn in a scatter diagram. As a result, it can be said that there is almost no relationship between proficiency of intrapersonal participants and interpersonal intelligence. In other words, learners



possessing higher intrapersonal intelligence will sort of be unable to perform tasks of second language learning in group rather than on their own.

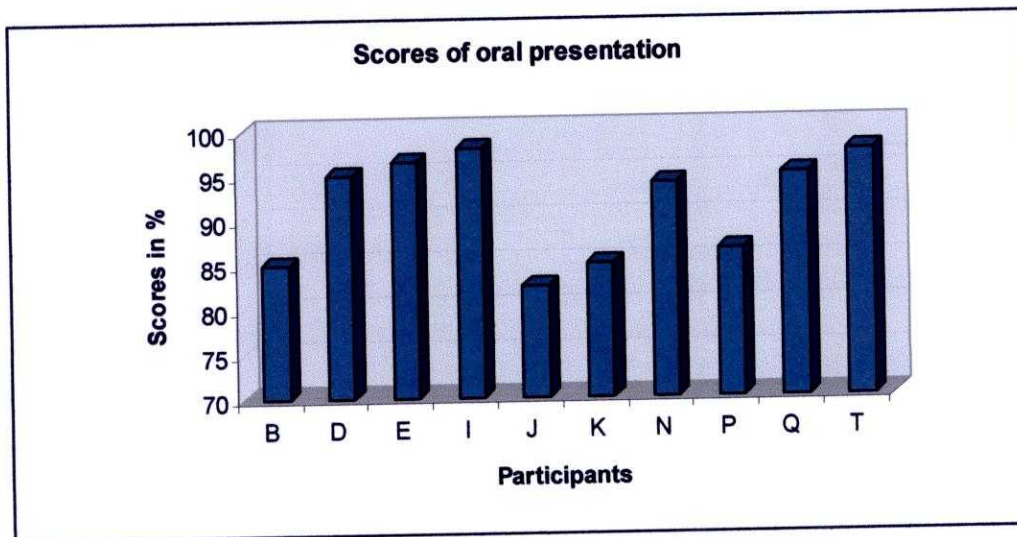
## **4.2: Presentation and analysis of the oral presentations and multiple intelligences test:**

### **4.2.1: Oral presentations:**

Participants who scored higher in the multiple intelligences test and listed as interpersonal intelligent only they have taken part in the oral presentation task as pair. The presentation have been scored out of 20 based on five criteria which the researcher has thought as must to be assessed while testing oral production of second language – pronunciation, grammar, vocabulary, fluency and comprehension. The researcher rated the presentation in terms of each of these criteria and allocated 4 marks for each. After getting the scores for every single participant she has found out the percentage of the scores. The scores that 10 interpersonal participants obtained in the presentation have been given in the following table.

Participants	Pronunciation	Grammar	Vocabulary	Fluency	Comprehension	Total score	%
B	3	4	3.5	3	3.5	17	85
D	3.5	4	4	3.5	4	19	95
E	4	4	3.8	3.5	4	19.3	96.5
I	4	4	3.8	3.8	4	19.6	98
J	3	3.5	4	3	3	16.5	82.5
K	3	3	3	4	4	17	85
N	3.5	3.5	4	3.8	4	18.8	94
P	3	3.8	4	3	3.5	17.3	86.5
Q	3.5	4	3.5	4	4	19	95
T	3.5	4	4	4	4	19.5	97.5

The following diagram represents the scores.



**Diagram 4.10: Scores of oral presentations**

#### 4.2.2: Oral presentation and multiple intelligence test combined:

Since only the interpersonal participants have taken part in the oral presentation the scores obtained by them has been compared with the scores obtained by them in the interpersonal section of multiple intelligences test. The following table represents the scores obtained by the participants in both of these tests.

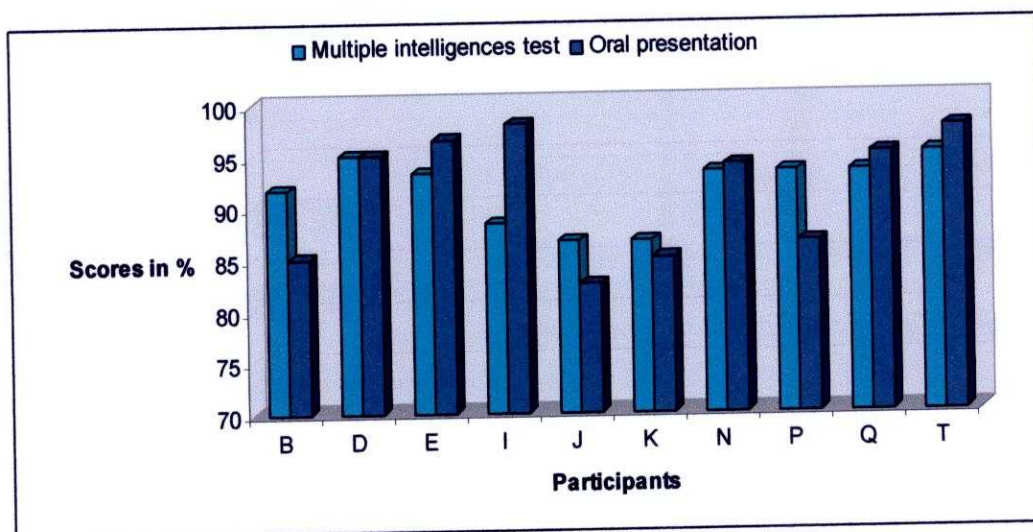
Participants	Multiple intelligence test		Oral presentation	
	Scores	%	Scores	%
B	55	91.67	17	85
D	57	95	19	95
E	56	93.33	19.3	96.5
I	53	88.33	19.6	98
J	52	86.67	16.5	82.5
K	52	86.67	17	85



N	56	93.33	18.8	94
P	56	93.33	17.3	86.5
Q	56	93.33	19	95
T	57	95	19.5	97.5

**Table 4.9: Oral presentation and multiple intelligence test combined**

The following diagram represents the above scores.



**Diagram 4.11: Oral presentation and multiple intelligence test combined**

The above diagram shows that there is also a relationship between the scores of oral presentations and multiple intelligence test. In most cases, where columns are higher, are higher for both the test. On the other hand where columns are lower, are lower for both cases. In few cases the columns representing the scores of the multiple intelligences test and oral presentation are almost the same. In case of participants *I* the score obtained in the oral presentation is quite higher than the score of multiple intelligences test. Thus the results of the above diagram suggest that there is a relation between the participants' multiple intelligences test and their communicative competence.

above diagram suggest that there is a relation between the participants' multiple intelligences test and their communicative competence.

#### 4.2.3: Correlation analysis:

Like before, X denotes scores obtained by the participants in the oral presentation in percentage and Y denotes scores obtained by the interpersonal participants in the multiple intelligences test in percentage.

Oral presentation, $X_i$	Multiple intelligences test, $Y_i$	$X_i^2$	$Y_i^2$	$X_iY_i$
85	91.67	7225	8403.329	7791.95
95	95	9025	9025	9025
96.5	93.33	9312.25	8710.489	9006.345
98	88.33	9604	7802.189	8656.34
82.5	86.67	6806.25	7511.689	7150.275
85	86.67	7225	7511.689	7366.95
94	93.33	8836	8710.489	8773.02
86.5	93.33	7482.25	8710.489	8073.045
95	93.33	9025	8710.489	8866.35
97.5	95	9506.25	9025	9262.5
$\sum X_i = 915$	$\sum Y_i = 916.66$	$\sum X_i^2 = 84047$	$\sum Y_i^2 = 84120.912$	$\sum X_iY_i = 83971.775$

**Table 4.10: Correlation between oral presentation and multiple intelligences test (interpersonal)**

$$\bar{X} = 91.5 \quad \bar{Y} = 91.666$$

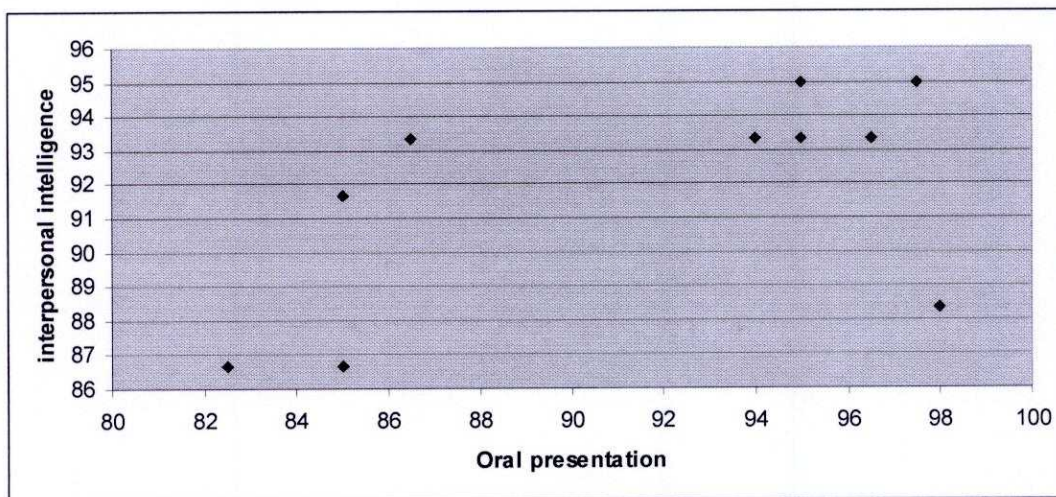


$$r = \frac{83971.775 - 10 \cdot 91.5 \cdot 91.666}{\sqrt{(84047 - 10 \cdot 91.5^2)(84120.912 - 10 \cdot 91.7^2)}}$$

So,  $r = 0.96$

The above correlation also shows a positive relation between interpersonal multiple intelligence and oral presentation of interpersonal participants. Here the value of correlation coefficient  $r$  is 0.96 which reflects a very strong association of these two variables. In other words if the interpersonal intelligence increases the communicative competence of the participants will increase as well and vice versa. Hence learners with higher interpersonal intelligence will be more competent while using the second language for communicative purpose.

The following scatter diagram represents the two variables' association.



**Diagram 4.12: Correlation between oral presentation and interpersonal intelligence**

If straight line is drawn in the above scatter diagram, most of the points will fall near the line. Only three will be far from the line. Therefore, the scatter diagram also shows a positive

strong relationship between oral presentation of the interpersonal participants and their amount of interpersonal intelligence.

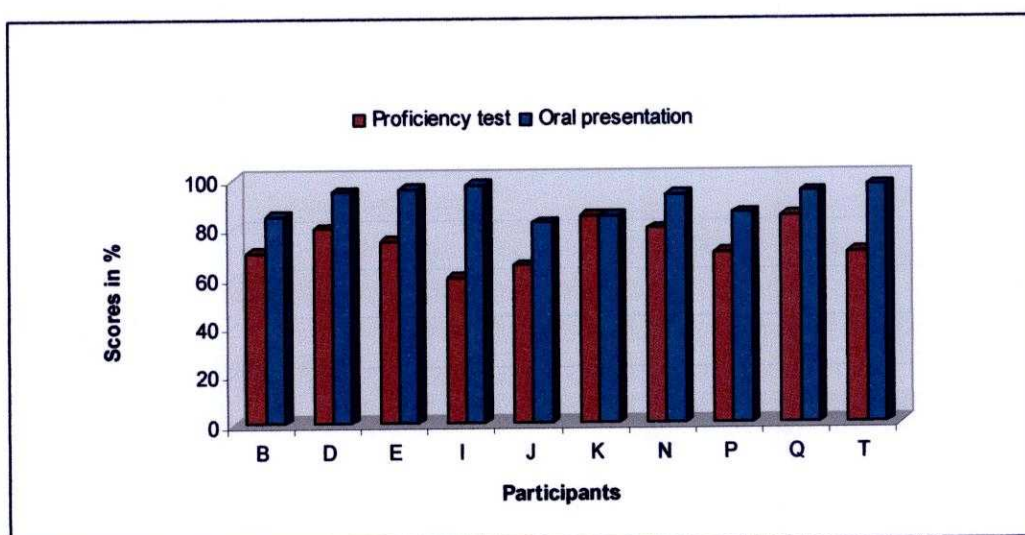
#### **4.3: Discussion:**

The above analysis of the scores obtained by the participants in the different tests and oral presentations confirms that there is a positive relationship between an individual's multiple intelligences and the amount of his or her rate of second language acquisition. It means an individual who possesses any type of intelligence highly among the eight multiple intelligences proposed by Howard Gardner (1983) will learn a second language more easily and comfortably using that particular intelligence. On the other hand, if an individual has a very little attributes of any particular intelligence yet he or she tries to learn the second language through that intelligence, it is very much unlikely for him or her to become competent in all aspects of a second language.

Moreover, in chapter two it has been mentioned that teaching of an L2 through multiple intelligences theory helps to explore learners' full potential as they are valued as the centre of the entire learning process. The research results show a similar notion based on the performances of the participants. The high correlation coefficient (.96) between the scores of multiple intelligences and oral presentation reveals the fact that interpersonal intelligent has the capacity to interact with other people and interpret their behavior. As they are given opportunity to speak, they have made use of their skill to interact and work effectively with others. Most importantly, learners were relaxed in the group work as the learning environment was made comfortable and friendly for them. As it has been mentioned in the literature review that activities based on different intelligences provide learners motivation, their response to the oral presentation was also significant. In general, the learners responded positively with the



they expressed themselves and benefited from this learning process. Learners' linguistic competence seemed to have improved much, specially their communicative skills. The following diagram represents their linguistic and communicative performance together.



**Diagram 4.13: Interpersonal participants' scores of proficiency test and oral presentation**

The above diagram shows that in most of the cases there is a relation between the participants' linguistic proficiency and communicative competence. It justifies the researcher's claim that applying the MI theory explores the full potential of the learners. The result shows that learners who participated in this research have improved their overall competence as they are provided with sufficient exposure to the second language within the formal setting of the classroom.

In opposite the intrapersonal learners have also performed in their own way as they are given opportunity to work individually and the reflection of their strength of self-study is presented by the correlation coefficient (.77) between the scores of multiple intelligences test and proficiency test involving individual work. They liked being able to express their potentials in ways other than speaking while interacting with other people in group. As they are

attempted to work on their own, they have tapped into their strengths, finding information to answers various multiple choice items.

Most amazing part of this research was that the researcher herself became motivated while conducting the survey seeing the spontaneous participations of the learners.



## **Chapter five: Conclusion**

The previously illustrated analysis of the scores of proficiency test of multiple choices items and multiple intelligences test obtained by the participants show that there is a relationship between these two variables. Participants for whom intrapersonal intelligence is high, proficiency on the individual tasks is high as well. On the other hand, for participants who have scored relatively less in the intrapersonal section of multiple intelligences test attained low proficiency in those activities which required them to solve on their own. This means that multiple intelligences affect acquisition of a second language at structural level where participants are tested based on reading and writing skills. Furthermore, the analysis of the scores obtained by the interpersonal participants in oral presentations and multiple intelligences test show the relationship between these two variables. The findings of this analysis represent that interpersonal intelligence affects the development of the learners' communicative competence in Bangladeshi context. Therefore, it can be said that multiple intelligences has an effect on second language acquisition.

The reason behind the effect of multiple intelligences on the acquisition of English is that since learners possess variety of intelligences, their learning process is also diverse from each other. For example, while learning the language performing individual tasks intrapersonal learners analyze the different structures of the language and try to understand them. In such way, their intelligence facilitates their understanding of the language because learners of such category prefer analyzing things on their own and most of the times accomplish success through self-study. In contrast, interpersonal intelligence affects learners' progress of communication skill since learning processes implementing this aptitude are designed based on tasks which require lots of interaction with the fellow classmates. Moreover, it provides the learners with an exposure to listen and speak the second language in the formal classroom

setting. In the research part, as all the participants are from Bangladesh they usually do not get very much exposure to English language other than classroom setting. So the practice of interpersonal intelligence has affected their progress of communicative competence in the classroom of Bangladeshi learners. So it will be justified to say again, the multiple intelligences have an influence on the acquisition of second language.

### **5.1: Limitations:**

However, the method of this study is not free from some limitations. The major limitation is that only twenty learners were selected to participate in the research, which is undoubtedly a small number for conducting a research. In addition, only ten interpersonal participants could be chosen for individual oral presentation because of time constraint which is even smaller number. Moreover, intrapersonal participants were not performed oral presentation because it was difficult to manage enough time to take presentation of the participants individually. As a result, the duration of every oral presentation was eight to ten minutes. Time constraints made the researcher limit then activities to shorter ones. It was quite challenging to her to convince the administration of the school about the usefulness of the materials she had designed. Besides, she could not cover enough secondary schools of Dhaka and could not manage students from different type of schools such as English medium and English version. If there were enough time for the study the researcher could overcome these limitations.

Moreover, the class in which the theory was implemented was a class of secondary level learners. But the MI theory prefers to apply this from the beginner level learners. So, there arises a question whether proficiency level of the learners is a factor that needs consideration. But again, the researcher did not attempt to apply the theory in the elementary level class because she was uncertain whether they would be able to response properly or not.



## **5.2: Recommendations:**

Certainly there is need for further research on this regard, particularly in the context of Bangladesh in a wider range. This type of classroom based research should be done at different educational levels to see how the MI theory works.

To make this theory a success teachers and educators need to be made aware of the usefulness of this teaching approach. Teachers can be given training on how to develop materials and plan lessons based on multiple intelligences which will promote learners to build better cognitive development of the second language. It would take a long period if the multiple intelligences theory has to be implemented at the national level. So teachers should be encouraged to take initiatives for giving the learners a relaxed, comfortable and effective way of learning second language.

In conclusion, the research has revealed the fact that multiple intelligences affect second language acquisition in terms of both structural and communicative means if the second language is taught in a formal setting like Bangladesh. L2 learners' success depends mostly on their response towards the tasks and activities that are attempted in the classroom. And MI theory makes it certain that all the learners in a class are treated as individuals having their unique experiences, thoughts, abilities to respond and relate to the world, ways of self-expression and so on.

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### **Appendix A: Multiple Intelligences Test**

**Score the statements: 1 = Mostly Disagree, 2 = Slightly Disagree,  
3 = Slightly Agree, 4 = Mostly Agree**

<b>Statements</b>	<b>Score</b>
1. I like to learn more about myself.	
2. I find it easy to make up stories.	
3. I have always been very co-ordinated.	
4. When talking to someone, I tend to listen to the words they use not just what they mean.	
5. I like to think about myself.	
6. I am a convincing liar.	
7. People behaving illogically annoy me.	
8. I am a very social person and like being with other people.	
9. I could manipulate people if I choose to.	
10. I can predict my feelings and behaviours in certain situations fairly accurately.	
11. I don't take help from fellow students of my class.	
12. I like to think through a problem carefully, considering all the consequences.	
13. I enjoy debates and discussions.	
14. I enjoy individual sports best.	
15. I care about how those around me feel.	
16. I set myself goals and plans for the future.	
17. I am a very shy person.	
18. I can tell easily whether someone likes me or dislikes me.	
19. I find it easy to talk to new people.	

20. To learn something new, I need to just get on and try it.	
21. I often talk to myself – out loud or in my head.	
22. I always know how I am feeling.	
23. I am realistic about my strengths and weaknesses.	
24. I keep a diary.	
25. I am very aware of other people's body language.	
26. It upsets me to see someone cry and not be able to help.	
27. I am good at solving quarrels between others.	
28. I prefer team sports.	
29. I am happy spending time alone.	
30. My friends always come to me for emotional support and advice.	



## **Appendix B: Sample reading text for the research**

### **Black and White Eid**

Eid is a special day to celebrate with friends, family and loved ones. We put on our brightest clothes and happy smiles, and we exchange hugs and warm greetings with everyone. The festive spirit of Eid is noticeable from the night before (Chaand Raat) when everyone become excited and homes and shops buzz with people, music and food.

But far away from all the colours, a black and white Eid waits for some. They are the elderly people who live in the old homes.

What is the greatest gift according to most people in this world? Well, most would say it is parenthood. Spending this day with parents/children is the main joy of Eid. But there are some unfortunate parents who are not even visited by their much-loved children, for whom they have given up everything in life.

Fifty-four-year-old Maryam is one of the few residents who was left behind in Arunima Old Age Home's Shyamoli branch this Eid-ul-Fitr. Although the administrators-- asked her to go to the Savar branch where many other old people live, she refused saying, "I know my son will come here--he doesn't know the address of that place. So I will stay here."

A representative of patience, Maryam is a perfect example of a typical Bangladeshi mother. Even though the home has workers to serve her, she cleans the place and does all kinds of chores by herself. She keeps herself busy with these residence duties at least in the 16 hours of her day. Although she does not need to do them, she searches every corner to see if something is not put right and takes care of the old home as if it is her own house. She said on Eid day, "I called my son last night at 2 am. He is busy you see, has too much work. But I am happy that he will come today." But the son never turned up.

Arunima administrators say, she is one of those neglected women, who, in spite of her previous life's sacrifices and hardships, is treated by the son as a 'useless' burden. Kind, hardworking,

Maryam is all that a mother can be. As she grew older, she became more talkative, a tendency observed while aging. This began to irritate the son a lot. He used to snap at her when she would want to talk to him. In the son's eye- the humble, hard-working mother quickly transformed into a submissive over-emotional parent. The mentality and behaviour as well as attitude of the son got worse, until he started to treat her like a servant. Finally a day came when he and his 'family' decided to kick her out.

Despite the truth, Maryam still believes in the goodness of her son. She frankly talks about her happy days, when her son won the first prize in school, got his first job, etc. She says them over and over again, tirelessly. Then in the middle she breaks off into stories related to her life, like the one about a Bangla cinema that she watched long back where the widowed father took a lot of pain to raise a son who only became a demon in time. In the story, the well-to-do wife of the son rebukes the husband and puts him right when he misbehaves with his father. Unfortunately for Maryam the truth is even bitter as neither her son nor her daughter-in-law misses this old and forgotten responsibility. Maryam also longs for all the playful times she could have spent with her grandchildren.

Like Maryam, all the other elderly people but two members spent Eid at the old home of Arunima's Savar branch. Many of them are high-profile who have seen a lot and earned a lot in life but are separated from a big, happy family. No gifts come to the residents of this old home nor do any visitors. "We tried our best to give them the best food and entertainment here, it is still a tragedy that none of their families came forward. Even the gifts they received were only from Arunima," says Salina Akhter founder of Arunima. Yet, in the words of the elderly residents, this was the best Eid they had, one which was different when compared to those they had in their own homes during the remaining days there. Maryam says, "I feel like I have been picked up from hell to be dropped into heaven. Here in the old home, there is so much love and respect. If God takes away something, He always provides another in a different way."



Although Eid has a special meaning for us, it was an ordinary, saddening day for some. Just as it was raining outside, in some people's hearts, it was also raining.

## **Appendix C: Proficiency Test (Multiple choices)**

### **Proficiency Test**

1. Maryam keeps herself busy with these domestic duties at least in the -----of her day.

- a. one fourth hours,
- b. two third hours,
- c. three fourth hours,
- d. one third hours

2. Write the word of similar meaning beside the following words. Use one word once.

**Festive, buzz, typical, chores, hardship, humble, submissive, tirelessly, rebuke, tragedy**

- |                                |                          |
|--------------------------------|--------------------------|
| a. Household tasks = -----     | f. Full of noise = ----- |
| b. Celebration = -----         | g. Usual = -----         |
| c. Gentle = -----              | h. Suffering = -----     |
| d. Without being tired = ----- | i. Misfortune = -----    |
| e. Scold = -----               | j. Obedient = -----      |

3. Who used to talk about her happy days often? Tick the right answer.

- a. Shyamoli
- b. Maryam
- c. Arunima
- d. Salina

4. Tick T if the sentences are true and F if they are false.

- a. All the elderly people spent Eid at the old home of Arunima's Savar branch.      T      F
- b. On the day of Eid-ul-Fitr many visitors come to see the elderly people with a lot of gifts at Arunima Old Age Home.      T      F
- c. If Maryam return to her own house after seven years, at that time her age will be sixty-seven-years old.      T      F



**5. Answer the following questions.**

- a. What kind of person is Maryam's son?
- b. Why did Maryam's son send her to the old home?
- c. To what thing Maryam compare her life?
- d. What is the difference between the story and Maryam's life?
- e. Why was the Eid at the old home best for those elderly people?

## **Appendix D: Proficiency Test (Oral presentation)**

**Task 1: Discuss the answers of the following questions and write it down.**

- a. What do you do usually on Eid day according to the situation of our country?
- b. What can you guess from the title 'Black and White Eid' of the reading material?
- c. Do we often refer to an Eid day as 'Black and White'? Or, is it quite abnormal? How?

**Task 2:**

**Make a list of comparisons in group why the usual Eid is different from the Eid at the old home. Write five points using your own experiences.**

**Task 3:**

**"Just as it was raining outside, in some people's hearts, it was also raining."** What can you interpret from this line? Discuss with your group members and then present it.

**Task 4:**

**Present your ideas in front of all based on following questions.**

1. Do you like the story? Why? Explain.
2. What would you do if you were an administration to make the Eid day the best Eid of those elderly people's life?

**Task 5:**

**Prepare a dialogue from the given reading text. Choose characters and then do a role play.**