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THEORY OF MULTIPLE INTELLIGENCE AND ITS EFFECT ON VOCABULARY TEACHING

SIVARANJANI G¹, Dr. KANNAYYA KANCHANA²

¹Ph. D. Scholar, Department of English, Government Arts College, Coimbatore

²Assistant Professor of English (Rtrd.), Government Arts College, Coimbatore



SIVARANJANI G

ABSTRACT

This study is focused on the idea of applying Multiple Intelligence (MI) theory in teaching English vocabulary to the undergraduate students of an Arts and Science college, Coimbatore, Tamil Nadu, India. The sample for this study is 70 students. Subsequently, they are divided into two groups, Control group and Experimental group respectively for conducting the research. In the first stage of this study, all the students are asked to fill out the Multiple Intelligence survey questionnaire. After measuring their responses, the researcher conducted a pre-test to understand their English vocabulary knowledge by using the testing module framed by Paul Nation. Through this test, the researcher evaluates Receptive and Productive vocabulary knowledge of the selected students.

Keywords: Vocabulary, Multiple Intelligence (MI), English Language Teaching (ELT), Productive Vocabulary Test (PVT), Receptive Vocabulary Test (PVT), Academic Word Level (AWL), University Word Level (UWL)

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Anything that is worth teaching can be presented in many different ways. These multiple ways can make use of our multiple intelligences - Howard Gardener (Brainny Quote).

This article emphasises the importance of Vocabulary in Second Language Teaching and attempts to apply Multiple Intelligence (MI) theory on teaching vocabulary and find the significant changes in the learning and performance of the sample students. In India, the education system is not similar in all the states. Even within a state of India, the education system varies as the State Board, Matriculation and Central Board etc. And the syllabus for these systems also differs. The main difference among students from these schools is the way they communicate in English language. Particularly, in the state of Tamil Nadu students

those who studied in State Board system cannot communicate in English language as good as the students from other Board systems. There are many reasons for this stagnation in the education system. The main reasons are:

1. Insufficient teaching
2. Following the same traditional way of teachers centered teaching
3. Monotonous teaching without any innovation and
4. The strength of students in the classroom also matters. When the students' strength increases, a teacher finds it difficult to give individual attention.

In India, education is much teachers' centered and much more focused on the grades and marks than gaining practical knowledge. It's been commented by many educationalists that the education in India

still needs betterment and what is being done is not up to the mark. Only in the recent years, there is some interest in implementing practical education systems such as play way method, TBLT, 'xseed' (a child-centered class developed by XSEED — created by iDiscoveri — in which hands-on learning is infused into the curriculum) and even Multiple Intelligence based education like that.

Present day students are exposed to technology; they can get more out of it. Naturally the students expect the innovations and technology to take place in their classroom teaching and learning. Hence the teachers have to take efforts to grab the attention of the students. Multiple Intelligence (MI) theory is an emerging method of English Language Teaching (ELT) which provides varieties in teaching and learning process.

The aims and objectives of the present study are;

- To analyse the impact of incorporating Multiple Intelligence (MI) activities in teaching English vocabulary.
- To test and identify the learners' productive and receptive vocabulary levels.
- To identify what are the dominant intelligences (among the eight prescribed intelligences by Gardner) in the learners.
- To measure the vocabulary improvement after the implementation of MI lesson plans.
- To compare the pre-test and post-test average scores of the learners of the control and experimental groups.

Scope of the Study

The understanding of the learners' level of exposure to vocabulary knowledge will serve numerous purposes for the researcher such as;

- Scope to determine at what quarters of vocabulary acquisition the learners need to be equipped with more vocabulary training,
- Whether practice should be directed towards the field of productive or receptive vocabulary and
- Contemplate on the suitable strategies the researcher has to resort to enhance the knowledge of the learners in this regard.

Significance of the Study

It can be stated that vocabulary acquisition is a multi-process activity. These processes can be realised in the learner's efforts to use the vocabulary. For instance in the context of word game an individual has to understand the phonetic and semantic feature of the word and associate on the planes of social, religious, cultural and many other domains of association. In such an effort to use a vocabulary, the memory skills of reception, retention and recall, are involved. In addition to these demands, time management, the presence of mind, association of word to a context for meaning negotiation and different planes of association are also involved. Hence its significance is, though vocabulary acquisition may superficially denote word acquisition, in actuality it demands and involves multi-dimensional tasks, activities and cognitive skills in the process of learning.

Data Collection and Analysis

The methods followed for data collection are the questionnaire method, naturalistic observation method and experimental method. The sample for this study incorporates the vocabulary tasks responses collected from the students of Undergraduate courses from an Arts and Science College located in Coimbatore, Tamil Nadu, and India. Seventy students were selected for the study. The sample students were divided into two groups as Experimental group and Control group for research purpose.

For the assessment of the learners' general and specific vocabulary knowledge pre-test and post-tests are conducted comprising of various written tasks by applying Howard Gardener's Multiple Intelligence Theory. Multiple Intelligence (MI) refer to a learner-based philosophy that characterises human intelligence as having multiple dimensions that must be acknowledged and developed in education. The qualitative and quantitative analyses are conducted wherever necessary. Average and inferential analysis are used to analyse the data quantitatively.

Hypothesis

The research proceeds on the assumption that Multiple Intelligence theory would serve not only as an effective tool to enhance teaching-

learning particularly in the field of vocabulary acquisition, but would serve as a powerful motivational factor in the overall development of the learners.

Vocabulary in Second Language Teaching

The simplest definition of vocabulary is 'the words of the language': but this is an oversimplification. First of all, a vocabulary does not just mean single words but includes also lexical portions. These are groups of two or more words that convey a meaning in the same way a word does, and are learnt and retained in the memory as a lexical unit. (Ur.Penny, 2012)

A word is the basic stuff of a language. Sounds and letters are the way words are expressed, and grammar is the way words are arranged. Thus language is centrally words (Algeo, 2010). We need a very good stock of vocabulary for a better communication. Of all world languages English probably has the vocabulary which is the most copious, heterogeneous and varied. From the last decade, vocabulary is gaining priority and importance in English language learning by the teaching and learning community. As far the Indian education is concerned, students are studying English as a second language in their curriculum. The importance of English language is well understood by now by the educational community.

The English learning students must be motivated to learn its vocabulary to gain good language skill. Teaching and learning of vocabulary is the most important thing in learning any language. But teaching vocabulary may be boring if it is being done monotonously. So the teachers should use interesting activities to speed up and improve the students learning capacities. In this way comes MI theory. This theory is used in various fields of education including ELT.

Multiple Intelligence (MI) Theory

Very few English Language Teaching (ELT) Approaches provide room for giving lots of creative activities to enhance the students learning abilities. In this way Howard Gardner's Multiple Intelligence (MI) theory also gives importance to the learners. This theory is applied in education because teachers notice more frequently that students learn many things through their multiple intelligences. This

model was proposed by Gardner in his book *Frames of Mind: The Theory of Multiple Intelligences* (1983). This model is one of a variety of learning style models this have been proposed in education and have been applied to language education also. Gardner showcases eight human "intelligences," which are described as follows:

The Eight Intelligences

Gardner's (2006, 1991) eight intelligences and their explicit implications are explained in brief below.

1. Linguistic Intelligence

This intelligence makes oneself to be sensitive to sounds, structure, meaning and functions of words and language. It helps to use words effectively, whether orally or in writing. This intelligence is very much involved in the acquisition and usage of language on the whole.

2. Logical/Mathematical Intelligence

The capacity to make use of numbers effectively and to reason well. This intelligence includes sensitivity to logical patterns and relationships, statements and propositions, functions and other related abstractions.

3. Visual / Spatial Intelligence

The capacity to capture the world through visual intelligence and to perform transformations on those perceptions. This intelligence involves to be sensitive to colours, shapes, forms, space, and the relationships that exist between these elements.

4. Bodily-Kinesthetic Intelligence

Excels in using one's whole physique to express ideas and emotions and facility in using one's hands to produce and transform things. This intelligence includes specific physical activities/skills such as dance, sports, coordination, balance, strength, flexibility, and speed etc.

5. Musical Intelligence

The ability to perceive transform, and express musical forms. This intelligence makes oneself to be/become sensitive to any musical piece.

6. Interpersonal Intelligence

This intelligence involves in perceiving and making distinction in the moods, intentions, motivations, and feelings of others.

7. Intrapersonal Intelligence

Self-awareness and the ability to act adaptively on the basis of that knowledge. This intelligence

includes having an accurate picture of oneself, one's awareness of inner mind, tempers and desires, self-discipline, self-understanding/ knowledge and self-esteem etc.

8. Naturalist Intelligence

Expertise in recognising and classifying the various species of plants and trees of an individual's environment.

Gardner also has conducted a discussion regarding the inclusion of other intelligences such as spiritual intelligence and existential intelligence. Despite this proposal of these intelligences, Armstrong(2000) voices doubt about the nature of these two intelligences and claims that they do not perfect in terms of Gardner's(2006) practical criteria like other intelligence.

Identification, Analysis of Multiple Intelligence and MI Inventory Results of the students

There is no exact or standard measuring scale is available to measure the intelligences mentioned by Gardner in his Multiple Intelligence theory. The aim of this MI survey, in general, is to find out the prominent intelligences in a person. According to Gardner, every person will possess at least one intelligence in the minimum case. MI is used in many places like psychology, hospital and professional working people to find out their interest and strength. In the case of education, if a student lacks in language learning ability means it is understood that his Linguistic ability is less or low. We can find out where his/ her strength lies in through this MI test. In case if we find that student experts in logical - mathematical intelligence, he/she can be taught through the logical way.

In this study a questionnaire is prepared based on MI theory to find out the prominent skills occurs in the class in which the research will be conducted. Ten questions were allotted to all the eight intelligence (the latest ninth one (existential intelligence) is not included in this study) mainly prescribed by Gardner. Eighty questions were framed in total. After this survey is conducted and analysed quantitatively by making the average of the learners performance, top scored five intelligences are selected and prepared activities based on MI theory.

Table - 1

S.NO	Total No of students	Verbal	Logica/Math	Visual/spatial	Bodily/Kinesthetic	Musical	Interpersonal	Intrapersonal	Natural
1	70	6.7	4.92	6.58	5.77	6.58	7.67	6.94	6.27

With reference to the above table, intelligence given below is selected for this study.

- Interpersonal intelligence (7.67)
- Intrapersonal Intelligence (6.94)
- Verbal Intelligence (6.7)
- Visual/ spatial Intelligence (6.58)
- Musical Intelligence (6.58)

Through the above table, it is understood that the selected students have got all the eight intelligence mentioned by Gardner in his MI theory. But they performed at the various levels on each intelligence.

The Table-1 explains that the students' performance on interpersonal intelligence is higher than all the other. It is decided by the researcher that the top five scored intelligence can be taken for this study. Selecting these five categories alone is in no way to under estimate the remaining intelligences. The selection is made only for the feasibility of this research.

Vocabulary Level Tests

After evaluating the learners' MI Inventory results, vocabulary level tests been given to the learners. Nation's renowned vocabulary tests are used in this study to identify the sample learners' receptive and productive vocabulary knowledge. A pre-test was conducted for all seventy students. After the pre-test, the selected sample learners are divided into two groups namely as Control group and Experimental group.

Multiple Intelligence Lesson Plans

Amstrong (2009) stated, "Multiple Intelligence Theory represents a model of instruction that has no distinct rules other than the demands imposed by the cognitive components of the intelligence themselves and the specific need of the domain in which they are teaching (e.g., math, science, literature, etc.)."(p.64)

The activities are prepared for teaching vocabulary through MI. For instance: To teach students who excel in linguistic ability, students are asked to do story-telling, speeches, debates and

conduct vocabulary related games. For those who good at musical abilities, activities like poem writing, listing rhyming words are given to help them out to improve their intelligence and vocabulary as well. The students who shine in interpersonal intelligence are encouraged through group activities. Similarly, activities are prepared for five selected criteria/intelligence. The preparation of activities for this purpose is very much dependent on the teacher of the classroom and his/her creativity. Richards and Rodgers (2001) says "Multiple Intelligence is an increasingly popular approach to characterizing the ways in which learners are unique and developing instruction to respond this uniqueness"(p.123). Some teachers may find difficulties in advocating MI theory in the classroom.

Vocabulary Result Analysis

Followed by the pre-test, the vocabulary activities based on MI theory is conducted for the Experimental group which consists half (36) of the total population 70 whereas the Control group students are undergoing the usual/traditional classes. The remaining 34 students are included in the Control group. After the MI based classes for a month, the sample students of both groups are asked to answer the same type of vocabulary level test which was used in the pre-test. The results are given below qualitatively and quantitatively.

Analysis of Mean/Average values

Results of control group

Table- 2: Control Group RVT Mean Scores of pre and post tests

Mean	2000	3000	5000	AWL	10000	OVERALL
Pretest mean	24.59	19.38	14.24	15.76	8	16.39
Post Test mean	25	19.41	14.53	16.21	8.12	16.65

Inferences:Students' vocabulary has improved a little in 2000, 3000, 5000, and Academic Word Level (AWL), and a very little improvement in 10000 level. The 10000 level has very little improved due to less usage of those tough words. Even the teacher does not use much of the difficult words such as connoisseur, blaspheme, predicament kind of words in everyday class. Comparatively, literature students come across few of the difficult words than science

students in their every day (they study prose, drama, poetry, fiction and criticism etc.)Classes. However, it is to note that even without MI activities or any special effort, the vocabulary of the students is improving due to their regular classes, especially literature students come across many words.

Table one shows that control group's post-test's overall mean value 16.39 is 0.26 higher than that of the pre-test mean value 16.65.

Table- 3: Control Group PVT and UWL Scores of Pre and Post tests

Mean	2000	3000	5000	UWL	10000	OVERALL
Pre-Test mean	13.03	7.85	5.79	6.65	2.53	7.17
Post Test mean	13.24	8.03	5.97	6.5	2.56	7.26

Inferences:Students' vocabulary has improved a little in 2000, 3000, 5000, and University Word Level (UWL), and a very little improvement in 10000 level. It can be understood that the control group was not given with any special classes or activities on vocabulary teaching. But from the analysis the students' vocabulary level has improved due to the regular classes. The classes are not specially focused on vocabulary. The 10000 level has very little improved due to less usage of those tough words. However, it is to note that even without MI activities or any special effort, the vocabulary of the students is improving due to their regular classes, especially literature students come across many words. But there is obvious variation on the level of grasping and vocabulary improvement among the two groups.

The above-given table gives the score variation of the control group's pre-test and post-test. In this overall mean value of post-test are 7.26. This score is higher than the pre-test mean value 7.17. The difference is 0.09.

Results of Experimental Group

Experimental Group RVT and AWL Scores of Pre and Post Tests

Inferences:Students' vocabulary has improved considerably in 2000, 3000, 5000, and AWL, a little improvement in 10000 level. It is evident from the analysis that the students' vocabulary level has

improved due to the activities. But then, the 10000 level has very little improvement due to less usage of those tough words. However, it is really encouraging to note that the MI activities were really worked and they can help the students to improve the high frequency words.

Table-4

		3000	5000	AWL	10000	OVERALL
Pre-Test mean	25.94	19.97	16.58	18.06	8.06	17.72
Post Test mean	26.92	20.92	17.61	19.19	8.36	18.6

The above-given table gives the score variation of the experimental group's pre and post-tests. In this overall mean value of post-test are 18.60. This score is 0.88 higher than the pre-test mean value 17.72.

Table-5: EXPERIMENTAL GROUP SCORES

Mean	2000	3000	5000	UWL	10000	OVERALL
Pre-Test mean	12.28	7.69	5.67	6.78	2.39	6.96
Post Test mean	12.81	8.06	6.14	6.97	2.53	7.3

Inferences: Students' productive vocabulary score levels tell a point that the students lack in producing words. Students' vocabulary has improved considerably in 2000, 3000, 5000, and UWL, a little improvement in 10000 level. It is evident from the analysis that the students' vocabulary level has improved due to the activities. But then, the 10000 level has very little improvement due to less usage of those tough words. Even the teacher does not use much of the difficult words while teaching in class. However, it is a good thing to note that the MI activities were really worked and they can help the students to improve their vocabulary knowledge. Another notable thing is that, students' productive vocabulary level is lesser than the receptive vocabulary level.

The above-given table gives the score variation of the experimental group's pre and post-tests. In this overall mean value of post-test are 7.30. This score is 0.34 higher than the pre-test mean value 6.96.

Conclusion

This study has investigated the application of MI theory in English Language Teaching due to a growing interest in the application of Multiple

Intelligence theory in the field of education. The interest in MI theory is not limited to any context. Many teachers and researchers throughout the world have considered and discussed the application of MI in various contexts.

The findings of the study support the assumption that "learners learn a lot of new words from activities based on Multiple Intelligence and helps to extend their interest in vocabulary learning. This is probably the reason why, even though both groups retained their receptive and productive vocabulary knowledge during the treatment, only the members of the Experimental Group were able to retain their productive vocabulary knowledge over time and able to increase their vocabulary knowledge more than the students' of Control group. The study could also be interpreted to say that as students encountered words that they already knew receptively by reading or by any means, the connection between receptive and productive vocabulary knowledge was made much closer, especially at the 2,000 and 3,000-levels. The mean values of other levels like 5000, AWL (Receptive test) and UWL (Productive test) shows some slight similarities. But 10000 levels in both the tests are not showing any considerable improvement, even in the Experimental Group results.

Apart from the quantitative results given in tables, few interesting things were noticed by the researcher. Things like, the learners of Experimental group were much eager to attend English classes and they enjoyed the MI activities thoroughly. They even asked for more English classes. This eagerness itself shows the positive impact of MI theory on the learners.

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