# Improving Teaching Through Multiple Intelligences Theory At Secondary School Level And Method Of Teachings Of Muhammad (S.A.W)

Benazira*

Dr.Gulap Shahzada**

*Abstract*

*The main objective of this study was to find out the effect of multiple intelligences teaching on students' academic achievement at secondary school level in subject of English. A true experimental research design with a pre-test and post-test was adopted in the study. The sample of the study consisted of 70 students from 10$^{th}$ class at secondary level in district Bannu (KP). The participants were divided into two equal as experimental and control group on the basis of their pre-test score. Experimental group was taught through multiple intelligences activities while the control group by traditional method of teaching. This treatment lasted for eight weeks. At the end of treatment a post-test was conducted. The results showed that experimental group taught by multiple intelligences teaching has higher score than the control group taught by traditional method of teaching.*

*It is pertinent to know that this study has been juxtaposed with the teaching and guidance of Islam regarding multiple intelligence based teachings. We find out that Islam not only permits multiple intelligence based learning but encourages it also. Islam demands that some of the members of Muslim societies must have this skill of multiple intelligence based teaching so that the concept grows further and further.*

Key Words: Multiple intelligences teaching, Learning, Traditional teaching, Secondary school

***** PhD scholar,Institute of Education & Research, University of Science & Technology, Bannu

****** Assistant professor, Institute of Education & Research,University of Science & Technology, Bannu

## Introduction

The aim of education is the all-round development of the child. Three main components of this process are the teacher, students and curriculum. We mostly talk about quality education. In order to achieve the quality in education, it is essential that the curricula must be taught in effective way to achieve the desired objectives. In modern times, there is much emphasis on individualized education and learner autonomy. Mostly learners are supposed to be aware of their strengths and weaknesses and responsible for learning. I.Q test which are traditionally used to measure the student intelligence but it does not measure accurately because these tests just focus on linguistic and logical intelligence. Therefore in modern times, the Multiple Intelligence theory is very important because its main point is that every individual has multiple intelligences and these all work together in a unique way.

In 1983, Howard Gardner (Professor of Education at Harvard University) proposed the Theory of Multiple Intelligences in his book "Frame of Mind". He felt that traditional concept of intelligence was incomplete and instead proposed a variety of intelligences, such as:

- Linguistic (skilled at words and language)
- Logical-mathematical (skilled at logic, reasoning, and/or numbers)
- Bodily-kinesthetic (skilled at controlling bodily motions such as sports, dance, etc.)
- Visual- spatial (skilled at images, spatial judgment, and/or puzzles)
- Musical (skilled at sound, rhythm, tone and music)
- Interpersonal (skilled at communicating with others/relating to others)
- Intrapersonal (skilled at self-knowledge, reflection, etc.)
- Naturalistic (skilled at understanding/relating to the natural world)

According to Gardener (1983), the human talents and intelligences are much more as it had been shown in previous I.Q tests. Instead of asking how intelligent people are; it is important to know how their intelligence works. His theory presents a new approach on intelligence and supports to recognize many different sides of cognition and cognitive styles. Therefore it is important to acknowledge that people have cognitive strengths (Gardener, 2006).

Gardener's theory suggests that child learns in different ways. For example, a child may be well in math but weaker in language and other subjects. Therefore there must be a variety of approaches and activities. This theory suggests that instead of relying on one type of activities for all students, the curricula should present a variety of activities to meet the needs of all students (Gardener, 2006:61).

Basically Gardener identified seven main intelligences: Linguistic, Logical-Mathematical, Spatial, Bodily-Kinesthetic, Musical, Interpersonal and Intrapersonal. In 1999 he added another intelligence that is Naturalistic Intelligence (Fasko, 2001).

It is very important for teachers to know how to use different teaching methods to work with different intelligences. By applying suitable activities according to the intelligences of students, they will be able to improve their weaker points. When teacher have the knowledge of different ways the students can learn in proper way, they will be able to apply a variety of strategies to reach children's different types of intelligences (Campbell, 2008).

The Prophet (S.A.W) also taught his companions using different multiple intelligences and techniques. For Example the Prophet (S.A.W) would sometimes

repeat something three times. One example is the hadith narrated by Abu Shuraih: "The Prophet (S.A.W) said," By Allah, he does not believe! By Allah, he does not believe! By Allah, he does not believe! 'He (peace be upon him) said, "Who's that, O Allah's Apostle?". "Another technique that he would often use is asking a question about the interest and curiosity of the listeners. An example is when the Prophet asked his companions, "What is it that someone has a river at his door and every day, five times a day? They responded, "There would be no dirt on him, or Rasul Allah." Then the Prophet (SAW) said, this way. In the above had, the Prophet not only used to bring the listener's mind to attentiveness, but also an analogy - making a similarity The hadith cited above about abundant rain falling on the earth also uses analogy to make clear the points. Just as the Prophet (S.A.W) used analogy to illustrate a point verbally, which also used to draw or point to graphically. Once the Prophet drew a straight line through the sand and then the lines of the right and the lines of the first line. "He was looking at me," he said, "and follow me, and not following paths, for different paths away from his path" (Qur 'an 6: 153). In other instances he illustrated his point using his hands. When he said, "I and the one who takes care of orphans are in paradise, like this" (Bukhari). As he was speaking, he interlaced his fingers.

Teachers should build up such learning activities to engage all or most of the intelligences to cater the needs of whole class. By applying Multiple Intelligence, the teacher will have more active class and successful students (Nolan,2003). Gardener suggests that through proper encouragement, enrichment and instruction, almost all the eight intelligences can be developed and improved (Armstrong, 2009).

In our country a lot of descriptive work has been done on Gardner's MI theory but experimental work is rarely available. So a true experimental research study has been conducted to find out the effect of multiple intelligences based teaching on students' academic achievement at secondary school level in subject of English.

## Hypothesis

There is no significant difference between the academic achievement of students taught by multiple intelligences based teaching and traditional method teaching.

## Methodology

*Basically the study was conducted to examine and investigate the effect of Multiple Intelligences theory based teaching on students' academic achievement at the secondary school level. In this experimental study, the methods of teaching (MI teaching method) and traditional method of teaching are the independent variables whereas the students' academic achievement is the dependent variable. There were various extraneous variables for example student's family background, maturation, intelligences, age etc. which the researcher controlled through random selection of students for the experimental and the control groups.*

The Randomized pretest and posttest control and experimental group design was used for the study. This was true experimental design which can be illustrated in the form of following diagram:

(Treatment group) R O T O
(Control group) R O T O

Where R stands for randomly selected group
O stands for observation
T stands for Treatment

All the female students studying at secondary school level constituted population of the study. 70 secondary school girls' students of class $10^{th}$ were randomly selected. These students were dividing into two groups control and experimental group according to their previous exam marks. Before the treatment start the students of both groups were given pretest for its later use. Both groups were taught for the period of 8 weeks. The researcher herself taught control group through traditional method and experimental group through multiple intelligences theory based teaching.

The syllabus consisted the following units from English book:

a) Use of Punctuation
b) Verbs
c) Preposition.
d) Ideal Personality

The researcher provided all the required material (details) before the presentation of lessons in class. Each lesson involved the implementation of two or three MI activities according to the duration of class. For example, vocabulary games, word search, puzzles, reading and writing activities (verbal-linguistic intelligences), puzzles and games, matching exercises, classification and categorization (logical-Mathematical intelligence), power point presentation, flash cards (visual-spatial intelligence), miming games and hands on activities (bodily-kinesthetic intelligence), playing music, singing (musical intelligence), pair work, group work (interpersonal intelligence), writing one's own thoughts and feelings, reflecting on one's own learning (intrapersonal intelligence), bringing some objects from natural life and teach by using them (naturalistic intelligence). The researcher had not focused on the structure only, the researcher taught not only through content but used the context as well. For example while teaching "verb", teacher asked students to match the verb with related pictures. In this way, students were able to learn through games. Instead of giving a list of verbs to memorize it, the researcher tried to familiarize them with new words by using different activities. For example using flash cards, word puzzles games or writing short sentences or paragraphs about their daily routine life showing different action verbs words. In this way, they were able to learn more easily.

## Presentation of lessons

Seven steps procedure of lesson plan recommended by Armstrong (2000) was used for developing lesson plan and two further elements were added by the researcher in these steps. These steps are as following:

1. Specification of objectives
2. Asking key MI questions
3. Considering possibilities
4. Brainstorming
5. Selecting appropriate activities
6. Setting up a sequential plane
7. Implementing the plan
8. Reflection
9. Feedback

## Pilot Test

In order to find out the validity and reliability of instrument, the researcher has conducted a pilot test. Data were collected from 30 students of class $10^{th}$. Then the item difficulty level was computed according to the formula used by Crocker & Algina, (1986). The item difficulty ranges from .80 to .70. Similarly the reliability of test items was computed by SPSS. The values were ranging.80 to .90

## Results and Discussion

In order to find out whether there were any differences between pre-test and post-test scores within6the same group paired sample t-test was used. Moreover to find out whether there were any differences between the two groups controlled and experimental independent sample t-test was applied.

**Table 1.**Descriptive statistics for pre-test and post-test scores.

| Test | Group | N | Mean | Std.Deviation | Std.Error mean |
|---|---|---|---|---|---|
| Pre-test | Experimental group | 35 | 7.94 | 3.66 | .620 |
| | Control group | 35 | 7.84 | 3.87 | .654 |
| Post-test | Experimental group | 35 | 20.14 | 2.76 | .467 |
| | Control group | 35 | 13.40 | 2.46 | .416 |

Table 1shows that pre-test scores of both groups are similar and there are no differences in these two groups at the beginning of the study.

**Table 2**.Independant sample t-test results on pre-test scores of both groups

| Group | Mean | Std.Deviation | T | Df | P |
|---|---|---|---|---|---|
| Experimental | 7.94 | 3.66 | 1.406 | 34 | .169 |
| Control | 7.84 | 3.87 | | | |

In order to measure the differences between two groups (Experimental and Control) paired sample t-test was applied. The above table indicated that there was no significant differences between the groups in terms of pre-test scores as the value is p>.05. So we can conclude that at the beginning of experiment both groups were equal.

**Table 3.** Paired sample t-test results for pre-test and post test scores of Control group.

| Group | Mean | Std.Deviation | t | Df | p |
|---|---|---|---|---|---|
| Pre-test | 7.94 | 3.66 | 7.68 | 34 | .46 |
| Post-test | 13.40 | 2.46 | | | |

After examining the results of control group it was observed that this has not shown any significant improvement during this period. They were taught by traditional method and showed slight improvement when we compared the pre-test and post-test results. However this slight improvement was not significant at (p>.05). So it can be concluded that traditional method of teaching is not so much effective.

**Table 4**. Paired sample t-test results for pre-test and post test scores of Experimental group.

| Group | Mean | Std.Deviation | t | Df | p |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Pre-test | 7.94 | 3.66 | -21.10 | 34 | .000 |
| Post-test | 20.14 | 3.87 | | | |

When the pre-test and post-test results of experimental group were analyzed, then it was noticed that there was a significant improvement in the academic achievements of students. The p value was .000 which showed a significant difference between pre and posttest of experimental group. .

**Table 5**.Independant sample t-test on post-test scores of both groups

| Group | Mean | Std.Deviation | t | df | p |
|---|---|---|---|---|---|
| Post-Experimental | 20.14 | 3.87 | 11.85 | 34 | .000 |
| Post-Control | 13.04 | 2.46 | | | |

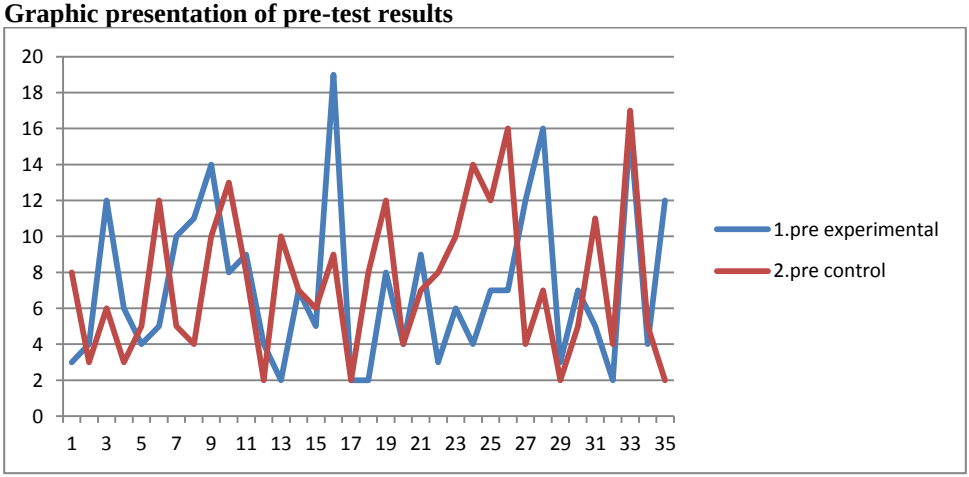
In table 5 post-test results of both groups were compared to find out the differences. The results showed that there were significant differences between the post-test scores of both groups and p<.05 which indicates the effectiveness of treatment.

**Table 6** Effect size of treatment

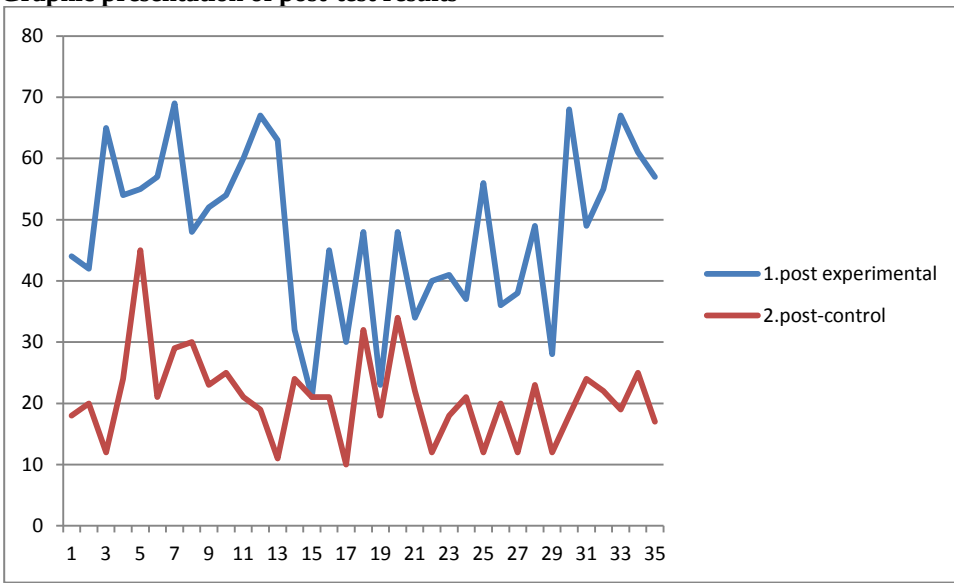
| Group | Mean | SD | t | p | 95%CI | | Cohen's d | Effect-size r |
|---|---|---|---|---|---|---|---|---|
| | | | | | LL | UL | | |
| Post-Experimental | 20.14 | 3.87 | 11.85 | .000 | 8.01 | 10.38 | 4.23 | 0.90 |
| Post-Control | 13.04 | 2.46 | | | | | | |

Above table shows the effect size of the treatment. It is clear from value 0.90 that treatment has good effect on students' academic achievement.

**Graphic presentation of pre-test results**



**Graphic presentation of post-test results**




## Discussion

In this experimental study the researcher has implemented MI based teaching activities to find out its impact on students' academic achievement at secondary school level. The researcher applied pre-test, post-test true experimental design for it. In order to find out differences between two groups and the effect of treatment paired sample t-test was used. From above tables it becomes clear that at beginning of study both groups were equal and the p-value .169 showed that that there was no significant difference in both groups at p .005 level. But after treatment when post test was conducted then it was cleared from results that MI teaching has significantly affected students' academic achievement. The null hypothesis for the study has been rejected. In China Jinxiu Jing (2012has conducted study on "teaching English reading through MI theory in Primary schools". The researcher conducted an empirical research about the application of MI theory in primary school English class and showed that MI based reading contributed significantly to arouse students' interest towards English reading and its reading proficiency. Similarly in 2013 an Iranian researcher Ali Abdi conducted research to find out the "effect of teaching strategy based on Multiple Intelligence on students' academic achievement in Science course". This study has proved the effectiveness of teaching strategy based on MI over the traditional method of teaching. WayanWidiana (2016) conducted research on "Improving students' creative thinking and achievement through the implementation of Multiple Intelligence approach with Mind Mapping". All these previous studies provide support to the present study. In our country especially in Bannu district where schools are not properly facilitated and teachers have less knowledge about these teaching practices, these activities have proved very effective. The results showed that the implementation of multiple intelligences based teaching has improved students' academic achievement. Gardener's Multiple Intelligence theory urges to adopt new techniques and activities according to the mental capabilities of the children. As he

urges that each individual has nine intelligences (linguistic/verbal, logical/mathematical, visual/spatial, bodily/kinesthetic, musical, interpersonal and intrapersonal and naturalistic) so while teaching, the teacher must adopt teaching activities according to these nine intelligences. So through this study an effort has been made to apply this theory in teaching and to find out its effect on students' Academic Achievement and the researcher has achieve significant results in this study.

## Implications

This study provides useful information about different teaching activities based on multiple intelligences. Researcher taught the same topic by different teaching activities like group work, pair work, discussion, elicitation, ball activity, role play etc. By teaching the same topic in different ways, students were motivated and showed a lot of interest in learning. In this way an ideal learning atmosphere was created in class.

As we know that every individual is different from other. So teacher should adopt different teaching practices in classroom to support everyone in the class. This study is helpful for teachers to apply such teaching activities which cater needs of students with different intelligences. Because in present study researcher has developed teaching activities on the basis of different intelligences like verbal, linguistic, logical/Mathematical, visual/spatial, bodily-kinesthetic, interpersonal, intrapersonal, musical, naturalistic and existential.

It encourages teachers to use new teaching strategies based on Gardner's MI theory. Due to lack of facilities and shortage of time teachers are not applying MI based teaching activities in class. But researcher has proved that keeping in view present condition of our schools in Bannu, these can be easily applied in our classes.
By providing proper learning environment at classroom level, this study supports effective teaching and learning. Learners can be easily motivated and in this way their learning speed can be enhanced. It has a positive effect on their academic achievement as well.

## Suggestions

This study has made an effort to measure the effect of multiple intelligences teaching on students' academic achievement at secondary school level in the subject of English. The results of the study suggests that experimental group taught by multiple intelligences activities, obtained higher academic score as compare to control group taught by traditional method of teaching. After the comparison of post-test scores of both groups it is clear that experimental group has higher academic achievement than control group. These findings suggests that MI based activities were more effective than traditional method of teaching.

It means that by applying these activities real learning can be improved. So the researcher suggests that MI based activities should be applied in classes regularly. As by the researcher multiple intelligences teaching was applied only in English subject, efforts should be made to apply it in other subjects as well. Moreover, in while planning curriculum and lesson planning, individual differences in intelligences of students should be considered by developers and teachers. Different teaching activities according to their intelligences will lead to better learning.

## References

Armstrong, T. (1994) Multiple Intelligence: seven ways to approach curriculum.Educational leadership, 52, 26-28.

Abdi, A., Laei, S., &Ahmadyan, H. (2013). The Effect of Teaching Strategy Based on Multiple Intelligences on Students' Academic Achievement in Science Course. *Universal Journal of Educational Research*, *1*(4), 281-284.

Barrington, B. (2004). Teaching to student diversity in higher education: how multiple intelligences theory can help. *Teaching in Higher Education, 9*(4), 422Bas, G. (2008Integrating multiple intelligences in ESL/EFL classrooms. *The Internet TESL Journal*, *14*(5).

Christion, M. A., & Kennedy, D. (2004).Multiple intelligences.*TESOL Journal*, *6*(1), 10-14.

Christison, M. A. (1996). Teaching and learning language through multiple intelligences.*TESOL Journal*, 10-14.

Campbell, L., Campbell, B., & Dickinson, D. (1996).*Teaching & Learning through Multiple Intelligences*.Allyn and Bacon, Simon and Schuster Education Group, 160 Gould Street, Needham Heights, MA 02194-2315 (Order No.H63373, $27.95, plus shipping and handling).

Gardner, H. (1993). Frames of mind: The theory of multiple

Gardner, H. (1999). The disciplined mind: What all students should understand.New York: Simon & Schuster.

Gardner, H. (2004). Audiences for the theory of multiple intelligences.*Teachers College Record*, *106*, 212–220. Ozdemir, P., Guneysu, S., &Tekkaya, C. (2006).Enhancing learning through multiple intelligences.*Journal of Biological Education*, *40*(2), 74-78.

Shore,J. (2004). Teacher education and multiple intelligences: a case study of multiple intelligences and teacher efficacy in two teacher preparation courses. *TeachersCollege Record*, *106*(1), 112-139.

Sulaiman T, Hassan A, Yi H (2011) An analysis of teaching styles in primary and secondary school teachers based on the theory of mulitipleintelliogence. J. Social Sci. 7(3): 428-435.

Widiana, I. W., &Jampel, I. N. (2016). Improving Students' Creative Thinking and Achievement through The Implementation of Multiple Intelligence Approach with Mind Mapping. *International Journal of Evaluation and Research in Education (IJERE)*, *5*(3), 246-254.

Xie, J., & Lin, R. (2009).Research on multiple intelligences teaching and assessment.*Asian journal of management and humanity sciences*, *4*(2-3), 106-124.