

**EFFECTIVENESS OF MULTIPLE INTELLIGENCE BASED
INSTRUCTIONAL APPROACH TO CURRICULUM TRANSACTION
IN ACHIEVING LEARNING COMPETENCY OF SECONDARY
LEVEL STUDENTS TOWARDS SOCIAL SCIENCE**

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SUMMARY AND CONCLUSION

6.1.0 Introduction

“The biggest mistake of past centuries in teaching has been to treat all students as if they were variants of the same individual and thus to feel justified in teaching them all the same subjects in the same way.” – Howard Gardner

With the consideration of the importance of education as a tool in nation building the importance of educating each and every individual has also got much preference. By educating each and every individual it means educating each and every group of individual irrespective of their caste, religion, gender, region, age, abilities, etc. Now education is not only limited to educate every citizen of different group only, but also including each and every student of different group in a single classroom setting. The concept of separate schools for the special children has been changed to inclusive education. The Integrated Education for Disabled Children (IEDC) 1974 took the first step towards inclusive education in India. With this it has become important to realise the transformation of the traditional formal classroom setting into an inclusive one where students of different groups will be educated together. This inclusion will lead to understand the concept of individual difference among the students. Each and every individual is different from one another in both physical and mental attributes such as bodily shape, height, weight, intelligence, personality, interest capabilities, etc. And each and every individual have their own way of learning or pursuing knowledge, skills, and experiences of life. As Albert Einstein said “Everybody is a genius, but if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid,” so it is very important to find out the real ability of a child and in which way he can learn or do well in their future life. In order to cater the needs and requirement of all type of individual it is very important to adopt a proper method or approach of learning which can cover all of the students in achieving the learning outcomes. Multiple Intelligence Based Instructional approach is an approach that includes the learning pattern or style of every kind of individual.

6.2.0 Background of the Study

Multiple Intelligence Based Instructional approach is a multidimensional approach that is based on the theory developed by the great psychologist Dr. Howard Gardner for the first time in his book “Frames of Mind” published in the year 1983. Gardner in his theory has given a different outlook to the previously believed concept of intelligence which was limited only to the ability of person to think logically, critically, doing complex task and numerical activities to solve day to day problems. According to him intelligence is not only include reasoning and numerical abilities but also different types of abilities such as spatial ability, musical ability, interpersonal ability, intrapersonal ability, kinetic ability, naturalistic ability too (Brualdi, A.C. 1996). So, these abilities should also be given equal importance. And hence he has included 8 types of intelligences in his theory. Gardner's initial contributions to psychology and subsequent focus on human cognition and potential have resulted in the identification of nine distinct intelligences. Now there are nine intelligences with an addition to existential intelligence along with the 8 other types of intelligence.

(Northern Illinois University Centre for Innovative Teaching and Learning, 2020). In this study only the previously originated eight intelligences will be adopted. They are discussed as below:

- **Logical-Mathematical Intelligence:** A person with this type of intelligence generally have the ability to do complex mathematical calculations, can think logically, have the ability to do inductive as well deductive reasoning, can identify the numerical patterns, geometrical shapes, has the capacity to think critically and solve complex abstract problems etc. encompasses the capacity to identify patterns, engage in deductive reasoning, and employ logical thought. Overall, this type of intelligence has a scientific and mathematical thinking skill.
- **Linguistic Intelligence:** It is the ability of an individual to express them with the help of language. Person with kind of language have a mastery over language. Poets and writers are generally found to have this type of intelligence. One with this type of capacity use language in order to learn or remember information. (Brualdi, A.C., 1996).

- **Spatial Intelligence:** One with this intelligence has the capacity to grasp spatial or visual information. They can create and manipulate visual images in their mind. A student with this intelligence can easily get the idea of information displayed with charts, graphs, pictures, etc. However, this intelligence is not limited to normal children only but this intelligence is seen to be used mostly by visually impaired children also. (Tobias, O' Niel, 2015).
- **Musical Intelligence:** Individual with this type of intelligence has the ability to create and compose music, tone, rhythm, etc. This kind of individual can learn better with the information related to the auditory functions.
- **Bodily-Kinaesthetic Intelligence:** Person belonging to this category of intelligence uses their mind to coordinate their body in order to solve problems. Students with this intelligence generally shows good results in the activities related to their physics such as sports, dance, use of drama in their presentation, project works out of models. etc.
- **Interpersonal intelligence:** This intelligence is related to the capacity to understand others feelings and intention. The students with this intelligence are generally friendly, social and love to do group activities and learn better in groups.
- **Intrapersonal Intelligence:** It is the capability to understand oneself and one's own feelings, personality and mood. This category of student has the ability to take their own life decision which suits his/her inner potentialities. They are a little bit shy and introvert type of students. This type of student requires individualised learning methods and introspection in order to get better learning outcomes.
- **Naturalist intelligence:** This intelligence consists of the capacity to understand the nature and can distinguish between different types of living and non-living things of the nature. This type of individual is sensible towards the nature and usually learns better when given exposure to the nature.

(Brualdi, A.C., 1996) stated that Gardner asserts that although the intelligences are anatomically distinct, the eight intelligences seldom function independently. The

intelligences are employed simultaneously and generally enhance one another as individuals cultivate talents or address challenges. A dancer can achieve excellence in his craft only if he possesses: 1. Strong musical intelligence to comprehend the rhythm and nuances of the music; 2. Interpersonal intelligence to inspire or emotionally engage his audience through his movements; and 3. Bodily-kinaesthetic intelligence to ensure agility and coordination in executing the movements effectively.

This theory generally focusses on the two types of learning strategies these are learning by doing and teaching according to the capabilities of the students. (Tan, 2006).

Learning Domains

Learning objectives are based on the three domains of learning namely, Cognitive, Psychomotor and Affective domain. These three domains have been developed in between 1956-1973 by studies done by Benjamin Bloom, Anita Harrow and David Krathwohl, respectively. Inclusion of all these three domains contributes towards a holistic development of the student towards the subject. Better explanation of these three domains is as follows:

Cognitive Domain: The cognitive domain was proposed by Benjamin Bloom in 1956. Again it was revised by Lorin Anderson in 2001. In the study the researcher will use this revised cognitive domain. This domain is basically related to the mental and thinking ability of an individual. This domain is again sub divided into six sub categories; they are –

- a) **Remembering:** This stage includes the student's capacity to remember or recall information regarding the topic.
- b) **Understanding:** Remembering stage is followed by understanding stage where the student can explain the information, he/she had remembered.
- c) **Applying:** Next stage is application stage where student develop the capacity to apply what has been gathered in a new situation.
- d) **Analyzing:** In this stage student can differentiate between various facts as well as opinions of the information gathered.

- e) **Evaluating:** It is the judgment stage where the amount of knowledge gathered is judge or given feedback.
- f) **Creating:** In this stage the student can combine different concepts or facts gained to form single concepts and ultimately forming new meaning to an existing concept and applying this new concept in real life situation. Such as writing a thesis, composing music, developing a model.

Psychomotor Domain: Psychomotor domain was developed by Anita Harrow in 1972 and it consists of the student's ability to utilize the motor skill and coordinate them effectively. This domain is again divided into seven sub categories, they are –

- a) **Perception:** The perception stage includes the ability to use information gather through sensory organs to motor activities. It includes the student's effort to practice certain tasks or activities from a text book or say other outer source to achieve higher marks in the class.
- b) **Set:** This stage involves the student to get ready to act upon the series of activities.
- c) **Guided response:** This stage includes the ability to grasp the displayed learning skill and begin to learn it with the help of trial-and-error method.
- d) **Mechanism:** This stage is the stage where the student learns to develop a habituate action towards the learned skill and hence becoming proficient over it.
- e) **Complex overt Response:** This stage belongs to the ability to perform the complex motor skills with skillful performance.
- f) **Adaptation:** Adaptation stage is the stage where the student develops the capacity to create new skills by integrating all the skills learned. For instance a student developing a model out of various theories.
- g) **Organization:** Organization includes the capacity of creating a new skill for a specific event.

Affective Domain: This domain was developed by David Krathwohl in 1973. This domain centers on a person's feeling, emotions and attitude towards a learning object. This domain is again divided into five categories, they are –

- a) **Receiving:** Receiving stage involves the the capacity to attentively listening to a lesson delivered in the class. Paying attention towards learning object is the ultimate goal of this stage.
- b) **Responding:** Followed by the responding stage where the student active participation in a classroom will be observed.
- c) **Valuing:** Here giving value or worth towards something related to the learning process is given importance. Sharing one's own idea and thought upon a topic being discussed in the classroom can be included in this stage.
- d) **Organization:** This is the stage where student's ability to prioritize a value over another is observed. And thus, creating a value system. This stage teaches a student to value their academic work rather than being affected by the other social relationships such as friends, family, lover, etc.
- e) **Characterization:** This stage is the last stage of this domain which includes student's ability to form a required behavioral pattern by internalizing the value and controlling their unaccepted behavior. It teaches to give importance towards their academic achievements and deciding their own career according to their interest and abilities.

Collaborative effect of these three domains of learning makes the learner more effective and competent towards the learning event or subject matter.

Learning Competency

Learning competency is related to the basic skills, knowledge and attitude one expect to acquire in a specific task, program or subject in order to do mastery over the subject. Learning competency can be achieve by some learning objectives as goals that are used to fulfill or succeed in order to be competent in a particular subject or task. Multiple Intelligence Based Instructional Approach to curriculum transaction may develop the learning competency of the students as it consist of activities related to all the learning

aspects of all the three domains such as cognitive, affective and psychomotor domain. So this approach may show the ability to develop all the required ability such as knowledge, understanding, applicability and valuing of a learning object to be competent enough towards learning something.

6.3.0 Objectives

1. To develop and standardized a module based on Multiple Intelligence Based Instructional Approach (M.I.B.I.A.) for the selected units of social science subject of class IX in order to test its effectiveness on learning competency of the students towards social science subject.
- 2.To study the effect of the Multiple Intelligence Based Instructional Approach over Traditional Learning Method in achieving overall learning competency in Social Science subject with regard to the pre-test and post-test scores.
- 3.To study the effect of the Multiple Intelligence Based Instructional Approach over Traditional Learning Method in achieving domain wise learning competency in Social Science subject with regard to the pre-test and post-test scores.
- 4.To study the effect of Group, Gender and their interaction on overall Learning Competency in Social Science subject by considering the pre-test as covariate.
- 5.To study the effect of Group, Gender and their interaction on domain wise Learning Competency in Social Science subject by considering their respective domain at pre-test level as covariate.
- 6.To study the effect of Group, Academic Achievement Level and their interaction on overall Learning Competency in Social Science subject by considering the pre-test as covariate.
- 7.To study the effect of Group, Academic Achievement Level and their interaction on domain wise Learning Competency in Social Science subject by considering their respective domain at pre-test level as covariate.

6.4.0 Hypotheses

1. H01. There is no significant difference between the mean scores of overall Learning Competencies developed through MIA and the mean scores of overall Learning competencies developed through TLM in social science subject with regard to pre-test and post-test scores.
2. H02. There is no significant difference between the mean scores of dimension wise learning competencies developed through MIA and the mean scores of dimension wise developed through TLM in Social science subject with regard to pre-test and post-test scores.
 - a. There is no significant difference between the mean scores of cognitive domain developed through MIA and the mean scores of cognitive ability developed through TLM in social science subject with regard to pre-test and post-test scores.
 - b. There is no significant difference between the mean scores of affective domain developed through MIA and the mean scores of affective domain developed through TLM in social science subject with regard to pre-test and post-test scores.
 - c. There is no significant difference between the mean scores of psychomotor domain developed through MIA and the mean scores of psychomotor domain developed through TLM in social science subject with regard to pre-test and post-test scores.
3. H03. There is no significant effect of Group, Gender and their interaction on overall learning competencies of students by considering their pre- test as covariate.
4. H04. There is no significant effect of Group, Gender and their interaction on domain wise competencies of students by considering their pre- test as covariate.
 - a. There is no significant effect of Group, Gender and their interaction on cognitive domain by considering their pre- test as covariate
 - b. There is no significant effect of Group, Gender and their interaction on affective domain by considering their pre-test as covariate
 - c. There is no significant effect of Group, Gender and their interaction on psychomotor domain by considering their pre- test as covariate

5. H05. There is no significant effect of Group, Level of Academic Achievement and their interaction on overall learning competencies of students by considering their pre-test as covariate

6. H06. There is no significant effect of Group, Level of Academic Achievement and their interaction on domain wise learning competencies of students by considering their pre- test as covariate

- a. There is no significant effect of Group, Level of Academic Achievement and their interaction on cognitive domain of students by considering their pre- test as covariate
- b. There is no significant effect of Group, Level of Academic Achievement and their interaction on affective domain of students by considering their pre- test as covariate.
- c. There is no significant effect of Group, Level of Academic Achievement and their interaction on psychomotor domain of students by considering their pre- test as covariate

6.5.0 Methodology of the Study

6.5.1 Introduction

In this chapter a detailed description of the research methodology has been discussed that includes the following components: -

6.5.2 Research Method

In this study the researcher will manipulate the treatment in order to see the effect or changes on the learning competencies of the students.

6.5.3 Research Design

The present study falls under the domain of experimental research and as per the need and demand of the study the researcher adopted Non- Equivalent Groups Pretest Posttest model under the scope of Quasi Experimental Research Design.

6.5.4 Locale of the study

The area of the present study is located at Nalbari district of Assam. It is situated between 26°N and 26.51°N Latitude and 91°E and 91.47°E longitude at the plains of the Brahmaputra valley. The district covers an area of 2257 sq. km. and has a population of 771,639 according to 2011 census.

6.5.5 Population of the study

In research, the population of the study refers to the entire set of individuals, items, or factors which share a common trait and are of interest to the researcher.

The population of the present study comprises of all the students of class IX standard of Nalbari District.

6.5.6 Sample and sampling technique used in the Study

Sampling Technique

In research, sampling techniques are the procedures used to choose a subset of individuals, objects, or data points from a broader population in order to analyze and make conclusions. Sampling is necessary since it is frequently unfeasible, costly, and time-consuming to research an entire population. It is possible for researchers to draw conclusions about the broader population by employing a representative sample.

In the present study, the researcher adopted Simple Random Sampling Technique in order to select the schools from Nalbari District. Simple random sampling is a probability sampling approach that ensures that a population are well represented in the sample. After selecting two schools, one for the experimental group and other for the controlled group i.e. Kharbandha Vidyapith High School, Sondha and Banbhag Khata Dihjari High School, Dihjari from the area of the study, the researcher selected students of class IX standard of both the schools with the help of Intact Group Sampling technique. Intact group sampling, also known as cluster sampling, is a research method that uses entire groups as samples rather than individual units. This method is frequently used when it is impractical or impossible to select individuals at random from a population. Instead, naturally occurring groups (such as classrooms, schools, or towns) are chosen, with all members included in the sample.

Sample

In research, the study sample is a subset of individuals, items, or instances chosen from a broader population for the purpose of conducting a study. The sample reflects the population from which it is derived, and it is used to make inferences or draw conclusions about the whole population. The method of sample selection and size can have a considerable impact on the validity, reliability, and generalizability of study findings.

A total number of 90 samples were selected from both the schools, out of which 44 samples fall under experimental group and 46 samples falls under the controlled group. At the beginning the sample consisted of total 150 students but later only 90 samples were selected on the basis of the fulfillment of the requirement of the study and students' regularity throughout the intervention.

6.5.7 Variables of the study

In the present study the following type of variables were used:

1. **Independent Variables:** Independent variables are generally those variables which are not dependent on other variables. These variables are not affected by the other variables. In fact, it causes an effect on the dependent variables.

In this study **Multiple Intelligence Instructional Approach** is the independent variable.

2. **Dependent Variables:** Dependent variables are those variables that are dependent on the independent variables. In experimental studies the effect of an independent variable on dependent variable is studied. In other words, it can be said that an independent variable is the cause and dependent variable is its effect.

In this study **Learning Competency in social science** is the dependent variable.

3. **Controlled Variables:** Controlled variables are those variables that are controlled by the researcher in order to avoid any kind of interference in the result of the study.

In this study demographic features such as **Gender** and **Level of Achievement** of the students are observed as controlled variables.

6.5.8 Tools for Data Collection

In the study the researcher made use of two types of tools

- **Instructional Tool:** Instructional tool is the tool with the help of which teaching learning process will be carried out in a classroom setting.

In this study the following Instructional tool was used to undertake the classroom teaching:

- i. Multiple Intelligence based Instructional Module.
- **Testing tool:** Testing tools are generally those tools with the help of which the outcomes of the teaching learning process will be tested.

In this study the researcher will test the learning competency of the students in three forms i.e., cognitive, affective and psychomotor. For this the researcher developed the following tools:

- i. Achievement test in Social Science
- ii. Attitude Scale for Social Science subject
- iii. Rubric of Performance test in Social science.

6.6.0 Procedure for data collection

The procedure of data collection stage mainly refers to the systematic process of collecting data for analysis. This stage consists of various steps in order to provide the accurate result. Some of the generalized steps are given below-

Initial Stage: This stage of data collection is the most basic and preliminary stage. In simple word it is the beginning of the data collection procedure. First of all, the researcher had taken necessary permissions from the Head of the Institutions as well as

the Head of the Department of the researcher's own institution for allowing to conduct the data collection process. After getting the approvals from the institutions the researcher had administered the Pre-test exam upon the sample. Also, the students were made sure that their data will be kept confidential and the privacy of the participants will be maintained.

Implementation Stage: This stage can also be called as experimental stage. After conducting the pre- test exam, at this stage the researcher starts the implementation of the method. The study consists of two groups one is experimental group and the other is controlled group. The researcher implemented the designed Multiple Intelligence based Instructional module upon the experimental group and for the controlled group the traditional instructional method was used. The implementation was carried out for a duration of 3 months.

At the end of the implementation Post-test was conducted upon both the groups i.e. experimental and controlled group.

Recording and Organization phase: The results of both pre-test and post-test of the two groups were recorded at this stage. The data were recorded and organized systematically with the help of MS Excel and SPSS software for the analysis purpose.

Analysis Stage: At this stage the recorded and organized data of both the pre-test and post-test exam from both the groups were analyzed statistically with the help of SPSS software in order to study the objectives of the study. Both descriptive and inferential statistics were used to fulfill all the objectives of the study.

Final Stage: At the final stage the raw data were ready for the analysis and interpretation part.

6.7.0 Statistical Techniques

Both descriptive and inferential statistical techniques were used for analysis and interpretation of data.

6.7.1 Statistics related to Descriptive Analysis

1) Measures of Central tendency (Mean, Median and Mode).

2) Measures of Variability (Standard Deviation, Skewness, Kurtosis)

6.7.2 Statistics related to Inferential Analysis

- 1) Analysis of Co variance (ANCOVA)
- 2) Analysis of Variance (ANOVA)
- 3) Paired Sample t-test.

The scoring process of all the data were done with the help of MS excel and IBM SPSS Statistics 22 software.

6.8.0 Major Findings of the Study

The major findings gathered from the analysis and interpretation of each and every objectives of the study are provided below:

1. Effect of the Multiple Intelligence Based Instructional Approach over Traditional Learning Method in achieving overall learning competency in Social Science subject with regard to the pre-test and post-test scores.

1. From the study it was found that the mean score of the post - test result of the students belonging to the experimental group were higher than the mean score of the post - test result of the students belonging to the controlled group. Hence it is clear that the students were more benefited by MIBIA than by TLM in achieving overall learning competency in social science subject.

2. Effect of the Multiple Intelligence Based Instructional Approach over Traditional Learning Method in achieving domain wise learning competency in Social Science subject with regard to the pre-test and post-test scores.

2. From the study it was found that the students who got classroom instructions through MIBIA were benefited more than the students who got classroom instructions through TLM in achieving cognitive domain learning competency.

3. In case of Affective domain learning competency in social science subject, the effectiveness of MIBIA was higher than that of TLM.

4. Also, in case of psychomotor domain the students instructed through MIBIA were more benefited than the students instructed through TLM.

2. Effect of Group, Gender and their interaction on overall Learning Competency in Social Science subject by considering the pre-test as covariate.

5. i. MIBIA significantly improved students' cognitive domain learning competencies as compared to TLM when both the groups were compared with their pre-test result.

ii. There existed no significant effect of Gender on Overall Learning Competency in Social Science subject while pre- test score of Overall Learning Competency was regarded as covariate. So Overall Learning Competency was found to be independent of their Gender when pre-test score was regarded as covariate.

iii. There existed no significant effect of Group and Gender on Overall Learning Competency in Social Science subject while pre- test score of Overall Learning Competency was regarded as covariate. So Overall Learning Competency was found to be independent of interaction between Group and Gender when pre-test score was regarded as covariate.

3. Effect of Group, Gender and their interaction on component wise Learning Competency in Social Science subject by considering the pre-test as covariate.

6. i. MIBIA significantly improved students' cognitive domain learning competencies as compared to TLM when both the groups were compared with their pre-test result.

ii. There existed no significant effect of Gender on cognitive domain Learning Competency in Social Science subject while pre- test score of cognitive domain Learning Competency was regarded as covariate. So cognitive domain Learning Competency was found to be independent of their Gender when pre-test score was regarded as covariate.

iii. There existed no significant effect of Group and Gender on cognitive domain Learning Competency in Social Science subject while pre- test score of cognitive domain Learning Competency was regarded as covariate. So cognitive domain Learning Competency was found to be

independent of interaction between Group and Gender when pre-test score was regarded as covariate.

7. i. MIBIA significantly improved students' affective domain learning competencies as compared to TLM when both the groups were matched in respect of their pre-test result.
- ii. MIBIA significantly improved students' affective domain learning competencies as compared to TLM when both the genders were matched in respect of their pre-test result.
- iii. There existed no significant effect of Group and Gender on affective domain Learning Competency in Social Science subject while pre- test score of affective domain Learning Competency was regarded as covariate. So affective domain Learning Competency was found to be independent of interaction between Group and Gender when pre-test score was regarded as covariate.
8. i. MIBIA significantly improved students' Psychomotor domain learning competencies as compared to TLM when both the groups were matched in respect of their pre-test result.
- ii. MIBIA significantly improved students' Psychomotor domain learning competencies as compared to TLM when both the genders were matched in respect of their pre-test result.
- iii. There existed no significant effect of Group and Gender on Psychomotor domain Learning Competency in Social Science subject while pre- test score of Psychomotor domain Learning Competency was regarded as covariate. So Psychomotor domain Learning Competency was found to be independent of interaction between Group and Gender when pre-test score was regarded as covariate.

4. Effect of Group, Academic Achievement Level and their Interaction on Overall Learning Competency in Social Science Subject By Considering the Pre-Test As Covariate.

9. i. MIBIA significantly improved students' Overall learning competencies as compared to TLM when both the groups were compared with their pre-test result.

ii. MIBIA significantly improved students' overall learning competencies as compared to TLM when all the three academic achievement level were compared in respect of their pre-test result.

iii. MIBIA was found to have a positive effect of interaction between Group and Academic Achievement Level when pre-test result of the Overall Learning Competency was compared.

5. Effect of Group, Academic Achievement Level and their Interaction on component wise Learning Competency in Social Science Subject by Considering the Pre-Test as Covariate.

10 i MIBIA significantly improved students' cognitive domain learning competencies as compared to TLM when both the groups were compared in respect of their pre-test result.

ii. MIBIA significantly improved students' cognitive domain learning competencies as compared to TLM when compared to all the three levels of academic achievement in respect to their pre-test result.

iii. MIBIA was found to have a positive effect of interaction between Group and Academic Achievement Level when pre-test result of the cognitive domain Learning Competency was compared.

11 i. MIBIA significantly improved students' affective domain learning competencies as compared to TLM when both the groups were matched in respect of their pre-test result.

ii There was no significant effect of Academic Achievement level on affective domain learning competency while considering Pre- Test result as covariate and hence students of all the Academic Achievement Level seems to have the same significant level in the affective domain learning competencies when pre-test result was regarded as covariate.

iii. There existed no significant effect of Group and Academic Achievement level on affective domain Learning Competency in Social Science subject while pre- test score of affective domain Learning Competency was regarded as covariate. So affective domain Learning Competency was found to be independent of interaction between Group and Gender when pre-test score was regarded as covariate.

12. i. MIBIA significantly improved students' Psychomotor domain learning competencies as compared to TLM when both the groups were matched in respect of their pre-test result.

ii. MIBIA significantly improved students' Psychomotor domain learning competencies as compared to TLM when students of all the Academic Achievement Level were matched in respect of their pre-test result. Students of all the Academic Achievement Level have enhanced their psychomotor domain through MIBIA then through TLM when pre-test result was regarded as covariate.

iii. There existed no significant effect of Group and Academic Achievement Level on Psychomotor domain Learning Competency in Social Science subject while pre- test score of Psychomotor domain Learning Competency was regarded as covariate. So Psychomotor domain Learning Competency was found to be independent of interaction between Group and Gender when pre-test score was regarded as covariate.

6.9.0 Educational Implications

The findings of the study showed a positive impact of MIBIA approach in all the three domains of learning competencies in social science subject. So, it is clear that this approach is effective to implement in the educational setting. The learners who were exposed to this treatment were able to show excellent learning outcomes in all the three domains of learning. This approach can be helpful in several forms. The various educational implications of this approach are described as follows: -

6.9.1 Educational Implication for Teachers

- 1.The present study showed effective result in enhancing the overall learning competency of the student towards social science subject. So, the teacher can take help of the instruction of this module in order to gain effective result of the learning process.
- 2.As this module consist of all the three domains of learning so the teacher can adopt this module to develop the students cognitive, affective as well as psychomotor traits for their overall development.
- 3.As this module includes various type of activities related to various types of intelligences so utilization of this module by the teacher may convert the teaching learning process interesting.
- 4.This module based on the Multiple Intelligence Theory can encourage active participation of the students in the classroom through various activities related to academic as well as practical aspects.
- 5.As this module includes all types of activities on the basis of different types of intelligences so it also provides an opportunity of inclusive education setting which can cater the needs of all types of learners.

6.9.2 Educational Implications for Students

1. This module includes all types of activities related to high order thinking, emotional aspects, practical implication of the knowledge etc. So, the students may be encouraged for all - round development.
2. The module is based on student - centric approach so the students' needs and importance are given more priority.
3. The activities of the module are designed in such a manner that includes all types of 8 intelligence of the Multiple Intelligence theory so make it possible to provide opportunities to all types of learners.
4. The activities of the module make the whole classroom education lively as it demands full participation of the students in all the activities. So, it makes the teaching learning process interesting.

5. Through this module the students also get the chance to explore their various kind of creativity through the activities. As the module is based on multiple capabilities of the learner.

6.9.3 Educational Implication for Curriculum Developer

1. Through this study it is clear that the MIBIA has a positive impact on the overall learning competency of the students. So, the curriculum developer may try to input this approach of learning in the planning of curriculum in order to gain all round development of the students as well as making the educational process livelier.
2. Through the implication of this new approach of learning the curriculum developer can provide a scientific outlook to the subject.
3. Curriculum developer may also develop curriculum on the basis of MIBIA to encourage learning by doing principle among the students in order to make the teaching learning process more meaningful.
4. In the present curriculum very, less importance is given to the affective domain of the learner. So, through the implication of MIBIA the curriculum developer can not only improve the cognitive and psychomotor aspects of learning but also can give equal importance to the affective aspect of learning.

6.10.0 Suggestions for further research studies

1. The present study was conducted in a limited study area. Similar study may be conducted in other parts of the state as well to get a more effective result of the benefit of this MIBIA approach.
2. This study was limited to secondary level students only. But in future one can conduct more studies on the students of other levels of education such as primary, higher, elementary, etc.
3. The study was centred around only the social science subject. Future research studies may be conducted in other subject areas as well such as Language, Science, Mathematics, etc.

4. This study was done upon only two variables such as gender and academic achievement. However similar study may conduct to study the effect of the approach in respect to other variables as well such as locale, learning style, economic background, etc.
5. The module was constructed on the social science subject following the syllabus provided by SEBA. Other similar studies may be conducted in respect to the syllabus of other board as well.
6. Studies other than experimental study can be conducted in this topic. In future one can conduct comparative studies, case study, descriptive study etc to explore more in the particular field.
7. Similar study can be conducted upon the teachers' regarding their perspective, attitude, perception, etc regarding the subject matter.
8. Qualitative research may also be conducted in the similar topic in future.

6.11.0 Limitation of the Study

1. The first limitation of the study is insufficient infrastructural facility. The implementation of the module required an effective infrastructural facility with the technological support system. The government medium schools of the state are still lacking behind for providing sufficient technological facilities. In that case the implementation of the module may not be fruitful.
2. It was also difficult in a classroom setting to control all the extraneous variables of the study. This also may impact the result of the study.
3. Assessment of the whole overall learning competency may require necessary proficiency on behalf of the teacher. The assessment process was also time consuming. Also, the designing of the process of scoring the response was also difficult as no previous scale or tool was available for the assessment.
4. There were a very few related literatures of the study. Due to which it was very difficult to justify the results of the research with a minimum numbers of similar research studies.
5. The time for the implementation period was also not sufficient enough to complete all the activities efficiently. So, home assignments were given to the students in order to manage the time.

