CHAPTER V

MAJOR FINDINGS, DISCUSSIONS AND CONCLUSIONS

CHAPTER-V

MAJOR FINDINGS AND DISCUSSIONS OF THE STUDY

5.1.0 Introduction

This section of the study aims to present the key findings gathered from the analysis and interpretation of the data, followed by an in-depth discussion of the findings. Here the results of the study were examined in relation to the objectives of the study and every finding of all the six objectives are reported precisely. The discussions of each and every finding is done by comparing the results of the previous related research studies. Here the main discussions were centered around the effectiveness of Multiple Intelligence based Instructional Approach in enhancing Learning Competencies of the students in social science subject in relation to gender and academic achievement level. From the discussions of the study the educational implications of the method in practical field were highlighted for any kind of future needs.

5.2.0 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:

5.2.1 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.

5.2.2 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 benefitted 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.

5.2.3 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.

5.2.4 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.

5.2.5 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.

5.2.6 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.

5.3.0 DISCUSSION OF THE STUDY

This section generally deals with the discussions of findings of the study. The discussions were done by comparing the results of the previous related research studies. Here each and every objective was discussed by comparing, analysing and reviewing the findings of the related research studies. The investigator interprets the findings, investigate their implications, and place the findings in the perspective of current literature. It is an important section of the research article because it helps readers grasp the relevance of the findings and their larger implications.

The discussion of the findings of each and every objective on the basis of the previous research findings in order to verify the reasons of the present research findings are as follows:

1. **Objective No 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.

For the fulfilment of the requirements of Objective No.1 the researcher developed an Instructional Based Module based on the theory of Multiple Intelligence by Howard Gardner. For this purpose, the researcher did a thorough literature study of the previous related literature. The design of the module aligned with the previous research studies carried out by Tapan Kumar Basantia (2006), Reni Francis Achamma (2012), Archana S Choudhari (2012) Deepa V (2017), Priya Singh (2017), and Sumayya Khan (2018). All the above-mentioned studies focused on the development of classroom activities related to Multiple Intelligence theory. Though the modules of the above-mentioned studies contain similar traits yet they are different with respect to their subject background such as applied science, mathematics, social science, language, etc.

2. **Objective No. 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.**

The study found that the students who were provided classroom instructions by Multiple Intelligence Based Instructional Approach showed better performance in achieving overall learning competency in Social Science subject with regard to the pre – test and post -test scores.

The findings of this study corroborate with the findings of Eisa M. Al-Balhan (2006), Osa - Edah and Alutu (2012), and Niken Permata Putri and Yuni Ahda (2020). All the above-mentioned prior studies support the findings of this objectives. All the studies claim that the students who got exposure of the Multiple Intelligence approach were benefited more in contrast to other kind of approaches.

3. **Objective No. 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.**

The result of the study showed positive impact of Multiple Intelligence Based Instructional Approach over Traditional Learning Method in achieving learning competency related to all the three domains such as cognitive, affective and psychomotor domain in social science subject with regard to the pre- test and post -test scores.

Prior studies conducted by Divina Naoe (2010), Al – Balhan and Eisa M (2006), Osa – Edah and Alutu (2012), Niken Permata Putri and Yuni Ahda (2020) Atiek Winarti, et al. (2018), Widiana, et. Al (2016), Yalmanci, G.S and Gozum, A.I.C (2013), Reni Francis Achama, Bahaddin (2005), Abdallah. A (2008), Temur, Dogan (2007), Kausar, Gujjar (2008) showed similar findings related to some common traits of cognitive domain. So, it can be said that MIBIA have mostly showed positive impact in cognitive domain of the students.

Regarding affective domain the previous studies related to Gokhen Bas (2010), Deepa V (2017), and Richa Rana (2018) showed similar results with the present study. The results

indicated that the MIBIA approach was successful in achieving positive result in affective domain learning competency than that of TLM approach. The results show effectiveness in similar traits related to affective domain such as attitude, interest etc. with the present study.

In case of Psychomotor domain also the study found that the mean score of the students exposed to MIBIA approach was higher than the mean score of TLM, which indicates MIBIA was more effective than TLM approach.

The findings of the present study corroborate with the findings of Niken Permata Putri& Yuni Ahda, (2020) where Multiple Intelligence based workbooks showed better results in psychomotor domain of learning competency than that of the commonly used handbooks. Again, study conducted by Anado Leo Virganta, et. al. (2020) showed positive impact of multiple intelligence - based learning models in stimulating musical intelligence of children aged 5 -6 year. Also, from the study conducted by Yudanto Yudanto (2023) it was found that the application of Multiple Intelligence based Perceptual Motor Activity Model improved the basic locomotor movements. So it can be concluded from the discussion that the MIBIA approach can also be effective in the development of Psychomotor domain of learning competency of the student.

4. **Objective No. 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.**

From the study it was found that the MIBIA approach was more effective than TLM when both the group were compared in respect of their pre - test score, which means MIBIA approach is better than TLM in achieving overall learning competency in social science subject. Not much similar research studies were found which align to study the impact of MIBIA in all three-learning competency together but still the study conducted by Niketan Param Putri (2020) exactly match with the objectives of the present study, also the result corroborate with the result of the present study.

In case of gender no significant difference was found in the post test result. It was found that students of both the genders were benefited by the MIBIA approach that the TLM approach at post-test. No studies were found that studied the interaction of gender and group on overall learning competency in all the three domains of learning.

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Yet some of the few studies were conducted on the learning outcome, academic achievement, academic attitude etc, which align with the results of the present study.

In case of cognitive part of the learning competency the result of some of the previous studies corroborate with the result of the present study. Studies conducted by Deepa V (2017) found that boys and girls performed similarly in post-test with respect to academic achievement. Reni Francis Achamma (2012) also found no significant effect of gender on the academic achievement of the secondary school students. Richa Rana (2018) also found no significant difference in the mean score of both the gender in the usage of multiple intelligence supported project-based learning in English language. Regarding affective domain, Richa Rana (2018) found significant differences in male and female regarding behavioural aspect as well as attitude towards English subject.

Studies conducted by Kailash Chand (2017) found a contradictory result regarding the psychomotor domain. In his study significant differences was found between the two gender on the basis of their mean score. And male students were seemed to score higher than the female students in case of bodily and kinesthetic intelligence.

5. **Objective No.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.**

The aim of this objective was to study the effect of Group, Gender and their interaction on component wise learning competency in social science subject by considering pre -test.

Regarding cognitive domain the present study found more positive impact of MIBIA than that of TLM between the post – test of both the treatment group. And regarding gender no significant differences was found between the mean score of male and female with respect to their post - test result in cognitive domain. This finding supports the findings of Deepa V (2017) where it was found that boys and girls performed similarly in post-test with respect to academic achievement. Reni Francis Achamma (2012) also found no significant effect of gender on the academic achievement of the secondary school students. Richa Rana (2018) also found no significant difference in the mean score of both the gender in the usage of multiple intelligence supported project-based learning in English language.

Also, in case of affective domain the present study found more positive impact of MIBIA than that of TLM between the post – test of both the treatment group. And regarding gender significant differences was found between the mean score of male and female with respect to their post - test result in affective domain. This finding supports the finding of Richa Rana (2018) where significant differences was found in male and female regarding behavioural aspect as well as attitude towards English subject. However, the result of the study contradicted to findings of the study conducted by Deepa V (2017) where no significant difference was found between the mean score of boys and girls regarding attitude towards biology subject.

Regarding psychomotor domain the present study found more positive impact of MIBIA than that of TLM between the post – test of both the treatment group. And regarding gender no significant differences was found between the mean score of male and female with respect to their post - test result in cognitive domain. Studies conducted by Kailash Chand (2017) found a contradictory result regarding the psychomotor domain. In his study significant differences was found between the two gender on the basis of their mean score. And male students were seemed to score higher than the female students in case of bodily kinetic or non – academic activities.

6. **Objective No.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.**

From the study it was found that the MIBIA approach was more effective than TLM when both the group were compared in respect of their pre - test score, which means MIBIA approach is better than TLM in achieving overall learning competency in social science subject. Not much similar research studies were found which align to study the impact of MIBIA in all three-learning competency together but still the study conducted by Niken Param Putri (2020) exactly match with the objectives of the present study, also the result corroborate with the result of the present study.

In case of academic achievement level, no significant difference was found in the post test result. It was found that students of all the three Academic Achievement level (Highest, Moderate and Low) were benefited by the MIBIA approach that the TLM approach at post-test. No studies were found that studied the interaction of gender and group on overall

learning competency in all the three domains of learning. Yet some of the few studies were conducted on the learning outcome, academic achievement, academic attitude etc, which align with the results of the present study.

Reni Francis Achamma (2012) in her study found significant effect of academic achievement on the achievement of educational objectives of the secondary school students. The result of this study contradicted with the result of the previous study of Reni Francis Achamma (2012) which state significant difference among the students of three academic achievement level in case of achieving educational objectives.

7. **Objective No. 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.**

The aim of this objective was to study the effect of Group, Gender and their interaction on component wise learning competency in social science subject by considering pre -test.

Regarding cognitive domain the present study found more positive impact of MIBIA than that of TLM between the post – test of both the treatment group. And regarding academic achievement level no significant differences was found between the mean score of all the three academic achievement level (Highest, Moderate, Low) with respect to their post - test result in cognitive domain. It was really difficult to find a research similar to the result of this study. However, a contradictory study was found which was conducted by Reni Francis Achamma (2012) where significant difference was found among the three academic level students regarding the achievement of educational objectives.

Also, in case of affective domain the present study found more positive impact of MIBIA than that of TLM between the post – test of both the treatment group. But no such related study was found which studies the effect of Group, Academic Achievement Level and their interaction on affective domain Learning Competency in Social Science subject by considering their respective domain at pre-test level as covariate. Regarding psychomotor domain the present study found more positive impact of MIBIA than that of TLM between the post – test of both the treatment group. And also, no such related study was found which studies the effect of Group, Academic Achievement Level and their interaction on

psychomotor domain Learning Competency in Social Science subject by considering their respective domain at pre-test level as covariate.

5.4.0 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: -

5.4.1 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.

5.4.2 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.

5.4.3 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.

5.4.4 Educational Implication for In - service Teacher:

1. In - service teacher can implement Multiple Intelligence approach in order to provide a diversified range of teaching strategies which can cover diversified capabilities of the students.

2. With the help of MIBIA the teacher can also encourage an inclusive classroom to meet the needs of the different types of students.

3. The teachers may also be helpful to develop interest among the students towards the subject matter with various type of activities.

4. Traditional assessment methods often fail to capture the full range of students' capabilities. The MI approach advocates for alternative assessments, such as portfolios, presentations, or creative projects, that reflect varied intelligences.

5. Professional development programs focussing on MI theory can assist in-service teachers expand their teaching repertoire and better meet the requirements of today's varied classrooms.

5.4.5 Educational Implication for Pre- Service Teacher:

1. Pre - service teacher can incorporate MI principles in order to prepare themselves to be flexible and innovative in their teaching strategies in future.

2. Teacher education programs can incorporate MI theory to help pre-service teachers comprehend the value of modifying their teaching practices.

3. Pre-service instructors may be encouraged by MI theory to identify and accommodate students' diverse learning preferences.

4. It will help the future teachers to build a diversified knowledge about various skills involved in teaching learning process other than the traditional one.

5.5.0 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, Sicence, 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.

5.6.0 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.

6. Only two schools were selected for the study for a limited time period.

7. Another drawback was that the sample size of the study was small.

8. Only government medium school was selected for the study.

9. And the study was based on the quantitative data only.