CHAPTER V

SUMMARY, FINDINGS AND CONCLUSION

5.1. Summary

Individuals exhibit different learning and thinking styles in different contexts, adding new ways of processing information and thus enhancing them to make better decisions in life. Students also take in and process information differently, which may be through writing, reading, seeing, hearing, reasoning, analysing, visualizing, or experimenting. It is not necessary for one learner to perceive information in one way and for the other learner to follow the same way. Most people are somewhat flexible in their use of styles and they try to adopt their style demand according to the circumstances. This happens because the human mind plays a flexible role in accomplishing a diversity of tasks.

Styles are not stoned from birth; they are like abilities which are not fixed but in a state of fluid because they depend on the environment and the individual’s interaction with it, developing with socialisation. An individual may change their preference style in accordance to their needs and the situations in different stages of their life. They may also prefer one style at one stage of time and adopt another style in another
stage. Styles enable the understanding of the performance which cannot be accounted by the individual’s difference in abilities. Styles can let us know about the environment and the individual’s interaction with the environment.

The Review of Related Literature shows that so many studies have been conducted to fulfil the gap of understanding the perplexity about the styles of learning and thinking process, what effect these styles have on children’s performance in schools, and why attention should be given to children’s performance to assess their levels of ability in relation to many variables like academics, intelligence, personality, socio-economic status and so on.

It must be noted that the thinking and learning style is complex since the styles are influence by many variables which should be research in depth. Hence, it can be said that by knowing ones style will enable the students to analyse the styles of others and help them to understand other people better, making them flexible and perhaps more effective.

**Significance of the Study**

The students’ styles of learning and thinking are still perplexed and their style affects their performance in school, thus, great attention should be given to children’s performance to assess their level of ability.
We need to understand the learning and thinking style and also learn to use them flexibly. In order to use the learning and thinking style flexibly we need to identify the individual preferred style. Research tools are readily available to identify individual style, therefore, teachers need to understand and identify the student’s style. This direct approach will enable the teacher to understand and assess the students’ style and develop their abilities and creativity with accordance to the individual specific style. So there is need of conducting more research studies to know the learning and thinking styles of the pupil. Of late, a few number of research studies have been conducted on the style of learning and thinking throughout the globe and also in India but no study have been conducted in the north-east India particularly in Shillong, so the investigator felt need of conducting a study on the style of learning and thinking among Secondary School Students in Shillong.

Statement of the Problem:

“A Study on Style of Learning and Thinking of Secondary School Students in Shillong, Town. Meghalaya”.

Operational Definitions:

Style of Learning: The style of learning is an individual’s natural or habitual pattern of acquiring and processing information in learning.
situations. A learning style is how you receive information most efficiently (and naturally).

**Style of Thinking:** It describes the way an individual thinks, perceive or remember information. A thinking style is how we process information most efficiently (and naturally).

**Secondary School Students:** A grade of education from Standard IX to X is called Secondary School Students.

**Objectives of the Study:**

The following are the major objectives of the study:

1. To identify different types of brain dominance in Secondary School Students in Shillong.
2. To find different levels of style of learning and thinking among different brain dominant students.
3. To identify the right, left and integrated hemisphere preferences for information in Secondary School Students in relation to Sex.
4. To identify the right, left and integrated hemisphere preferences for information in Secondary School Students in relation to Management.
5. To identify the right, left and integrated hemisphere preferences for information in Secondary School Students in relation to Age

6. To identify the right, left and integrated hemisphere preferences for information in Secondary School Students in relation to community.

**Research Questions**

The following Research Questions have formulated the present study:

1. What are the differences in the brain dominance of secondary school students in Shillong?

2. What are the differences of the Right, left and integrated brain dominant students in the style of learning and thinking?

3. What are the differences of secondary school students in their style of learning and thinking in relation to sex?

4. What differences are there of the secondary school students in their style of learning and thinking in relation to management?

5. What are the differences of secondary school students in their style of learning and thinking in relation to age?

6. What are the differences of secondary school students in their style of learning and thinking in relation to community?
Delimitation of the study:

The present research work has been delimited to the secondary school students in Shillong only, due to shortage of time. It is further delimited to class IX students only.

Method of the Research

The Descriptive Survey Method has been used for the present study.

Population:

The population consist of 80 secondary schools in Shillong which comprises of 4 Government Schools, 46 Government Aided Schools and 30 Private Unaided Schools. The population consist a total of 9531 secondary school students.

Sample:

The sample for the study was selected from 8 Secondary School of Shillong which consist of 100 students. Out of the 100 students, 50 are boys and 50 girls.
Tools:

The SOLAT tool prepared and standardised by Dr V. Venkataraman (1994) has been adopted for the present study. It consists of 50 questions with first (a) and Second (b) items. The first items indicates right hemisphere; second item indicates left hemisphere and checking of both the items indicates integrated hemisphere (or) whole brained.

The reliability coefficient of correlation for the right hemisphere function was found to be .89. For the left hemisphere function the coefficient of correlation was found to be .65. These coefficients suggest that the SOLAT possesses reliability to a significant level.

Concurrent Validity of the tool was found .842 for the right hemisphere part; .621 for the left hemisphere part and .678 for the integrated part. It possesses reasonable level of concurrent validity.

Administration of Tool:

To administer the tool, the researcher has shouted permission from heads of the schools then rapport has been developed with the students, then after SOLAT tool has distributed to the sample of students with proper instructions and asked them to respond to the same using by tick mark. Sufficient time has been given to the respondents.
**Data collection:**

The data for the present study has been collected from 8 secondary schools in Shillong which includes 100 secondary school students. Out of that 50 are girls and 50 are boys.

**Scoring Procedure:**

In the tool, against serial number 1-50, checking of the first items indicates right hemisphere; second item indicates left hemisphere and checking of both the items indicates integrated hemisphere (or) whole brained.

4. **First** Counted the number of items checked both boxes for an item, and written that number in box “W”.

5. **Second** Counted the number of items checked only for second item and written that number in box “L”.

6. **Third** Counted the number of items checked only “R” for first item, and written that number in box “R”.

The raw scores were converted into s-sten scores (standard-deviation stens). The hemisphericity dominance is determined on the basis of the highest score in three categories of dominance, by using of below norms.
Norms

To know where an individual stands in relation to a defined population, the raw scores were converted into sten scores. The sten score distributed over ten equal intervals of standard score points, from 1 to 10.

The range of sten 8-10 indicates high and extremely high score, sten of 4-7 indicates average score and sten of 1-3 indicates low and extremely low scores.

Statistical Techniques:

Data has been analysed and interpreted in quantitative technique. First the raw scores were converted into s-sten scores (standard-deviation stens). The analysis has been carried out by using frequencies and percentile. The Observation Technique has also been used for the study.

5.2. Major Findings of the Study

1. It is found that majority of the secondary school students of Shillong are having right brain dominance, i.e., 78% followed by left and integrated brain dominance 11% each.
2. It is found that more than half of the right brain dominance students have high and extremely high level of style of learning and nearly half of the right brain dominance students have average level of style of learning and thinking and none of them found in low category.

3. It is found that majority of the left brain dominance students have high and extremely high level of style of learning, very few boys have average level of style of learning and thinking and none of them found in low category.

4. It is found that majority of the integrated brain dominance students have high and extremely high level of style of learning and thinking, very few boys have average level of style of learning and thinking and none of them found in low category.

5. It is found that majority of boys and girls possess right hemisphericity. Among the rest, the percentage of left hemisphericity was little higher in boys than girls and the percentage of integrated hemisphericity was little higher in girls than boys.

6. It is found that the percentage of private students were higher in the right hemisphere, it was equal in the left for both the government and private management and the percentage of government
management was higher in integrated hemisphericity of brain dominance.

7. It is found that the below 15 age students higher than the above 15 age students at the right hemisphere, whereas in the left and integrated hemisphere the above 15 age students higher than below 15 age students.

8. The table of hemisphericity of students with respect to community shows that the hemisphericity of S.T students higher in the right hemisphere. On the other hand the General students higher in the left and integrated hemisphericity.

5.3. Discussion

From the above findings it can be said that the right hemisphere dominates in hemisphericity preference among children. There is no gender difference in the preference of hemisphericity in school students of shillong. Since majority of the school students are right brain dominant, therefore the right hemisphere dominates in hemisphericity preference. It is also seen that from among the right hemisphere thinkers there exist students who have average, high and extremely high level of style of learning and thinking but no one belong to the low level of learning and thinking. Students who prefer the right hemisphere for
processing information have more “interest” in the learning style and are “problem solving” in the thinking style. Students who preferred left hemisphere are more “verbal” in the learning style and more “divergent or convergent” in their thinking style.

The left brain dominance students are very less in number as compared to the majority of the sample collected. From amongst the left brain hemisphericity, majority of the students have high level of learning and thinking styles and few boys have average level of learning and thinking. The students belonging to this category are more “verbal” and “convergent and divergent” in their style of learning and thinking respectively. The other category of students having the integrated hemisphere dominant in hemisphericity preference for information processing is also little in number. They however have high levels of learning and thinking and very few have average levels of learning and thinking. It is seen in both the categories that there are no students belonging to low levels of learning and thinking.

As already mentioned above that majority of the boys and girls possesses right hemisphericity brain dominance. From amongst them the left hemisphere is little higher in boys than in girls. And the percentage of girls is higher in the integrated hemisphericity as compared to boys.
Therefore there exist differences between the preference of information in boys and girls, which is slightly different.

There exist a difference between the private and government management. The levels of learning and thinking are higher in the private sector belonging to the right hemisphere than in the government sector, it is equal in both the government and private sector belonging to the left hemisphere whereas in the integrated hemisphere the government sectors are higher in the levels of learning and thinking than the private management.

Students of right hemisphere are higher at the age group below 15 in the levels of learning and thinking than the students belonging to the age group above 15. It is higher in the age group above 15 as compared to the age group below 15 of the left brain hemisphere and the integrated brain hemisphere. When comparison are made in relation to the community the S.T categories are higher in the right hemisphere as compared to the General and in the left and integrated brain dominant the General category’s level of learning and thinking are higher as compared to the S.T category.
5.4. Suggestions based on Major Findings

1. It is important for the teacher to focus their attention on students’ favoured thinking styles before imparting the subject matter.
2. It is important for the parents and teachers to understand the nature of the students’ mind and its functions in different styles of learning and thinking.
3. The teaching and learning procedures must be organised in such a way, that they tone up and activate the hemispheric functions of the brain in students.
4. The teacher should help the students to become more integrated learners with better processing skills in both hemisphere.
5. The teacher should provide opportunity for the students to actuate the operation of the non-dominant hemisphere.
6. Different teaching techniques and methodologies can be adopted to activate and influence the hemisphere functions of the brain.
7. The teaching techniques in the schools can be undertaken inconsonance with the students’ style of learning and thinking. This approach will remove unnecessary restrictions on teaching and learning of the students and actualisation of the concept “no limits to learning”.

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5.5. Conclusions

The result obtained is similar to those observed by Jangaiah (1998), that the right hemisphere dominated in hemisphericity preference amongst children. As witness in the study that majority of the secondary school students in Shillong are having right brain dominance. But a study conducted by Vengopal and Mridula indicated that gender played a significant role in hemisphericity preference for information processing. There exist differences in the study amongst boys belonging to the left hemisphere which are higher than girls, and girls percentage are higher in the integrated hemisphericity as compared to boys.

Among students who preferred right hemisphere for information processing in learning style, they preferred the concept ‘content preference followed by learning reference, interest, class preference and verbal’. And the students who preferred the right hemisphere for information processing in learning style of concepts the order of preference is ‘verbal, learning preference, class preference, interest and content preference respectively’.

The results showing that majority of the students are right hemisphericity brain dominant for processing information. This may be due to the fact that the teachers and their learning and thinking styles are following the old traditional learning and teaching styles which
ultimately influence the students. Styles are not abilities which exist from birth, they grow and develop with time and easily influence by the environment, therefore the reason for majority of the students in Shillong having right hemisphere dominant in hemisphericity preference among children is because of the traditional method of teaching. Traditional teaching methods are no longer effective. Exposing learners to varieties of teaching methods to achieve a particular objective will make the teaching effective.

Different teaching techniques and methodologies can be adopted to activate and influence the hemisphere functions of the brain. The teaching techniques in the schools can be undertaken inconsonance with the students’ style of learning and thinking. This approach will remove unnecessary restrictions on teaching and learning of the students and actualisation of the concept “no limits to learning”. The teacher can explore the students learning only if they know the students preferred style.
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Appendix II

MAP OF MEGHALAYA