

**A STUDY OF ACADEMIC ACHIEVEMENT OF SENIOR SECONDARY SCHOOL STUDENTS OF
PASCHIM VIHAR IN RELATION TO THEIR LEARNING AND THINKING STYLE**

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Abstract

The paper intends to study academic achievement of senior secondary school students of Paschim Vihar, Delhi in relation to their learning and thinking styles. Descriptive survey method was used to find out correlation between academic achievement and learning and thinking style of the subjects under study. Further comparison between male and female subjects on their academic achievement and learning and thinking style was also studied. For the purpose, a sample of 80 students of class XI was randomly selected from senior secondary school students of Paschim Vihar, Delhi. Learning and thinking (SOLAT) by Venkataraman (1994) was used to collect the data. Academic achievement was measured by taking scores of previous year. Statistical techniques used were- Mean, Standard Deviation, correlation and t-Ratio. The findings of the study are: Academic achievement of senior secondary school students of paschim vihar, Delhi, was found to be above average. Right hemisphere of senior secondary school students of paschim vihar, Delhi, was dominant over left hemisphere and on whole brain in the present study. No significant correlation between Right Brain dominance and academic achievement of the subjects was found. There found non- significant but negative correlation between Left Brain dominance and academic achievement of the subjects. There found no significant correlation between Right Brain Dominance, Left Brain Dominance, Whole Brain Dominance and academic achievement of the subjects. There found a significant difference between male and female subjects on their academic achievement. Female subjects were found to have higher level on academic achievement than their male counterparts. There found a significant difference between male and female subjects on their learning and thinking style. Male subjects were found to be more Right Brain Dominant than their female counterparts. On Whole Brain Dominance, female subjects were found to be more Whole Brain Dominant than their male counterparts

KEYWORD: *Academic Achievement, Learning and Thinking Style*

Introduction

In the fast running life, everyone is concerned to compete and achieve in all aspects of life especially academic field. Even a small child of primary class is worried about his achievement in academics. Need not to mention the desire of parents who are desperate to see their child number one achiever.

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Academic achievement emerges as the most important achievement comparatively other achievements viz. achievement in sports, music, art, drama etc.

So it is necessary to explore the factors affecting Academic achievement. There are numerous factors affect academic achievement viz. intelligence, self concept, study habits, school environment, teaching strategies etc.

Everyone has his own learning and thinking style which affect the personality and achievements of one's life.

Research on "Learning styles" emerged in early 1960s. Learning style concept first appeared in the study of individual differences. "People also share a common cultural background, to a certain extent, common patterns of intellectual abilities, thinking styles and interests". Grigorenka & Sternberg (1997) suggest that thinking styles significantly add to abilities as a tool for predicting academic-achievement.

Learning and thinking styles have been defined as mental framework which makes a person able to process information and solve problems in some specific ways (Sternberg; 2006, 2007).

Styles indicates the hemisphericity functions of the brain and students' learning strategy and information processing are based on the preferences of the brain area (Venkataraman; 1994).

Three types of learning-thinking styles are as follows:

- **Auditory**

Auditory learners are able to learn best by listening Lectures and the other audio mode of information helps them to learn quickly.

- **Visual**

Visual learners learn best when content material is presented with the help of visual aids like charts, pictures, writing boards, flash cards etc.

- **Kinesthetic**

This type of learners learns better when they do something by their own hands and by using their sense of touch. They are also known as Tactile Learners.

Thinking Styles

Thinking style refers to the process in which a learner processes information in his brain, naturally and effectively. Brain/Hemispheric dominance among thinking styles type is as follows:

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- **Left Brain Dominant**

Left Brain dominant thinkers use to process information in a sequence. For example step 1, step 2, step 3 and so on.....They can learn easily if information is presented step by step.

- **Right Brain Dominant**

Right Brain dominant thinkers use to process information presented as a whole. They learn better when information is presented as a whole. Even they loose their patience or get irritated with information presented step wise.

Rationale of the study

Processing and retaining information according to one's own way is one's style of learning-thinking. It is indicated by one's hemispheric dominance. Way of learning and processing information are based on preferences of the hemispheric dominance. Teaching without knowing students' learning-thinking style may be a total waste of time, energy, resources and money. Success of educational efforts can be easy and quick if teacher comes to know his students' learning-thinking styles. Students may achieve more in less efforts and thus can save time, energy and other resources. Being sensitized of the problem, investigators decided to take up the study.

Statement of the problem

“A STUDY OF ACADEMIC ACHIEVEMENT OF SENIOR SECONDARY SCHOOL STUDENTS OF PASCHIM VIHAR IN RELATION TO THEIR LEARNING AND THINKING STYLE”

Objectives of the study:

1. To Study Academic Achievement of Senior Secondary school students of Paschim Vihar, Delhi.
2. To Study Learning and Thinking Style of Senior Secondary school students of Paschim Vihar, Delhi.
3. To Study the relationship of Academic Achievement and Learning and Thinking Style of Senior Secondary school students of Paschim Vihar, Delhi.

4. To compare male and female senior secondary school students of paschim vihar, Delhi on their academic achievement.
5. To compare male and female senior secondary school students of paschim vihar, Delhi on their learning-thinking style.

Hypotheses of the study:

1. There is no significant relationship academic achievement and learning-thinking style of senior secondary school of paschim vihar (Delhi).
2. There is no significant difference between male and female senior secondary school students of paschim vihar, Delhi on their academic achievement.
3. There is no significant difference between male and female senior secondary school students of paschim vihar, Delhi on their learning and thinking style.

Delimitations of the Study

The present study was delimited to:

- Senior secondary schools in paschim vihar, Delhi.
- Measures used

Method of the study

Descriptive survey method was used to carry the study. All senior secondary schools of paschim vihar, Delhi was the population of the study. Ten schools were selected randomly to obtain sample of the study. Eight students (4 Male and 4 female) were selected randomly from the selected schools. A sample of 80 students was taken to conduct the study.

Tools & Techniques

- D. Venkataraman's Style of Learning and Thinking was used to collect data.
- For academic achievement, students' result of class ten was taken under consideration.
- Mean, Standard Deviation, correlation and "t" test was used for analyzing and analyzing the data.

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Results and Interpretations

Table-1

Academic Achievement of Senior Secondary school students of Paschim Vihar, Delhi.

Variable	Mean	Standard Deviation
<i>Academic Achievement</i>	409.23	82.34

It is evident from table-1 above that Mean score of Academic achievement of senior secondary school students of paschim vihar, Delhi was found to be 409.23 and standard deviation 82.34 which indicated homogeneity among the scores. Students were above average academically.

Table – 2

Learning and Thinking Style of Senior Secondary school students of Paschim Vihar, Delhi.

Variable	Mean	Standard Deviation
<i>Right hemisphere</i>	23.15	5.13
<i>Left hemisphere</i>	20.69	5.03
<i>Whole brained</i>	6.16	4.17

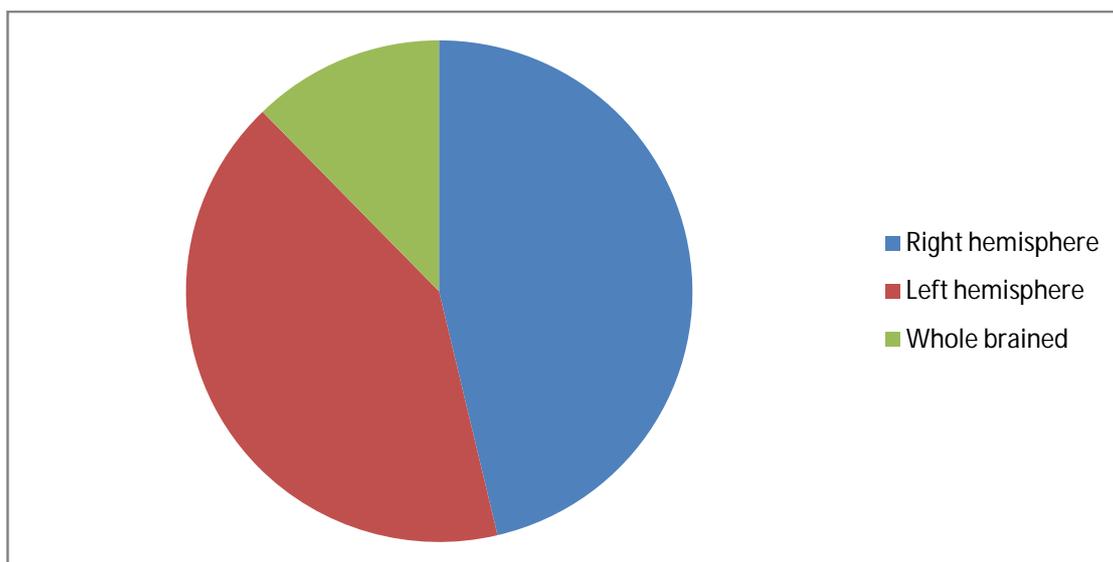


Fig. – 1 Learning and Thinking Style of Senior Secondary school students of Paschim Vihar, Delhi.

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It is evident from table-2 that Mean score on Right Brain Dominance of senior secondary school students of paschim vihar, Delhi was found to be 23.15 with standard deviation 5.13, on Left Brain Dominance 20.69 with standard deviation 5.03 and on Whole Brain Dominance 6.16 with standard deviation 4.17 which indicated slightly homogeneity among the scores.

This show:

- Right Brain Dominance of senior secondary school students of paschim vihar, Delhi, is dominant over left Brain Dominance and on whole Brain Dominance in the present study.
- Left Brain Dominance of senior secondary school students is less dominating over Right and whole Brain Dominance in the present study.
- Integrated brain's utilization is very rare among senior secondary students of paschim vihar, Delhi, in the present study.

Relationship between Academic Achievement and learning and thinking style of Senior Secondary school students of Paschim Vihar, Delhi.

Table – 3

Relationship between Academic Achievement and Right brain dominance , as a dimension of Learning and Thinking Style of Senior Secondary school students of Paschim Vihar, Delhi.

Variable	Mean	Standard deviation	Coefficient of correlation
Right Brain Dominance	23.15	5.13	0.00
Academic achievement	409.23	82.34	

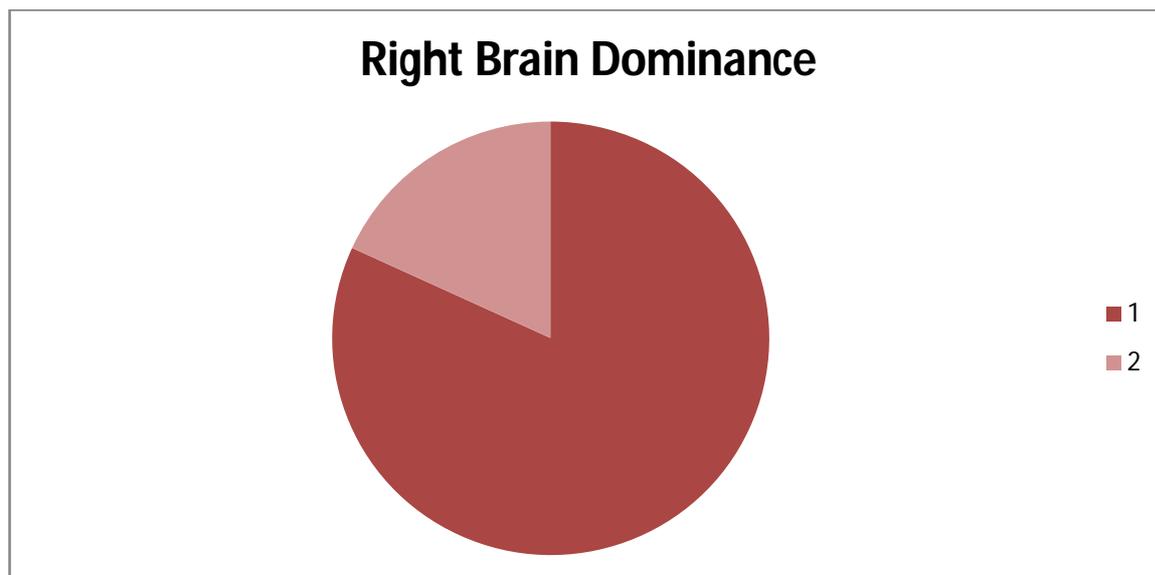


Fig – 2 Relationship between Academic Achievement and Right brain dominance , as a dimension of Learning and Thinking Style ,of Senior Secondary school students of Paschim Vihar, Delhi.

It is evident from table-3 that Mean score on Right Brain Dominance, as a dimension of Learning and Thinking Style, of senior secondary school students of paschim vihar, Delhi was found to be 23.15 with standard deviation 5.13 and on Academic achievement 409.23 with Standard Deviation 82.34. Coefficient of correlation was found to be .00 which is nil. So there found no correlation between both of the variables in the present study.

Table – 4

Relationship between Academic Achievement and Left brain dominance , as a dimension of Learning and Thinking Style ,of Senior Secondary school students of Paschim Vihar, Delhi

Variable	Mean	Standard deviation	Coefficient of correlation
Left Brain Dominance	20.69	5.03	-0.21
Academic achievement	409.23	82.34	

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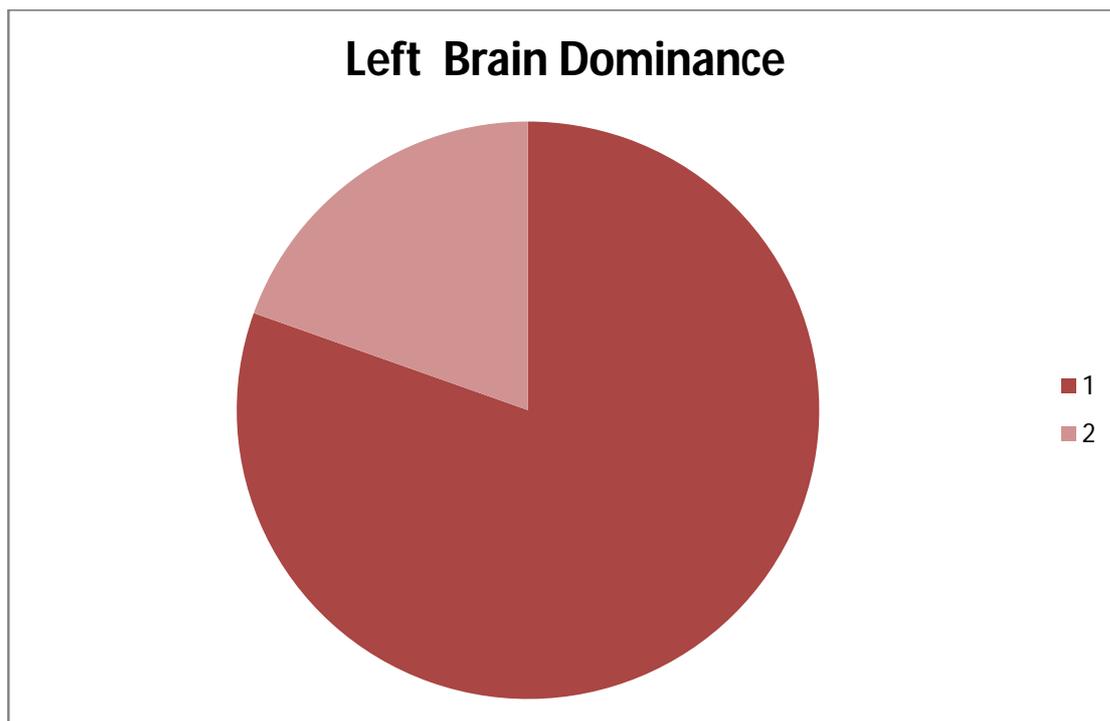


Fig. – 3 Relationship between Academic Achievement and Left brain dominance , as a dimension of Learning and Thinking Style, of Senior Secondary school students of Paschim Vihar, Delhi

It is evident from table-4 that Mean score on Left Brain Dominance, as a dimension of Learning and Thinking Style, of senior secondary school students of paschim vihar, Delhi was found to be 20.69 with standard deviation 5.03 and on Academic achievement 409.23 with Standard Deviation 82.34. Coefficient of correlation was found to be -0.21 which is negative but not significant at the level of significance. So there found non significant negative correlation between both of the variables in the present study.

Table – 5

Relationship between Academic Achievement and Whole brain dominance , as a dimension of Learning and Thinking Style ,of Senior Secondary school students of Paschim Vihar, Delhi

Variable	Mean	Standard deviation	Coefficient of correlation
Whole brain Dominance	6.16	4.17	0.26
Academic achievement	409.23	82.34	

It is evident from table-5 that Mean score on Whole Brain Dominance, as a dimension of Learning and Thinking Style, of senior secondary school students of paschim vihar, Delhi was found to be 6.16 with standard deviation 4.17 and on Academic achievement 409.23 with Standard Deviation 82.34. Coefficient of correlation was found to be .26 which is not significant at the level of significance. So there found no correlation between both of the variables in the present study.

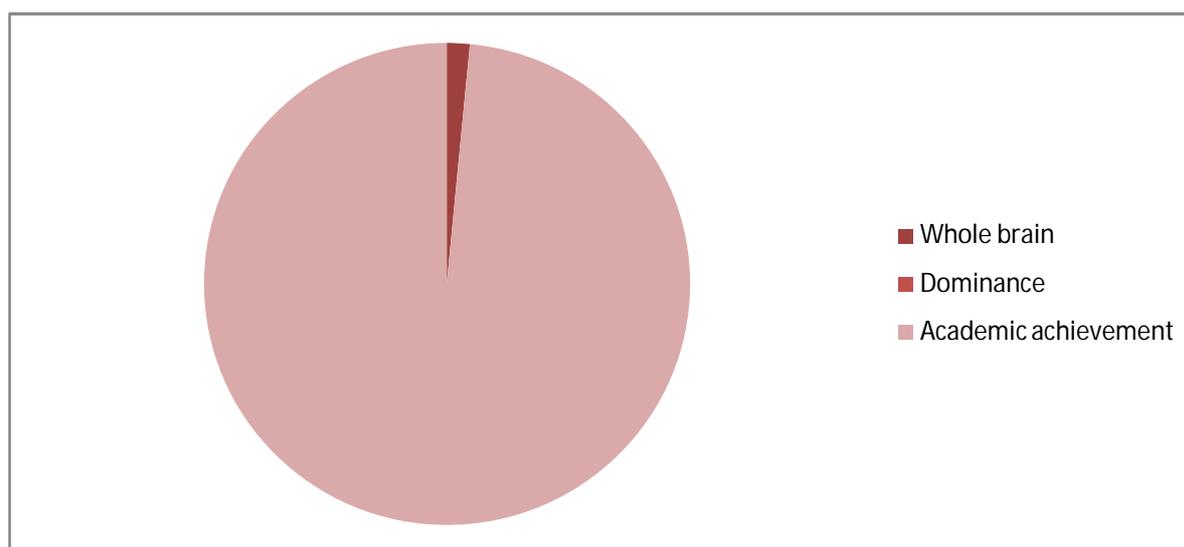


Fig. – 4 *Relationship between Academic Achievement and Whole brain dominance , as a dimension of Learning and Thinking Style, of Senior Secondary school students of Paschim Vihar, Delhi*

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Table –6

Comparison of male and female senior secondary school students of paschim vihar, Delhi on their academic achievement

variable	Gender	N	Mean	Standard deviation	t-ratio
Academic achievement	Male	40	407.12	81.50	0.23**
	female	40	411.32	84.15	

**Significant at .05 level of significance

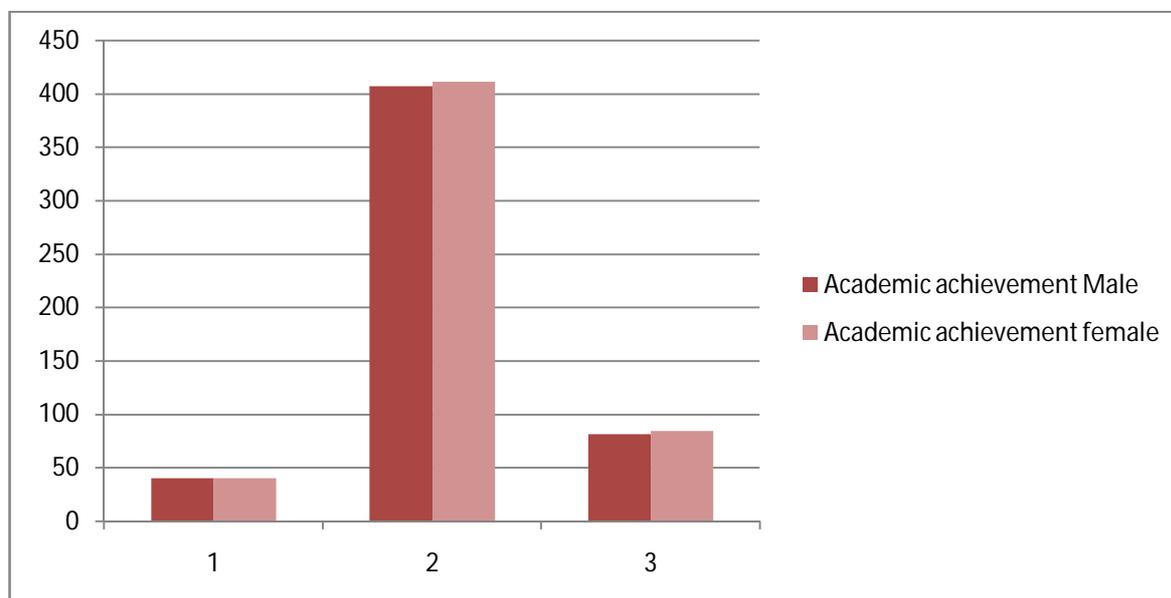


Fig-5 Comparison of male and female senior secondary school students of paschim vihar, Delhi on their academic achievement

It is evident from above table- 6 that mean score of Male senior secondary school students of paschim vihar, Delhi was found to be 407.12 with standard deviation 81.50 on their Academic achievement and mean score of female students of paschim vihar, Delhi was found to be 411.32 with standard deviation 84.15. t-value comes out to be 0.23 which is significant at 0.05 level of significance. Female subjects have higher level on academic achievement than their male counterparts.

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Table –7

Comparison between male and female senior secondary school students of paschim vihar, Delhi on their learning and thinking styles

variable	Gender	N	Mean	Standard deviation	t-ratio
Right hemisphere	Male	40	23.28	5.55	0.22*
	female	40	23.02	4.75	
Left hemisphere	Male	40	22.13	5.59	0.72*
	female	40	21.25	5.29	
Whole brained	Male	40	21.13	5.59	6.20*
	female	40	28.88	5.59	

*Significant at .01 level of significance



Fig- 6 Comparison between male and female senior secondary school students of paschim vihar, Delhi on their learning and thinking styles

It is evident from above table- 7 that Mean score of Right Brain Dominance, as dimension of learning and thinking style, of Male and female senior secondary school students of paschim vihar, Delhi was found to be 23.28 & 23.02 with standard deviation 5.55 & 4.75, on Left Brain Dominance, as dimension of learning and thinking style, 22.13 & 21.25 with standard

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5.59 & 5.29 and on whole Brain Dominance, as dimension of learning and thinking style, is 21.13 & 28.88) with standard deviation 5.59 & 5.59. t-value comes out to be .22, .72 and 6.20 respectively which is significant at .01 level of significance. It means there is significant difference between male and and female senior secondary school students of paschim vihar, Delhi on their learning and thinking style.

Findings of the study

- Academic achievement of senior secondary school students of paschim vihar, Delhi, was found to be above average.
- Right hemisphere of senior secondary school students of paschim vihar, Delhi, is dominant over left hemisphere and on whole brain in the present study.
- Left Brain dominance of senior secondary school students is less dominated over Right Brain and dominant over whole brain dominance in the present study.
- Integrated brain's utilization is very rare among senior secondary students of paschim vihar, Delhi, in the present study.
- There found no significant correlation between Right Brain dominance and academic achievement of senior secondary school students of paschim vihar, Delhi.
- There found non- significant but negative correlation between Left Brain dominance and academic achievement of senior secondary school students of paschim vihar, Delhi.
- There found no significant correlation between Whole Brain Dominance and academic achievement of senior secondary school students of paschim vihar, Delhi.
- There found a significant difference between male and female senior secondary school students of paschim vihar, Delhi, on their academic achievement. Female subjects were found to have higher level on academic achievement than their male counterparts.
- There found a significant difference between male and and female senior secondary school students of paschim vihar, Delhi on their learning and thinking style. Male subjects were found to be more Right Brain Dominant than their female counterparts. On Whole Brain Dominance, female subjects were found to be more Whole Brain Dominant than their male counterparts

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Conclusion

On the basis of above findings conclusion can be drawn that Academic achievement of senior secondary school students of paschim vihar, Delhi, was found to be above average. Academic achievement and Learning and Thinking Style were not found correlated with each other. Male subjects were more dominant on Right Brain usage and female subjects were found to be more Right and Whole Brain Dominant.

Educational Implications

The present study has important educational implications. A learner processes information in his brain, naturally and effectively. Left Brain dominant thinkers use to process information in a sequence. For example step 1, step 2, step 3 and so on.....They can learn easily if information is presented step by step. In the present study female subjects were found to be Left Brain dominants and obtained more mean score on academic achievement than male subjects. Teaching in classroom and curriculum can be designed such a way that can help Right Brain dominants also. Right Brain dominant thinkers use to process information presented as a whole. They learn better when information is presented as a whole. Even they loose their patience or get irritated with information presented step wise. Whole Brain users tend to process information both of the ways.

So the study is useful for teachers, policy makers, curriculum designers and stakeholders.

Suggestions for further study

Further studies can be carried out on following aspects:

- Scholastic achievement and Learning and Thinking Style.
- Creativity and Learning and Thinking Style.
- Emotional Intelligence and Learning and Thinking Style.
- Sense of Humor and Learning and Thinking Style.
- Career maturity and Learning and Thinking Style.
- Try out on other samples.

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