RJPSSs 2017, Vol. 43, No.2, ISSN: (P) 0048-7325 (e) 2454-7026, Impact Factor 4.0012 (ICRJIFR)
UGC Approved Journal No. 47384

Learning And Thinking Style Among Male And Female Adolescens on The Basis of Brain Hemisphericity

Kanu Priya

Kanohar Lal College, Meerut

Abstract

The Present Study Was Conducted To Know The Style Of Learning And Thinking Among Male And Female Adolescents On The Basis Of Brain Hemisphericity of D.E.I. (Deemed University) Agra And B.R.A University, Agra. The Thinking And Learning Style Was Measured With The Help Of SOLAT (Short Form) by Venkataraman (1994). To Study The Style Of Learning And Thinking Of The Students 120 Boys And 120 Girls Of Graduate Level Are Selected From Two Different University (D.E.I Deemed University And Bheem Rao Ambedker University) By The Randomly Sampling Method. Universities Selected By Lottery Method. The Present Study Was Indicated That 'Style Of Learning And Thinking Of Adolescent. Every One Have Different Way Of Learning And Thinking. Adolescents Have Individual Differences In Their Style Of Learning. This Difference Based On Gender, Streams, Educational Environment, Method Of Learning And Thinking Etc.

***Key Words** :- Hemisphericity, Learning, Thinking, Learning Style, Thinking Style And Adolescence.*

Reference to this paper should be made as follows:

Kanu Priya,

Learning And Thinking Style Among Male And Female Adolescens on The basis of Brain Hemisphericity,

RJPSSs 2017, Vol. 43, No.2, pp.181-190, Article No. 24 (RJ1940)

Online available at : http://anubooks.com/?page_id=2012

Learning styles classify different ways people learn and how they approach information. If people feel like they can't learn something important — even after they use a method a friend, a parent, a colleague, or a teacher suggested — they might have a different learning style than that person and their approach might now be the best approach for them. They learn and processes information in their own special way, though they all share some learning patterns, preferences, and approaches. Knowing their own style can also help them realize that other people may approach the same situation in a way that's different from their own.What happens to us in life depends on not just 'how people' think, but 'how well' people think and learn. Of all the factors that influence an individual, his styles of learning and thinking play a major role. Parents and teachers are able to perceive children and their natural tendencies of how they think, act and learn in different ways and in different situations. For example, one child may welcome structure in learning while another may welcome new ways of doing things. One child may perform tasks in an orderly and systematic pattern and another may perform tasks in an unsystematic pattern. This is due to individual differences in their style of learning and thinking. In academic institutions, learning and teaching processes are mismatched. Hemisphericity is the cerebral dominance of an individual in retaining and processing modes of information In his own style of learning and thinking (Venkataraman 1989).

"Learning is the process by which the individual acquires various habits, knowledge and attitudes that are necessary to meet the demand of life in general."

Thinking is highest mental activity present in man. All human achievements and progress are simply the products of thought. The evolution of culture, art, literature, science and technology are all the result of thinking The purpose of thinking, paradoxically, is to arrive at a state where thinking is no more necessary at all in other words, thinking starts with a problem and end in a solution. Thus, thinking is a tool for adapting themselves to the physical and social environment in which a person is in. Dr. Edward De Bono says that thinking can be improved just like any skill because thinking according to him is a skill. He has developed many usefull techniques for training thinking skills.

Convergent and divergent thinking are the two types of human response to a set problem that were identified by J.P. Guilford (1967)

Learning styles can be defined, classified and identified in many different ways. Generally, they are overall Patterns that provide direction to learning and

teaching. Learning style can also be described as a set of factors, behaviors and attitudes that facilitate learning for an individual in a given situation. Effective teaching usually combines several approaches or multi sensory instruction, so the person uses more than one sense at a time while learning multi- sensory approaches work well because of the way their brain when they use their eyes, another they use their ears, and yet third when they use their hands. By using more than one sense bombard their brain with the new information in multiple ways. As a result they learn better.

Reif (1993) says that students retain:

§ 10% of what they read.
§ 20% of what they hear.
§ 30% of what they see.
§ 50% of what they see and hear.
§ 70% of what they say.
§ 90% of what they say and do.

A thinking style is how you process information most efficiently (and naturally)

Two types of thinkers

Linear- Linear thinkers prefer a very structured approach to learning. If a learning process involves progression (Step A. Ste B, Step C, etc) Linear thinkers will feel more comfortable starting Step B only after Step A has been completed. Mathematics and Accounting are considered linear-oriented courses.

Global- Global thinkers of "Strategic thinkers" are more comfortable with new information if they can put it into context with the big picture. They also tend to be impatient with linear subjects and linear-oriented instruction- they prefer access to all the information (early on) so they can relate it to their overall goals. Philosophy and English Literature are considered global-oriented courses. Psychologically, adolescence is a period of transition from childhood to adulthood during which cognitive, physical, personality and social changes occur." For the present study adolescent will be considered as age between 16-18 years.

Magalhães et.al. (2010) The Rey Auditory Verbal Learning Test (RAVLT) is an efficient neuropsychological instrument for testing episodic declarative memory. Performance on this test can be influenced by demographic and cultural variables. The objective of the present study was to analyze the influence of demographics variables, such as age, gender, and education, on RAVLT performance in young and elderly adults. A Portuguese version of the RAVLT was administered to 302 healthy participants. Subjects were from both genders, ranging in age from 17 to 85 years (mean 50.6 ± 15.9 years) and in education from 1 to 20 years (mean 11.3 ± 3.7 years). Participants were grouped by age: 17-34 years old, 34-49 years old, 50-64

years old, and 65-85 years old. Pearson's Correlation analysis showed a significant association between RAVLT performance and both age and education ($p < .001$), but not between RAVLT performance and gender. Two-way analysis of variance revealed significant effects of age on all RAVLT measurements and significant effects of years of education on all measurements, with the exception of recognition. The present data indicate that participant age and education Significantly influence performance on the RAVLT.

Vengopal and Mridula (2007), Examined the hemispheric preferences for information processing and styles of learning and thinking in children. A sample of 250 students of class VIII which included both boys and girls from five English medium schools were selected. The tool Styles of Learning and Thinking was administered. Results revealed that there was significant difference in the right and left (brain) hemisphere preference for information processing among children and that boys were more right hemispheric oriented and girls were more left hemispheric oriented in information processing. Significant difference in the styles of learning and thinking and concept preference among right hemisphere and left hemisphere dominant children was also observed with respect to both genders

Richmond *et al*. (2006) In a study on the thinking styles of online distance education students, evaluated the thinking styles of 160 undergraduate students from three universities enrolled in online distance education courses. Sternberg-Wagner Thinking Style Inventory (1997) was administered and the results indicated a disproportionate number of legislative and hierarchic thinkers in online distance education courses.

Wang *et al.* (2005) conducted a study on using agents and simulation to develop adequate thinking styles. The investigators looked at human-environmental interaction using internet mediated simulations as learners in their efforts to develop thinking styles. One hundred and forty-nine vocational high school students participated in this study. It was revealed that it is possible to establish and support thinking styles via internet-mediated simulations. More development was observed for judicial thinking style in this system.

METHOD

Sample

Researcher used survey method for the present study. Survey studies are conducted to collect detailed description of the existing phenomenon with the intent of employing data to justify current condition or to make more intelligent plans for improving them. The objective of the survey is not only to analyze, interpret, and also report the status by comparing it will establish standards.

Description of tool –

The initial version of style of learning and thinking **(SOLAT)** tool is intended for college students and consisted of 100 items based upon a cumulated research findings concerning the specialized function of the left and right hemispheres. Each items provided the respondent with three choice, one representing a specialized function of the left cerebral hemisphere. The second representing a parallel specialized function of the right hemisphere and the third is checking of both the items representing the investigation of right and left hemisphere functions.

The data were tabulated keeping in view the objective of the study. After this, the data analyzed by using the appropriate statistical techniques needed to arrive to conclusion. In the present study for the analysis and interpretation Percentage**, Mean, Standard deviation,** and **t test** will calculated.

RESULT AND DISCUSSION

Objective -

To explore the style of learning and thinking among selected adolescents (Boys And Girls)from selected universities (D.E.I Deemed University And Bheem Rao Ambedker University).

Table -1

Learning style of male and female –

Learning dimensions	Hemisphere preference	Male No.	Male %	Female No.	Female %	Total No.	Total %
Verbal	RH	23	19.16	32	26.67	55	22.9
	LH	52	43.33	51	42.50	103	42.9
	W	45	37.50	37	30.83	82	34.16
Content preference	RH	36	30	43	35.83	79	32.91
	LH	62	51.67	50	41.67	112	46.66
	W	22	18.33	27	22.50	49	20.41
Class preference	RH	37	30.83	49	40.83	86	35.83
	LH	69	57.5	50	41.67	119	49.58
	W	14	11.67	21	17.50	35	14.58
Learning preference	RH	75	62.50	87	72.50	162	67.5
	LH	29	24.17	22	18.33	51	21.25
	W	16	13.33	11	9.16	27	11.25
Interest	RH	67	55.83	74	61.67	141	58.75
	LH	31	25.83	26	21.67	57	23.75

	W	22	18.33	20	16.67	42	17.5
Total	RH	51	42.5	66	55	117	48.75
	LH	64	53.33	47	39.16	111	46.25
	W	5	4.16	7	5.83	12	5

The table shows gender wise hemisphere preference, from the value calculated through gender hemisphere cross tabulation. In the different dimension of learning -43.33% male preferred left hemisphere while 42.5% female preferred left hemisphere in verbal learning .

In content preference 51.67% male and 41.67% female preferred left hemisphere. 57.5% male and 41.67% female also preferred left hemisphere in male preferred class preference learning while in learning preference 62.5% male and 72.5% female preferred right hemisphere and 55.83% male and 61.67% female also preferred right hemisphere in interest.

Overall majority of male 53.33% preferred left hemisphere, 42.5% preferred right hemisphere and 4.16% whole hemisphere. While 55% majority of female preferred right hemisphere, 39.16% preferred left hemisphere and 5.83% female preferred whole hemisphere in overall learning.

Table- 2 Thinking style of male and female –

Thinking dimensions	Hemisphere preference	Male		Female			Total
		No.	%	No.	%	No.	%
Logical/	RH	69	57.50	76	63.33	145	60.41
Fractional	LH	31	25.83	28	23.33	59	24.58
	W	20	16.67	16	13.33	36	15
Convergent/	RH	70	58.33	82	68.33	152	63.33
Divergent	LH	29	24.16	26	21.67	55	22.91
	W	21	17.50	12	10	33	13.75
Creative	RH	45	37.50	62	51.67	107	44.58
	LH	56	46.67	36	30	92	38.33
	W	19	15.83	22	18.33	41	17.08
Problem	RH	73	68.83	89	74.17	162	67.5
solving	LH	33	27.50	24	20	57	23.75
	W	14	11.67	7	5.83	21	8.75
Imagination	RH	64	53.33	69	57.50	133	55.41
	LH	34	28.33	31	25.83	65	27.08
	W	22	18.33	20	16.67	42	17.5
Total	RH	88	73.33	97	80.83	185	77.08
	LH	28	23.33	18	15	46	19.16
	W	4	3.33	5	4.16	9	3.75

This table shows the style of thinking among male and female. This table divides in 5 dimension of thinking. 57.50% male preferred right hemisphere and 63.33% female also preferred right hemisphere in logical / fractional thinking.

In convergent/ divergent dimension of thinking 58.33% male and 68.33% female preferred right hemisphere.

In creative thinking majority of male 46.67% who preferred left hemisphere while 51.67% female preferred right hemisphere 68.83% male and 74.17% female both are preferred right hemisphere in problem solving while 53.33% male and 57.50% female preferred right hemisphere in imagination.

Among 240 adolescent 73.33% male preferred right hemisphere while 80.83% female preferred right hemisphere in their thinking style.

Table -3 Learning style of D.E.I and B.R.A.U Students -

Learning dimensions	Hemisphere preference	Male		Female	Total		
		No.	%	No.	%	No.	%
Verbal	RH	25	20.83	30	25	55	22.9
	LH	52	43.33	51	42.50	103	42.9
	W	43	35.83	39	32.50	82	34.16
Content	RH	40	33.33	40	33.33	79	32.91
preference	LH	50	41.67	62	51.67	112	46.66
	W	30	25	18	15	49	20.41
Class	RH	45	37.50	41	34.17	86	35.83
preference	LH	49	40.83	70	58.33	119	49.58
	W	26	21.67	9	7.50	35	14.58
Learning	RH	77	64.17	85	70.83	162	67.5
preference	LH	25	20.83	26	21.67	51	21.25
	W	18	15	9	7.50	27	11.25
Interest	RH	68	56.67	73	68.83	141	58.75
	LH	27	22.50	31	25.83	57	23.75
	W	25	28.83	16	13.33	42	17.5
Total	RH	62	51.66	55	45.83	117	48.75
	LH	50	41.66	61	50.83	111	46.25
	W	8	6.66	4	3.33	12	5

Table 3 shows the universities wise hemisphere. In this table calculate the learning style of both universities students. This table also divided in five dimensions of learning. This table highlights that majority of Dayalbagh Educational Institute43.33% and students of Bheemrao Ambedkar University 42.50% who preferred verbal learning.

In content preference mostly male 41.67% and female 51.67% preferred left hemisphere. 40.83% Dayalbagh Educational Institute students and 58.33% students of Bheemrao Ambedkar University both are preferred left hemisphere in class preference while in learning preference 64.17% student of Dayalbagh Educational Institute and 70.83% student of Bheemrao Ambedkar University preferred right hemisphere.

In interest 56.67% student of Dayalbagh Educational Institute and 68.83% student of Bheemrao Ambedkar University preferred right hemisphere.

Comparing among universities, 51.66 % student of Dayalbagh Educational Institute have preferred right hemisphere, 41.66% preferred left hemisphere and 6.66% students are preferred whole hemisphere while Bheemrao Ambedkar University student have preferred 45.83% right hemisphere, 50.83% students preferred left hemisphere and 3.33% students preferred whole hemisphere.

Majority of students of Dayalbagh Educational Institute 51.66% who preferred right hemisphere while majority of students of Bheemrao Ambedkar University students are 50.83% whoi preferred left hemisphere in their total learning.

Table -4 Thinking style of D.E.I and B.R.A.U students -

Thinking	**Hemisphere**	**D.E.I**		**B.R.A.U**		**Total**	
dimensions	**preference**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Logical/	RH	77	64.17	68	56.67	145	60.41
Fractional	LH	26	21.67	33	27.50	59	24.58
	W	17	14.17	19	15.83	36	15
Convergent/	RH	78	58.33	82	68.33	152	63.33
Divergent	LH	28	23.33	28	23.33	55	22.91
	W	22	18.33	10	8.33	33	13.75
Creative	RH	54	45	53	44.17	107	44.58
	LH	39	32.50	53	44.17	92	38.33
	W	27	22.50	14	11.67	41	17.08
Problem	RH	82	68.33	80	66.67	162	67.5
solving	LH	23	19.16	34	28.33	57	23.75
	W	15	12.5	6	5	21	8.75
Imagination	RH	68	56.67	65	54.17	133	55.41
	LH	26	21.67	39	32.50	65	27.08
	W	26	21.67	16	13.33	42	17.5
Total	RH	98	81.66	87	72.5	185	77.08
	LH	13	10.83	33	27.5	46	19.16
	W	9	7.5	0	0	9	3.75

Table 4 shows the universities wise hemisphere. In this table calculate the learning style of both universities students. This table also divided in five dimensions of learning. This table highlights that majority of Dayalbagh Educational Institute 64.17% and students of Bheemrao Ambedkar University 56.67% who preferred logical/fractional thinking.

In convergent/divergent mostly 58.33% student of Dayalbagh Educational Institute and 68.33% student of Bheemrao Ambedkar University preferred right hemisphere.

45% Dayalbagh Educational Institute students and 44.17% students of Bheemrao Ambedkar University both are preferred right hemisphere in creative thinking while in problem solving 68.33% student of Dayalbagh Educational Institute and 66.67% student of Bheemrao Ambedkar University preferred right hemisphere. In imagination 56.67% student of Dayalbagh Educational Institute and 54.17% student of Bheemrao Ambedkar University preferred right hemisphere.

Comparing among universities, 81.66 % student of Dayalbagh Educational Institute have preferred right hemisphere, 10.83% preferred left hemisphere and 7.5% students are preferred whole hemisphere while Bheemrao Ambedkar University student have preferred 72.5% right hemisphere, 27.5% students preferred left hemisphere Majority of students of Dayalbagh Educational Institute 81.66% who preferred right hemisphere while majority of students of Bheemrao Ambedkar University students are 72.5.% who preferred right hemisphere in their total thinking.

REFERENCES

Guilford J. **(1967)** The Nature Of Human Intelligence.

Venkataraman, D. **(1994)**. Styles Of Learning And Thinking – Administrators Manual. New Delhi : Psycom Services.

Xiang, J.C. **(1994)**. *The Relationship Of Students Having Learning Styles, Computer Attitudes And Learning And Thinking Outcomes In A Mathematics Course Using A Cai Lab. Ph.D. Kansesstate University Abstract International*, **55(9) March 1995, Pp. 2800 A.**

Spoon, J.C. And Schell, J.W. **(1995)**. *Aligning Student Learning And Thinking Styles With Instructor Teaching Styles. Journal Of Industrial Teacher Education*, **35(2), 4156.**

Zhang L.F. Sterberg R.J. **(2000)** *Are Learning Approaches & Thinking Styles Related? Departement Of Education,The University Of Hongkong.*

Gabe K. **(2005)** *Male & Female College Student Learning Style Differ: An Opportunity For Instructional Diversification.*

Nooriafshar M. **(2006)** *A Comparoson Of Learning Preference & Preceptions Of Students For Statistics Concepts & Techniques*, **University Of Southern Queensland, Australia.**

Venugopal K. & Mridula K. **(2007)** *Styles Of Learning & Thinking, Journal Of The Indian Academy Of Applied Psychology*, **Vol. 33. No. – 1, Pg No. 111- 118.**

Magalhaes & Aamdan **(2010)** *The Rey Auditory Verbal Learning Test Normative Data For The Brazilian Population & Analysis Of The Influence Of Demographic Variables.*