

STUDY OF HEMISPHERICAL PREFERENCE OF ADOLESCENCES ON THEIR ENGLISH PERFORMANCE

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Abstract

In the present study, an attempt was made to assess the hemispherical preference of adolescents on their English performance. An initial data of 200 students of Moga district of Punjab state was selected randomly. The sample was administered through Style of Learning and Thinking Scale developed and standardized by Venkantaraman (1993). This study was delimited to find out the significant difference of Hemispherical Preference (Left and Right hemisphere preferred only) with demographic variables on English performance. Mean, Standard Deviation (S.D), SED, t-test were used for analysis and interpretation of the data. The findings of the study revealed that – Right Hemisphere Preferred adolescents and Left Hemisphere Preferred adolescents are similar in their English Language Performance.

KEYWORDS: Hemispherical Preference, Adolescents, English Performance.

INTRODUCTION

“The destiny of India is now being shaped in her classrooms. This, we believe, is no more rhetoric. In a world based on science and technology, it is education that determines the level of prosperity, welfare and security of the people”. - **The Kothari Education Commission (1964)**. All educational institutions aspire for academic excellence. In the language area, particularly, acquiring excellence means students’ possessing high proficiency level in language in its four macro skills of listening, speaking, reading and writing. However, that does not happen easily in reality. As we know man is gregarious it is not possible for him to live in isolation or without society. For the development of society and human being, education is vital and language is the base of education. The English language is an instrument to acquire new knowledge in Science, Mathematics, Humanities and Social Sciences, since the world of knowledge in these areas is generally available in English. **According to Kothari Education Commission (1964)**. “In fact, English as an important ‘Library Language’ would play a vital role in higher education. No student should be considered as qualified for a degree, in particular a masters’ degree, unless he has acquired a reasonable proficiency in English”. The visible impact of the presence of English is that it is today being demanded by everyone at the very initial stage of school, both in Government as well as Private schools. English in India today is a symbol of people’s aspiration of quality in education and a full participation in national and international levels. **Saleh (2001)** revealed that students taking up Science, Engineering and Business were

left-brain dominant learners while those taking up Arts, Literature, Education, Communication, Law and Nursing students were right brain dominant. (Tagle,1992; Gibson, 2002). The studies of **Goldberg and Costa (1981)** concludes that the right hemisphere has a great neuronal capacity to deal with informational complexity. The left hemisphere controls the right side of the body including, the right hand, the right arm and the right side of the face, while the right hemisphere controls the left side of the brain. Many studies have indicated that short term memory is primarily the function of left hemisphere. **Mishra (2000)** conducted a study on students learning styles across the academic stream. He found that there was some relationship between learning styles and academic streams. **Mohanasundaram and Kumar (2000)** conducted a study on hemisphericity and achievement of class xi students studying history in higher secondary school. He found that there was no significant difference in achievement in history between the students with left and right; left and integrated hemisphere dominance. **Zhang (2002)** conducted a study on thinking styles: their relationship with modes of thinking and academic performance. He found in his study the three thinking styles explained 10% of variance in the data over and above what is contributed by self-rated abilities. The liberal and global thinking styles negatively contributed to achievement and that the conservation thinking style positively contributes to achievement. **Van der Jagt, et.al. (2003)** conducted a study on hemisphericity modes, learning styles and environmental preference of students in an introduction to special education course. He found in his study that subjects had different hemisphericity modes preferred left and right processing subjects also had different learning styles. **Singh (2005)** conducted a study on learning styles of high school students in relation to their self-concept. It was found that self-concept was positively related with flexible, non-individualistic, long attention span and motivation learning style preferences where as self-concept level was negatively with non-flexible, individualistic, short and need motivation central learning styles. **Malathi and Malini (2006)** conducted a study on learning style in higher secondary students of Tamil Nadu and found the learning style of higher secondary students was found to be good and there was no significant difference in the learning style of higher secondary students in terms of their class and type of school. **Ali (2007)** found in his study that there was no significant association between brain hemisphericity with gender, race, and program of study. His study also reveals that GC confidence rating is not significantly different across brain hemisphericity as well as learning styles. **Kalpna and Mridula (2007)** conducted a study on styles of learning and thinking and found that there was 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 gender. **Aripin. Et.al. (2008)** conducted a study on students learning styles and academic performance and found that there is no strong correlation between learning styles and academic performance. **Warn (2009)** conducted a study on student's learning style and their academic achievement for taxation course and found there is no significant association between the students' learning style and their academic performance with or without controlling for their previous academic achievement. **Mohanasundaram and Kumaran (2011)** found in his study that

there was significant relationship between cognitive process and hemisphere dominance. The right hemisphere dominant teacher trainees are at a higher level than the left hemisphere dominant teacher trainees in their cognitive process. There was significant relationship between cognitive process and personality types. **Venkataraman (2012)** conducted a study on judgement of students' emotional actions in relation to their brain dominance and found that the students belong to right brain dominance are able to discriminate various types of emotions correctly than the other brain dominance are able to discriminate various type of emotions correctly than the other brain dominance. **Kumar, M. (2012)**. Conducted a study on Academic achievement of adolescents in relation to their Emotional Intelligence and style of Learning and Thinking and found that right hemisphere preferred adolescents are more academic achiever than left hemisphere preferred adolescents.

OBJECTIVES OF THE STUDY

01 To find out the difference between Right Hemisphere Preferred and Left Hemisphere Preferred adolescents on their English Performance.

02 To find out the difference between Right Hemisphere Preferred male and Right Hemisphere Preferred female adolescents on their English Performance.

03 To find out the difference between Left Hemisphere Preferred Male and Left Hemisphere Preferred female adolescence on their English Performance.

04 To find out the difference between Right Hemisphere Preferred rural and Right Hemisphere Preferred urban adolescents on their English Performance.

05 To find out the difference between Left Hemisphere Preferred urban and Left Hemisphere Preferred rural adolescents on their English Performance.

06 To find out the difference between Right Hemisphere Preferred Male and Left Hemisphere Preferred Male adolescents on their English Performance.

07 To find out the difference between Right Hemisphere Preferred Female and Left Hemisphere Preferred Female adolescents on their English Performance. **METHODOLOGY**

In the present study, Descriptive survey method was employed.

SAMPLE

A sample of 200 students of Moga district of Punjab state was selected randomly.

VARIABLES OF THE STUDY:

DEPENDENT VARIABLE

- English Performance.

INDEPENDENT VARIABLE

- Hemispherical Preference

DEMOGRAPHIC VARIABLES

- Gender
- Residence

SELECTION OF TOOLS USED IN THE STUDY

- **Style of Learning and Thinking** developed and standardized by Venkantaraman D.
- **For English Performance:** Total marks in English subject obtained by the students in the annual examination of 10th Class.

STATISTICAL TECHNIQUES USED

Mean, S.D, SE.D and t-test were calculated in the present study.

ANALYSIS AND INTERPRETATION

Hypothesis – 1

There is no significant difference between Right Hemisphere and Left Hemisphere Preferred adolescents on their English Language Performance.

Table-1.

Mean, S.D., SE.D. and t-value of English Language Performance of Right Hemisphere and Left Hemisphere Preferred adolescents.

Variables	N	Mean	S.D.	S.E.D.	t- value	Level of significance
Right	122	53.09	12.45	1.86	1.19	Null
Left	56	50.87	11.12			

$P < 0.05 = 1.97$, $P < 0.01 = 2.60$ at $df = 176$

This table shows that the t – value (1.19) is less than the table value at both levels of significance i.e. 0.05 and 0.01 at df. (176). So the null Hypothesis – 1 “There is no significant difference between Right Hemisphere and Left Hemisphere Preferred adolescents on their English Language Performance” is

accepted. Hence, it may be concluded that Right Hemisphere Preferred adolescents and Left Hemisphere Preferred adolescents are similar in English Language Performance.

Hypothesis – 2

There is no significant difference between Right Hemisphere Preferred Male and Right Hemisphere Preferred Female adolescents on their English Language Performance.

Table-2.

Mean, S.D., S.E.D. and t-value of English Language Performance in Right Hemisphere Preferred Male and Right Hemisphere Preferred Female adolescents

Variables	N	Mean	S.D.	S.E.D.	t- value	Level of significance
Right Male	52	51.17	10.71	2.18	1.53	Null
Right Female	70	54.51	13.43			

P < 0.05 = 1.98 , P < 0.01 = 2.62 at df. 120

This table shows that the t – value (1.53) is less than the table value at both the levels of significance i.e. 0.05 and 0.01 at df. 120. So the null Hypothesis – 2 “There is no significant difference between Right Hemisphere Preferred Male and Right Hemisphere Preferred Female adolescents on their English Language Performance” is **accepted.** Hence, it is concluded that Right Hemisphere Preferred Male adolescents and Right Hemisphere Preferred Female adolescents are similar in English Language Performance.

Hypothesis – 3

There is no significant difference between Left Hemisphere Preferred Male and Left Hemisphere Preferred Female adolescents on their English Language Performance.

Table –3

Mean, S.D., S.E.D. and t-value of English Language Performance in Left Hemisphere Preferred Male and Left Hemisphere Preferred Female adolescents

Variable	N	Mean	S.D.	S.E.D.	t- value	Level of significance
Left Male	35	48.34	8.15	3.30	2.04	0.05

Left Female	21	55.09	13.79			
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$P > 0.05 = 2.01$, $P < 0.01 = 2.68$ at $df = 54$

This table shows that the t – value (2.04) is more than the table value at 0.05 level of significance at df (54). So the null Hypothesis -3 “There is no significant difference between Left Hemisphere Preferred Male and Left Hemisphere Preferred Female adolescents on their English Language Performance” is **rejected**. Hence, it is concluded that Left Hemisphere Preferred Female adolescents are more English Language achiever than Left Hemisphere Preferred Male adolescents.

Hypothesis – 4

There is no significant difference between Right Hemisphere Preferred Rural and Right Hemisphere Preferred Urban adolescents on their English Language Performance.

Table – 4

Mean, S.D., S.E.D. and t-value of English Language Performance in Right Hemisphere Preferred Urban and Right Hemisphere Preferred Rural adolescents

Variables	N	Mean	S.D.	S.E.D.	t- value	Level of significance
Right 'Urban	65	58.47	13.63	1.92	6.05	0.01
Right Rural	57	46.94	7.01			

$P > 0.05 = 1.98$, $P > 0.01 = 2.62$ at $df. 120$

This table shows that the t – value (6.05) is more than the table value at both the level of significance at df (120). So the null Hypothesis – 4 “There is no significant difference between Right Hemisphere Preferred Urban and Right Hemisphere Preferred Rural adolescents on their English Language Performance” is **rejected**. Hence, it is concluded that Right Hemisphere Preferred Urban adolescents are more English Language achiever than the Right Hemisphere Preferred Rural adolescents.

Hypothesis – 5

There is no significant difference between Left Hemisphere Preferred Urban and Left Hemisphere Preferred Rural adolescents on their English Language Performance.

Table – 5

Mean, S.D., S.E.D. and t-value of English Language Performance in Left Hemisphere Preferred Urban and Left Hemisphere Preferred Rural adolescents

Variable	N	Mean	S.D.	S.E.D.	t- value	Level of significance
Left Urban	27	55.40	11.53	2.75	3.18	0.01
Left Rural	29	46.65	8.82			

$P > 0.05 = 2.01$, $P > 0.01 = 2.68$ at $df = 54$

This table shows that the t – value (3.18) is more than the table value at both the levels of significance at df (54). So the null Hypothesis – 5 “There is no significant difference between Left Hemisphere Preferred Urban and Left Hemisphere Preferred Rural adolescents on their English Language Performance” is **rejected**. Hence, it is concluded that Left Hemisphere Preferred Urban adolescents are more English Language achiever than Left Hemisphere Preferred Rural adolescents.

Hypothesis – 6

There is no significant difference between Right Hemisphere Preferred Male and Left Hemisphere Preferred Male adolescents on their English Language Performance.

Table – 6

Mean, S.D., S.E.D. and t-value of English Language Performance in Right Hemisphere Preferred Male and Left Hemisphere Preferred Male adolescents

Variables	N	Mean	S.D.	S.E.D.	t- value	Level of significance
Right Male	52	51.17	10.71	2.02	1.40	Null
Left Male	35	48.34	8.15			

$P < 0.05 = 1.99$, $P < 0.01 = 2.64$ at $df = 85$

This table shows that the t – value (1.40) is less than the table value at both the levels of significance i.e. 0.05 and 0.01 at df (85). So the null Hypothesis – “There is no significance difference between Right Hemisphere Preferred Male and Left Hemisphere Preferred Female adolescents on their English Language Performance” is **accepted**. Hence, it is concluded that Right Hemisphere Preferred Male adolescents and Left Hemisphere Preferred Male adolescents are similar in English Language Performance.

Hypothesis – 7

There is no significant difference between Right Hemisphere Preferred Female and Left Hemisphere Preferred Female adolescents on their English Language Performance.

Table –7

Mean, S.D., S.E.D. and t – value of English Language Performance in Right Hemisphere Preferred Female and Left Hemisphere Preferred Female adolescents.

Variables	N	Mean	S.D.	S.E.D.	t- value	Level of significance
Right Female	70	54.51	13.43	3.40	0.17	Null
Left Female	21	55.09	13.79			

$P < 0.05 = 2.01$, $P < 0.01 = 2.68$ at $df = 89$

This table shows that the t – value (0.17) is less than the table value at both the levels of significance i.e. 0.05 and 0.01 at $df = 89$. So the null Hypothesis – 7 “There is no significant difference between Right Hemisphere Preferred Female and Left Hemisphere Preferred Female adolescents on their English Language Performance” is **accepted**. Hence, it is concluded that Right Hemisphere Preferred Female adolescents and Left Hemisphere Preferred Female adolescents are similar in English Language Performance.

Discussion of the Result

Present study revealed that there is no significant difference between Right Hemisphere and Left Hemisphere preferred adolescents. Most of the adolescents, according to the findings, use Right and Left Hemisphere equally in learning the English language. They have the impact of both the brain (Right and Left) equally in English language performance. Some of the studies supported to these findings: **Dianne (1983)** in his study on hemispheric dominance pattern and reading achievement found that neither children with predominantly left nor right hemispheric dominance patterns were significantly greater in achievement. **Mohanasundaram and Kumar (2000)** in his study on hemisphericity and achievement of class xi studying history in higher secondary school found that there was no significant difference with left and right and integrated hemisphere dominance.

EDUCATIONAL IMPLICATIONS

The present study makes an initial effort on English performance in relation to their Style of Learning and Thinking. Despite its limitations, it has significant implications for some important areas of education. The most of the goal for every institution of school education is academic development. The findings of the present study states that there is no significant difference between Right and Left hemisphere preferred adolescents on their English Language performance. In education, those activities must be provided so that both of the hemispheres can be used. The teaching strategies should be so, as it make the full utilization of both the brain (Right and Left). **To activate the Right hemisphere**, the teacher should follow the teaching aids such as films, charts, diagrams, etc. and incomplete stories can be given to be completed in exercises. **To activate Left hemisphere**, teacher should ask the student to deliver the abstract speeches heard in the radios, discussions may be arranged on general problems, they can be encouraged in writing non-fiction essays, in the classroom new concepts can be introduced in an analytical manner with verbal emphasis and importance can be given to the expression of the language.

“People who approach learning with left mode processing preference have beautiful gifts. People who approach learning with a right mode processing preference have beautiful gifts. People who access their whole brain flex and flow, they have both sets of beautiful gifts (Carthy, 1996).

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