
# Brain Hemisphericity and creativity among senior secondary school students: A study

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## Article Info

**ISSN (online):** 2582-8940
**Volume:** 03
**Issue:** 04
**October-December 2022**
**Received:** 04-10-2022;
**Accepted:** 24-10-2022
**Page No:** 14-17
**DOI:** https://doi.org/10.54660/Ijmabhr.2022.3.4.1

**Abstract**
The present study was investigated relationship the Brain Hemisphericity and Creativity among Senior Secondary School students Jind District. Descriptive survey method was used. The tool for data collection in scale on SOLAT standardized by D. Venkataraman (2011) and Creativity test in real life situation standardized by Dr. Arvinder Singh & Dr. Ajay Kumar Chaudhary. Data was analyzed using mean, mode, median, and correlation. The finding of the research is that there are significant relationship between brain Hemisphericity (left and right) and creativity of senior secondary school students (male & female). As a conclusion, it can be said that investigating Brain Hemisphericity dominance from the aspects of curriculum and teaching methods will help teacher to design better syllabuses for improving the creativity of students in different level.

**Keywords:** Brain Hemisphericity, Creativity, Senior Secondary

## Introduction
Learning, thinking, understanding, seeing, hearing, and behavior are all controlled by the brain. All of these human activities, however, differ from one individual to the next. Williams claims that (1983). "The brain has two hemispheres, but the educational system treats them as though there is only one." The left and right hemispheres of the brain are thought to use different techniques when receiving information in different ways (Jensen, 2008; Williams, 1983). The left hemisphere of the brain receives more instruction and activity in the current educational system than the intuitive and creative right hemisphere. Students require certain traits ("Smarts") other than academic intelligence to succeed in today's workplace, such as creativity, social skills, reasoning abilities, digital literacy, emotional balance, and optimism. These "smarts" are responsible for students' success in life and work. Furthermore, each career necessitates unique knowledge, psychological qualities, and kinesthetic abilities. As a result, activating the brain chambers is critical for the development of multifaceted intelligence.

## Brain Hemisphericity
The cerebral cortex is divided into two hemispheres, which are joined by the corpus callosum, a broad band of nerve fibres that transmits messages back and forth between them.
According to Joseph Bogan (1975), a neurosurgeon who developed the word "hemisphericity," brain hemisphericity is a person's preference for one way of processing over another. The right and left hemispheres of the brain are specialised in separate functions or mental processes, which is referred to as brain hemisphericity.
According to Beaumont et al. (1984), hemisphericity has been connected to personality, reasoning, and thought, as well as aberrant states. Individuals' inclination to rely on a preferred mode of cognitive processing, according to them, is hemisphericity. The ability to understand our behaviour, personality, inventiveness, and ability to use the right mode of thought when doing specific tasks is aided by brain hemisphericity.

Learning involves both sides of the brain, although they employ different learning processes. The left side, on the other hand, is known as "the brain" of the brain because it makes the final decisions on information acquired by the entire brain. It slows down the cognitive and decision-making processes on the right side of the brain. The left side of the brain is where language is created and where information is processed in a logical and linear manner.

Learners who are dominant in both the left and right brains are known as integrated brain dominant learners.

Students that have integrated brain dominance are able to see things in a different light. Their emotions and actions are rational and balanced. Integrated brain dominant learners are both creative and rational at the same time.

They are conscious of their emotions and thoughts. Extreme inclinations and biases are absent in students with integrated brain dominance. They are aware of the origins and reasons behind emotions. They are self-assured and do not easily crumble under stress or strain. In recent years, educators have emphasised the necessity of teaching pupils to use their entire / integrated brain rather than relying on dominant learning approaches like right brain or left brain learning (Danesi, 2003; Farmer, 2004; Luvaas-Briggs, 1984; Wolfe, 2010).

Creativity is the ability to generate innovative ideas and manifest them from thought into reality. The process involves original thinking and then producing. Creativity is defined as the tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems, communicating with others, and entertaining ourselves and others. The extent to which a country's populations cultivate creativity determines its social, cultural, and scientific progress. People can be inventive in any area of their lives. According to Mihaly Csikszentmihalyi, creativity is a major source of meaning in people's lives. Creative people are known for their ability to adapt to practically any environment and make do with whatever is available in order to achieve their objectives. The ability to love the process of creating for its own sake is the most crucial characteristic, and it is continuously present in all creative individuals. Torrance (1962) defined creativity as "a process of becoming sensitive to problems deficiencies, gaps in knowledge, missing elements, disharmonies, making guesses or formulating hypotheses about the deficiencies testing and re-testing them and finally communicating the results" based on an analysis of the various ways of defining it.

Originality, uniqueness, and appropriateness are all considered to be characteristics of creativity in cognition and problem solving. Creativity is a multi-dimensional verbal and non-verbal attribute that is distributed 'differentially' among people. It mostly consists of elements such as problem-solving ability, fluency, flexibility, inventiveness, inquisitiveness, and persistence.

**Review of related Literature**

Syeda Humera (2015) investigated hemisphere dominance and mathematics achievement among Aurangabad City 10th grade pupils. According to research, the majority of pupils have a strong right hemisphere learning and thinking style. There was no significant difference in math achievement between students with various hemispheric dominant learning and thinking styles. There was no significant difference in math achievement between boys and girls.

A comparative study of creativity among boys and girls in class VII was undertaken by Saima Siddiqi (2011). The goal of this study was to see if there were any variations between boys and girls in terms of various areas of creativity. A random sample of 50 boys and 50 girls from two Aligarh city secondary schools was chosen. Torrance The E. P. Torrance (1968) test of creative thinking (Verbal Form A) was employed. The data was analysed using the mean S.D.S. and T-test. Boys and girls do not differ significantly in all aspects of verbal creativity, except for measures of originality, according to the data.

**Justification of the Study**

The purpose of the study the researcher defines Brain Hemisphericity and Creativity in Senior Secondary School Students. In this study the examine effect on students brain Hemisphericity on creativity. This study objective of how brain Hemisphericity and creativity in help the students in brain dominance in learning and thinking. Each hemisphere of the brain contributes its own roles to cognitive, emotional, and physical processes, according to Gazzaniga (1998). Neither hemisphere is superior to the other; they simply have different specialised purposes. Because our educational system considers students' learning objectives and outcomes in terms of Bloom's domains such as cognitive domain, affective domain, and psychomotor domain. The main purpose of the study is to know the brain dominance in the students and creativity found into the students.

**Statement of the Problem**

**Brain hemisphericity and creativity among senior secondary school students-a study**

**Objective of the Study**

**The following are the objectives of the present study**

1. To find out the different type of brain Hemisphericity in male and female students.
2. To find out the relationship between left Brain Hemisphericity and Creativity of Senior Secondary female students.
3. To find out the relationship between Right Brain Hemisphericity and Creativity of Senior Secondary female students.
4. To find out the relationship between Integrated Brain Hemisphericity and Creativity of Senior Secondary female students.
5. To find out the relationship between left Brain Hemisphericity and Creativity of Senior Secondary male students.
6. To find out the relationship between right Brain Hemisphericity and Creativity of Senior Secondary male students.
7. To find out the relationship between Integrated Brain Hemisphericity and Creativity of Senior Secondary male students.

**Null Hypothesis**

The following are the hypotheses formulated for the present study:

1. There is no significant relationship between Left Brain Hemisphericity and Creativity of Senior Secondary Female students.
2. There is no significant relationship between Right Brain Hemisphericity and Creativity of Senior Secondary Female students.
3. There is no significant relationship between Integrated Brain Hemisphericity and Creativity of Senior

Secondary Female students.

4. There is no significant relationship between Left Brain Hemisphericity and Creativity of Senior Secondary male students.
5. There is no significant relationship between Right Brain Hemisphericity and Creativity of Senior Secondary male students.
6. There is no significant relationship between Integrated Brain Hemisphericity and Creativity of Senior Secondary male students.

**Methodology of the Research**

The present study required data for analysis. Data is collected through survey methodand descriptive method.

**Sampling of the Research**

The sample for the study researcher takes total 100 students of Jind distt. In which the basis of gender 50 are boys and 50 are girls.

**Tools to be used**

The tools used standardized scale by SOLAT standardized by D. Venkataraman (2011) and Creativity test in real life situation standardized by Dr. Arvinder Singh & Dr. Ajay Kumar Chaudhary.

**Analysis and Interpretation of the Data**

To find out the different brain Hemisphericity in students

**Table 1**

| Gender | Right dominance | Left dominance | Integrated dominance | Total |
|---|---|---|---|---|
| Female | 12 | 23 | 15 | 50 |
| Mae | 7 | 24 | 19 | 50 |

Hypothesis-1 relationship between Left Brain Hemisphericity and Creativity of Senior Secondary female students

**Table 2**

| Variable | Gender | Mean | Mode | Medium | SD | Correlation | Remarks at 5 % level |
|---|---|---|---|---|---|---|---|
| Brain Hemisphericity | Female 23 | 33.76 | 32 | 35 | 5.299 | 0.822 | Accepted |
| Creativity | Female 23 | 35.15 | 44 | 43 | 9.47 | | |

Hypothesis-2 relationship between Right Brain students Hemisphericity and Creativity of Senior Secondary female

**Table 3**

| Variable | Gender | Mean | Mode | Medium | SD | Correlation | Remarks at 5 % level |
|---|---|---|---|---|---|---|---|
| Brain Hemisphericity | Female 12 | 26.20 | 20 | 25 | 6.36 | 0.466 | Accepted |
| Creativity | Female 12 | 43.04 | 46 | 44 | 8.78 | | |

Hypothesis-3 relationship between Integrated Brain students Hemisphericity and Creativity of Senior Secondary female

**Table 4**

| Variable | Gender | Mean | Mode | Medium | SD | Correlation | Remarks at 5 % level |
|---|---|---|---|---|---|---|---|
| Brain Hemisphericity | Female 15 | 26.5 | 32 | 25.5 | 6.68 | 0.412 | Not Accepted |
| Creativity | Female 15 | 57.6 | 48 | 58 | 9.75 | | |

Hypothesis-4 relationship between Right Brain students Hemisphericity and Creativity of Senior Secondary male

**Table 5**

| Variable | Gender | Mean | Mode | Medium | SD | Correlation | Remarks at 5 % level |
|---|---|---|---|---|---|---|---|
| Brain Hemisphericity | male 7 | 24 | 24 | 24.5 | 3.99 | 0.799 | Accepted |
| Creativity | male 7 | 27.8 | 27 | 27 | 7.90 | | |

Hypothesis-5 relationship between Left Brain students Hemisphericity and Creativity of Senior Secondary male

**Table 6**

| Variable | Gender | Mean | Mode | Medium | SD | Correlation | Remarks at 5 % level |
|---|---|---|---|---|---|---|---|
| Brain Hemisphericity | Male 24 | 26.56 | 26 | 26 | 4.429 | 0.392 | Accepted |
| Creativity | male 24 | 43.64 | 46 | 44 | 4.221 | | |

Hypothesis-6 relationship between Integrated Brain students Hemisphericity and Creativity of Senior Secondary male

**Table 7**

| Variable | Gender | Mean | Mode | Medium | SD | Correlation | Remarks at 5 % level |
|---|---|---|---|---|---|---|---|
| Brain Hemisphericity | male 19 | 27.15 | 22 | 24 | 4.41 | 0.34 | Not Accepted |
| Creativity | male 19 | 59.15 | 60 | 60 | 7.30 | | |

## Conclusion

In the end the researcher find out the relation between Brain Hemisphericity and Creativity of senior secondary school students. The students are either left-brained or right-brained, mean that one side of their brain is dominants. Mostly analytical and methodical in your thinking, the theory say that you're left-brained. If you tend to be more creative or artistic, you're right-brained. Brain Hemisphericity show the dominance of left, right and integrated brain. If students have Brain Hemisphericity (left, right) brain dominance then students should be creative.

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