CHAPTER – III

METHOD AND PROCEDURE

3.1. INTRODUCTION

Collection of relevant data is one of the most important steps in any research especially in the field of education. In some researches, readymade tools are used by the investigator to carry out the study and in some cases such tools may not work suitably with the variables selected for the study. In such cases the investigator has to prepare suitable tools, which will work adequately with the subjects selected for the study. In the words of John W. Best (1995) Research is the systematic and objective analysis and recording of controlled observations, principles or theories resulting in prediction and possible ultimate control of events (P. 20).

3.2. RESEARCH METHODS

Research methods are very important in a research process. Method is a style of conducting a research work, which is determined by the nature of the problem. Webster defined methodology as “the science of method or arrangement”. Methodology is the procedure or techniques, adopted in a research study. It has great importance in any kind of research. Research cannot carry out its function without a suitable method. The selection of a method for research will depend upon the nature of the problem and the kind of data necessary for the solution of the problem. As stated by Louis Cohen and Lawrence Manion (1989) By methods, we mean, that range of approaches used in educational research to gather data, which are to be used as a basis for interference and interpretation for explanation and prediction (P. 145). There are basically five kinds of research methods in the field of educational research. They are,

i) Historical method
ii) Survey method
iii) Experimental method
iv) The Case Study method
v) The Genetic method

In any specific study, it is more common to apply any one of the above methods.
3.3. METHOD ADOPTED FOR THE PRESENT STUDY

After reviewing the characteristics of the different methods of educational research, the investigator decided to use the survey type of research for the present study. The aim of the present study is to find out the role of left and right hemisphericity in influencing the creative thinking, intelligence and academic achievement of the high school students in Chennai. In order to understand the present phenomenon, and the characteristics of the chosen population, the survey method of research seems to be the most suitable one for the present study.

3.4. TITLE OF THE STUDY

THE ROLE OF LEFT AND RIGHT HEMISPHERICITY IN INFLUENCING CREATIVE THINKING, INTELLIGENCE AND ACADEMIC ACHIEVEMENT OF HIGH SCHOOL STUDENTS

3.5. OPERATIONAL DEFINITIONS

Hemisphericity

By this, the investigator means the dominance of left and right brain to be inferred from the scores obtained on the Hemisphericity Inventory developed by Paul Torrance (1989).

Creative Thinking

By this, the investigator means the scores obtained on the Verbal Test of Creative Thinking developed by Baquer Mehdi (1973).

Intelligence

By this, the investigator means the scores obtained on The Standard Progressive Matrices developed by Raven (1938).
Academic Achievement

By this, the investigator means the percentage of marks obtained in the school final examination in different subjects.

High School Students

By this, the investigator means all those students studying in 9th standard of high and higher secondary schools in Chennai.

3.6. OBJECTIVES

PART – I

1. To find the dominance of left and right hemisphericity of the high school students in Chennai.
2. To find the level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students.
3. To find the level of intelligence of high school students.
4. To find the level of academic achievement of high school students.

PART – II

Section – A

1. To find the level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity.
2. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions.
3. To find the level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity.
4. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence.
5. To find the level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity.
6. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement.

7. To find the significance of left hemisphericity and right hemisphericity in predicting the creative thinking of the students.

8. To find the significance of left hemisphericity and right hemisphericity in predicting the intelligence of the students.

9. To find the significance of left hemisphericity and right hemisphericity in predicting the academic achievement of the students.

Section – B

1. To find the dominance of left and right hemisphericity of the high school students in Chennai with low, moderate and high father’s education.

2. To find the level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality in the case of high school students with different levels of father’s education having dominance of left hemisphericity and right hemisphericity.

3. To find the significance of difference between the high school students having different levels of father’s education with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions.

4. To find the level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having different levels of father’s education.

5. To find the significance of difference between the high school students having different levels of father’s education with dominance of left hemisphericity and right hemisphericity in their intelligence.

6. To find the level of academic achievement of high school students having different levels of father’s education with dominance of left hemisphericity and right hemisphericity.

7. To find the significance of difference between the high school students having different levels of father’s education with dominance of left hemisphericity and right hemisphericity in their academic achievement.

8. To find the significance of left hemisphericity and right hemisphericity in predicting the creative thinking of the high school students having different levels of father’s education.
9. To find the significance of left hemisphericity and right hemisphericity in predicting the intelligence of the high school students having different levels of father’s education.

10. To find the significance of left hemisphericity and right hemisphericity in predicting the academic achievement of the high school students having different levels of father’s education.

11. To find the dominance of left and right hemisphericity of the high school students in Chennai with low, moderate and high mother’s education.

12. To find the level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students having different levels of mother’s education with dominance of left hemisphericity and right hemisphericity.

13. To find the significance of difference between the high school students having different levels of mother’s education with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions.

14. To find the level of intelligence of high school students having different levels of mother’s education with dominance of left hemisphericity and right hemisphericity.

15. To find the significance of difference between the high school students having different levels of mother’s education with dominance of left hemisphericity and right hemisphericity in their intelligence.

16. To find the level of academic achievement of high school students having different levels of mother’s education with dominance of left hemisphericity and right hemisphericity.

17. To find the significance of difference between the high school students having different levels of mother’s education with dominance of left hemisphericity and right hemisphericity in their academic achievement.

18. To find the significance of left hemisphericity and right hemisphericity in predicting the creative thinking of the high school students having different levels of mother’s education.

19. To find the significance of left hemisphericity and right hemisphericity in predicting the intelligence of the high school students having different levels of mother’s education.

20. To find the significance of left hemisphericity and right hemisphericity in predicting the academic achievement of the high school students having different levels of mother’s education.
21. To find the dominance of left and right hemisphericity of the first born, middle born and last born high school students in Chennai.

22. To find the level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with different birth order having dominance of left hemisphericity and right hemisphericity.

23. To find the significance of difference between the high school students with different birth order having dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions.

24. To find the level of intelligence of high school students with different birth order having dominance of left hemisphericity and right hemisphericity.

25. To find the significance of difference between the high school students with different birth order having dominance of left hemisphericity and right hemisphericity in their intelligence.

26. To find the level of academic achievement of high school students with different birth order having dominance of left hemisphericity and right hemisphericity.

27. To find the significance of difference between the high school students with different birth order having dominance of left hemisphericity and right hemisphericity in their academic achievement.

28. To find the significance of left hemisphericity and right hemisphericity in predicting the creative thinking of the high school students with different birth order.

29. To find the significance of left hemisphericity and right hemisphericity in predicting the intelligence of the high school students with different birth order.

30. To find the significance of left hemisphericity and right hemisphericity in predicting the academic achievement of the high school students with different birth order.

31. To find the dominance of left and right hemisphericity of the high school students in Chennai, interested in literary activities and not interested in literary activities.

32. To find the level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in literary activities.

33. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having and not having interest in literary activities.
34. To find the level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in literary activities.

35. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having and not having interest in literary activities.

36. To find the level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in literary activities.

37. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having and not having interest in literary activities.

38. To find the significance of left hemisphericity and right hemisphericity in predicting the creative thinking of the high school students having and not having interest in literary activities.

39. To find the significance of left hemisphericity and right hemisphericity in predicting the intelligence of the high school students having and not having interest in literary activities.

40. To find the significance of left hemisphericity and right hemisphericity in predicting the academic achievement of the high school students having and not having interest in literary activities.

41. To find the dominance of left and right hemisphericity of the high school students in Chennai, interested in sports and games and not interested in sports and games.

42. To find the level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in sports and games.

43. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having and not having interest in sports and games.

44. To find the level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in sports and games.
45. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having and not having interest in sports and games.

46. To find the level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in sports and games.

47. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having and not having interest in sports and games.

48. To find the significance of left hemisphericity and right hemisphericity in predicting the creative thinking of the high school students having and not having interest in sports and games.

49. To find the significance of left hemisphericity and right hemisphericity in predicting the intelligence of the high school students having and not having interest in sports and games.

50. To find the significance of left hemisphericity and right hemisphericity in predicting the academic achievement of the high school students having and not having interest in sports and games.

51. To find the dominance of left and right hemisphericity of the high school students in Chennai, interested in singing and dancing and not interested in singing and dancing.

52. To find the level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in singing and dancing.

53. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having and not having interest in singing and dancing.

54. To find the level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in singing and dancing.

55. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having and not having interest in singing and dancing.
56. To find the level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in singing and dancing.

57. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having and not having interest in singing and dancing.

58. To find the significance of left hemisphericity and right hemisphericity in predicting the creative thinking of the high school students having and not having interest in singing and dancing.

59. To find the significance of left hemisphericity and right hemisphericity in predicting the intelligence of the high school students having and not having interest in singing and dancing.

60. To find the significance of left hemisphericity and right hemisphericity in predicting the academic achievement of the high school students having and not having interest in singing and dancing.

61. To find the dominance of left and right hemisphericity of the high school students in Chennai, interested in histrionic activities and not interested in histrionic activities.

62. To find the level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in histrionic activities.

63. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having and not having interest in histrionic activities.

64. To find the level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in histrionic activities.

65. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having and not having interest in histrionic activities.

66. To find the level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in histrionic activities.
67. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having and not having interest in histrionic activities.

68. To find the significance of left hemisphericity and right hemisphericity in predicting the creative thinking of the high school students having and not having interest in histrionic activities.

69. To find the significance of left hemisphericity and right hemisphericity in predicting the intelligence of the high school students having and not having interest in histrionic activities.

70. To find the significance of left hemisphericity and right hemisphericity in predicting the academic achievement of the high school students having and not having interest in histrionic activities.

71. To find the dominance of left and right hemisphericity of the high school students in Chennai, interested in aesthetic works and not interested in aesthetic works.

72. To find the level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in aesthetic works.

73. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having and not having interest in aesthetic works.

74. To find the level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in aesthetic works.

75. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having and not having interest in aesthetic works.

76. To find the level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in aesthetic works.

77. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having and not having interest in aesthetic works.
78. To find the significance of left hemisphericity and right hemisphericity in predicting the creative thinking of the high school students having and not having interest in aesthetic works.

79. To find the significance of left hemisphericity and right hemisphericity in predicting the intelligence of the high school students having and not having interest in aesthetic works.

80. To find the significance of left hemisphericity and right hemisphericity in predicting the academic achievement of the high school students having and not having interest in aesthetic works.

81. To find the dominance of left and right hemisphericity of the high school students in Chennai, interested in social service activities and not interested in social service activities.

82. To find the level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in social service activities.

83. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having and not having interest in social service activities.

84. To find the level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in social service activities.

85. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having and not having interest in social service activities.

86. To find the level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in social service activities.

87. To find the significance of difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having and not having interest in social service activities.
88. To find the significance of left hemisphericity and right hemisphericity in predicting the creative thinking of the high school students having and not having interest in social service activities.

89. To find the significance of left hemisphericity and right hemisphericity in predicting the intelligence of the high school students having and not having interest in social service activities.

90. To find the significance of left hemisphericity and right hemisphericity in predicting the academic achievement of the high school students having and not having interest in social service activities.

PART – III

Section – A

1. To find the dominance of left and right hemisphericity of the male high school students in Chennai.

2. To find the level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of male high school students with dominance of left hemisphericity and right hemisphericity.

3. To find the significance of difference between the male high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions.

4. To find the level of intelligence of male high school students with dominance of left hemisphericity and right hemisphericity.

5. To find the significance of difference between the male high school students with dominance of left hemisphericity and right hemisphericity in their intelligence.

6. To find the level of academic achievement of male high school students with dominance of left hemisphericity and right hemisphericity.

7. To find the significance of difference between the male high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement.

8. To find the significance of left hemisphericity and right hemisphericity in predicting the creative thinking of the male high school students.
9. To find the significance of left hemisphericity and right hemisphericity in predicting the intelligence of the male high school students.
10. To find the significance of left hemisphericity and right hemisphericity in predicting the academic achievement of the male high school students.

Section – B

1. To find the dominance of left and right hemisphericity of the female high school students.
2. To find the level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of female high school students with dominance of left hemisphericity and right hemisphericity.
3. To find the significance of difference between the female high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions.
4. To find the level of intelligence of female high school students with dominance of left hemisphericity and right hemisphericity.
5. To find the significance of difference between the female high school students with dominance of left hemisphericity and right hemisphericity in their intelligence.
6. To find the level of academic achievement of female high school students with dominance of left hemisphericity and right hemisphericity.
7. To find the significance of difference between the female high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement.
8. To find the significance of left hemisphericity and right hemisphericity in predicting the creative thinking in toto and in terms of its dimensions of the female high school students.
9. To find the significance of left hemisphericity and right hemisphericity in predicting the intelligence of the female high school students.
10. To find the significance of left hemisphericity and right hemisphericity in predicting the academic achievement of the female high school students.
3.7. HYPOTHESES

PART – I

1. The high school students in Chennai are dominant of left hemisphericity.
2. The level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students is high.
3. The level of intelligence of high school students is high.
4. The level of academic achievement of high school students is high.

PART – II

Section – A

1. The level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity is high.
2. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions.
3. The level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity is high.
4. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence.
5. The level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity is high.
6. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement.
7. Left hemisphericity dominance and right hemisphericity dominance are not significant predictors of creative thinking of the high school students.
8. Left hemisphericity dominance and right hemisphericity dominance are not significant predictors of intelligence of the high school students.
9. Left hemisphericity dominance and right hemisphericity dominance are not significant predictors of academic achievement of the high school students.
Section – B

1. The high school students in Chennai with low, moderate and high father’s education are dominant of left hemisphericity.
2. The level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having different levels of father’s education is high.
3. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having different levels of father’s education.
4. The level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having different levels of father’s education is high.
5. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having different levels of father’s education.
6. The level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having different levels of father’s education is high.
7. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having different levels of father’s education.
8. Left hemisphericity and right hemisphericity are not significant predictors of creative thinking of the high school students having different levels of father’s education.
9. Left hemisphericity and right hemisphericity are not significant predictors of intelligence of the high school students having different levels of father’s education.
10. Left hemisphericity and right hemisphericity are not significant predictors of academic achievement of the high school students having different levels of father’s education.
11. The high school students in Chennai with low, moderate and high mother’s education are dominant of left hemisphericity.
12. The level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having different levels of mother’s education is high.

13. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having different levels of mother’s education.

14. The level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having different levels of mother’s education is high.

15. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having different levels of mother’s education.

16. The level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having different levels of mother’s education is high.

17. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having different levels of mother’s education.

18. Left hemisphericity and right hemisphericity are not significant predictors of creative thinking of the high school students having different levels of mother’s education.

19. Left hemisphericity and right hemisphericity are not significant predictors of intelligence of the high school students having different levels of mother’s education.

20. Left hemisphericity and right hemisphericity are not significant predictors of academic achievement of the high school students having different levels of mother’s education.

21. The first born, middle born and last born high school students in Chennai are dominant of left hemisphericity.

22. The level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having different birth order is high.

23. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having different birth order.
24. The level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having different birth order is high.
25. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having different birth order.
26. The level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having different birth order is high.
27. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having different birth order.
28. Left hemisphericity and right hemisphericity are not significant predictors of creative thinking of the high school students having different birth order.
29. Left hemisphericity and right hemisphericity are not significant predictors of intelligence of the high school students having different birth order.
30. Left hemisphericity and right hemisphericity are not significant predictors of academic achievement of the high school students having different birth order.
31. The high school students in Chennai, interested in literary activities and not interested in literary activities are dominant of left hemisphericity.
32. The level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in literary activities is high.
33. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having and not having interest in literary activities.
34. The level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in literary activities is high.
35. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having and not having interest in literary activities.
36. The level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in literary activities is high.
37. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having and not having interest in literary activities.

38. Left hemisphericity and right hemisphericity are not significant predictors of creative thinking of the high school students having and not having interest in literary activities.

39. Left hemisphericity and right hemisphericity are not significant predictors of intelligence of the high school students having and not having interest in literary activities.

40. Left hemisphericity and right hemisphericity are not significant predictors of academic achievement of the high school students having and not having interest in literary activities.

41. The high school students in Chennai, interested in sports and games and not interested in sports and games are dominant of left hemisphericity.

42. The level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in sports and games is high.

43. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having and not having interest in sports and games.

44. The level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in sports and games is high.

45. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having and not having interest in sports and games.

46. The level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in sports and games is high.

47. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having and not having interest in sports and games.
48. Left hemisphericity and right hemisphericity are not significant predictors of creative thinking of the high school students having and not having interest in sports and games.

49. Left hemisphericity and right hemisphericity are not significant predictors of intelligence of the high school students having and not having interest in sports and games.

50. Left hemisphericity and right hemisphericity are not significant predictors of academic achievement of the high school students having and not having interest in sports and games.

51. The high school students in Chennai, interested in singing and dancing and not interested in singing and dancing are dominant of left hemisphericity.

52. The level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in singing and dancing is high.

53. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having and not having interest in singing and dancing.

54. The level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in singing and dancing is high.

55. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having and not having interest in singing and dancing.

56. The level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in singing and dancing is high.

57. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having and not having interest in singing and dancing.

58. Left hemisphericity and right hemisphericity are not significant predictors of creative thinking of the high school students having and not having interest in singing and dancing.
59. Left hemisphericity and right hemisphericity are not significant predictors of intelligence of the high school students having and not having interest in singing and dancing.

60. Left hemisphericity and right hemisphericity are not significant predictors of academic achievement of the high school students having and not having interest in singing and dancing.

61. The high school students in Chennai, interested in histrionic activities and not interested in histrionic activities are dominant of left hemisphericity.

62. The level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in histrionic activities is high.

63. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having and not having interest in histrionic activities.

64. The level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in histrionic activities is high.

65. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having and not having interest in histrionic activities.

66. The level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in histrionic activities is high.

67. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having and not having interest in histrionic activities.

68. Left hemisphericity and right hemisphericity are not significant predictors of creative thinking of the high school students having and not having interest in histrionic activities.

69. Left hemisphericity and right hemisphericity are not significant predictors of intelligence of the high school students having and not having interest in histrionic activities.
70. Left hemisphericity and right hemisphericity are not significant predictors of academic achievement of the high school students having and not having interest in histrionic activities.
71. The high school students in Chennai, interested in aesthetic works and not interested in aesthetic works are dominant of left hemisphericity.
72. The level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in aesthetic works is high.
73. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having and not having interest in aesthetic works.
74. The level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in aesthetic works is high.
75. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having and not having interest in aesthetic works.
76. The level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in aesthetic works is high.
77. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having and not having interest in aesthetic works.
78. Left hemisphericity and right hemisphericity are not significant predictors of creative thinking of the high school students having and not having interest in aesthetic works.
79. Left hemisphericity and right hemisphericity are not significant predictors of intelligence of the high school students having and not having interest in aesthetic works.
80. Left hemisphericity and right hemisphericity are not significant predictors of academic achievement of the high school students having and not having interest in aesthetic works.
81. The high school students in Chennai, interested in social service activities and not interested in social service activities are dominant of left hemisphericity.

82. The level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in social service activities is high.

83. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions having and not having interest in social service activities.

84. The level of intelligence of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in social service activities is high.

85. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their intelligence having and not having interest in social service activities.

86. The level of academic achievement of high school students with dominance of left hemisphericity and right hemisphericity having and not having interest in social service activities is high.

87. There is no significant difference between the high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement having and not having interest in social service activities.

88. Left hemisphericity and right hemisphericity are not significant predictors of creative thinking of the high school students having and not having interest in social service activities.

89. Left hemisphericity and right hemisphericity are not significant predictors of intelligence of the high school students having and not having interest in social service activities.

90. Left hemisphericity and right hemisphericity are not significant predictors of academic achievement of the high school students having and not having interest in social service activities.
PART – III

Section – A

1. The male high school students in Chennai are dominant of left hemisphericity.
2. The level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of male high school students with dominance of left hemisphericity and right hemisphericity is high.
3. There is no significant difference between the male high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions.
4. The level of intelligence of male high school students with dominance of left hemisphericity and right hemisphericity is high.
5. There is no significant difference between the male high school students with dominance of left hemisphericity and right hemisphericity in their intelligence.
6. The level of academic achievement of male high school students with dominance of left hemisphericity and right hemisphericity is high.
7. There is no significant difference between the male high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement.
8. Left hemisphericity and right hemisphericity are not significant predictors of creative thinking of the male high school students.
9. Left hemisphericity and right hemisphericity are not significant predictors of intelligence of the male high school students.
10. Left hemisphericity and right hemisphericity are not significant predictors of academic achievement of the male high school students.

Section – B

1. The female high school students in Chennai are dominant of left hemisphericity.
2. The level of creative thinking in toto and in terms of its dimensions – fluency, flexibility and originality of female high school students with dominance of left hemisphericity and right hemisphericity is high.
3. There is no significant difference between the female high school students with dominance of left hemisphericity and right hemisphericity in their creative thinking in toto and in terms of its dimensions.
4. The level of intelligence of female high school students with dominance of left hemisphericity and right hemisphericity is high.
5. There is no significant difference between the female high school students with dominance of left hemisphericity and right hemisphericity in their intelligence.
6. The level of academic achievement of female high school students with dominance of left hemisphericity and right hemisphericity is high.
7. There is no significant difference between the female high school students with dominance of left hemisphericity and right hemisphericity in their academic achievement.
8. Left hemisphericity and right hemisphericity are not significant predictors of creative thinking in toto and in terms of its dimensions of the female high school students.
9. Left hemisphericity and right hemisphericity are not significant predictors of intelligence of the female high school students.
10. Left hemisphericity and right hemisphericity are not significant predictors of academic achievement of the female high school students.

3.8. POPULATION AND SAMPLE

The population of the present study comprises all the standard IX students studying in high schools and higher secondary schools in Chennai district.

After due stratification on the part of gender, the investigator has taken 639 standard IX students by random sampling technique.

Table 3.1.
School-wise Distribution of the Sample

<table>
<thead>
<tr>
<th>School</th>
<th>No. of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Jai Gopal Garodia Higher Secondary School</td>
<td>31</td>
</tr>
<tr>
<td>2. Government Higher Secondary School, M.G.R. Nagar</td>
<td>30</td>
</tr>
<tr>
<td>3. Corporation Higher Secondary School, Trustpuram</td>
<td>30</td>
</tr>
<tr>
<td>7. General Cariappa Higher Secondary School, Saligramam</td>
<td>30</td>
</tr>
<tr>
<td>8. Swami Vivekananda Matric Higher Secondary School</td>
<td>20</td>
</tr>
<tr>
<td>9. Sri Venkata Subbarao Matric Higher Secondary School</td>
<td>34</td>
</tr>
<tr>
<td>School</td>
<td>No. of Sample</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>11. Corporation Boys Higher Secondary School, Saidapet</td>
<td>30</td>
</tr>
<tr>
<td>14. St. Aloysius Anglo Indian Higher Secondary School, Vepery</td>
<td>50</td>
</tr>
<tr>
<td>15. Corporation Higher Secondary School, Nesapakkam</td>
<td>34</td>
</tr>
<tr>
<td>17. St. George Anglo Indian Higher Secondary School</td>
<td>38</td>
</tr>
<tr>
<td>18. Sri Champalal Jain Higher Secondary School, Agaram.</td>
<td>30</td>
</tr>
<tr>
<td>19. S.R.N.M. Matric Higher Secondary School</td>
<td>14</td>
</tr>
<tr>
<td>20. Doueton Corrie Girls’ Anglo Indian Higher Secondary School</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>639</strong></td>
</tr>
</tbody>
</table>

### 3.9. RESEARCH TOOLS

2. Verbal Test for Creativity Thinking developed by Baquer Mehdi (1973).
3. The Standard Progressive Matrices developed by Raven (1938).

### 3.10. ESTABLISHING RELIABILITY

The reliability of the tools was established using test-retest method. The tools were first administered to randomly selected 50 students. Then after an interval of two weeks, the same tools were administered to the same sample. Using the two sets of scores obtained for each one of the tools, product moment correlation was computed.

The obtained correlation coefficients are given in the following table:

<table>
<thead>
<tr>
<th>Tools</th>
<th>Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemisphericity Inventory</td>
<td>0.718</td>
</tr>
<tr>
<td>Verbal Test for Creativity Thinking</td>
<td>0.811</td>
</tr>
<tr>
<td>The Standard Progressive Matrices</td>
<td>0.779</td>
</tr>
</tbody>
</table>
As the correlation coefficients are positive and significant, they uphold the consistency of the tools. Hence, the tools are taken as reliable. The tools are given in appendix.

**3.11. COLLECTION OF DATA**

The investigator personally visited the selected schools in Chennai and approached the heads of the schools regarding the data collection. After getting the permission, the researcher explained the tools to the students personally. They were requested to respond to all the statements in each and every tool and return them promptly to the investigator. The filled-in tools were scored and the data were tabulated for analysis.

**3.12. STATISTICS USED**

The investigator used the following statistical techniques to test the hypotheses:

1. Percentage Analysis
2. ‘t’ Test
3. Regression Analysis
3.13. REFERENCES