SUMMARY OF FINDINGS, CONCLUSIONS AND SUGGESTIONS

The present study was intended to measure, analyze and to draw conclusions, interpretations and suggestions about the Thinking Styles and School Adjustment of Secondary School Pupils in Kerala. The major findings, conclusions and suggestions of the study are presented in this chapter under the following heads.

- Study in Retrospect
- Important Findings
- Conclusions and Interpretations
- Tenability of Hypotheses
- Educational Implications
- Suggestions for Further Studies

5.1 STUDY IN RETROSPECT

A brief description of the present study is given below:

5.1.1 Restatement of the Problem

The problem for the present study is stated as “THINKING STYLES AND SCHOOL ADJUSTMENT OF SECONDARY SCHOOL PUPILS IN KERALA”. 
5.1.2 Definition of Key Terms

1. Thinking Style

According to Webster’s New World Dictionary, a style is “a distinctive or characteristic manner or method of acting or performing”.

In the present study, Thinking Style refers to distinctive or characteristic manner or method of acting or performing the act of thinking.

2. School Adjustment

The Dictionary of Education defines adjustment as “the process of finding and adopting modes of behaviour suitable to the environment or to the changes in the environment”.

In the present study, School Adjustment refers to the process of finding and adopting modes of behaviour suitable to the school environment or to the changes in the school environment.


In the present study, secondary school pupils means the students studying in VIII\textsuperscript{th}, IX\textsuperscript{th} and X\textsuperscript{th} standards in the government and aided schools in Kerala. In the present study X\textsuperscript{th} standard pupils were selected as the representative sample.

5.1.3 Variables

1. Independent Variables

The following 13 dimensions of Thinking Styles are the independent variables of the present study.
**2. Dependent Variable**

School Adjustment

**3. Basal Variables**

i) Sex of the pupils (Boys and Girls)

ii) Management Category of School (Government and Aided)

iii) Locality of School (Urban and Rural)

**5.1.4 Objectives**

1. To develop and standardize a Thinking Styles Test Battery for Secondary School pupils in Kerala.
2. To find out the percentages of secondary school pupils having different levels of Thinking Styles and School Adjustment for the whole sample and selected subsamples based on the basal variables of the study.

3. To compare the percentages of secondary school pupils having different levels of Thinking Styles and School Adjustment for selected subsamples based on the basal variables of the study.

4. To examine whether any significant association exists between

   (i) Each of the basal variables and each of the 13 Thinking Styles of secondary school pupils and

   (ii) Each of the basal variables and levels of School Adjustment of secondary school pupils.

5. To test whether significant difference exist between the mean Thinking Style and School Adjustment scores of the secondary school pupils for the selected subsamples based on the basal variables of the study.

6. To find out the relationship between different Thinking Styles and School Adjustment of the secondary school pupils for

   (i) Whole sample and

   (ii) Subsamples based on the basal variables of the study.

7. To compare the relationships between different Thinking Styles and School Adjustment of the secondary school pupils for the comparable sub samples based on the basal variables of the study.
8. To find out whether School Adjustment of secondary school pupils can be predicted from different Thinking Styles considered for the study.

On the basis of the objectives, the hypotheses formulated for the study are presented below:

5.1.5 Hypotheses

1. A Thinking Styles Test Battery will be developed and standardized for the secondary school pupils in Kerala.

2. Percentages of secondary school pupils having different levels of Thinking Styles and School Adjustment will be different for the whole sample and selected subsamples based on the basal variables of the study.

3. There will be significant difference between the percentages of secondary school pupils having different levels of Thinking Styles and School Adjustment for selected sub samples based on the basal variables of the study.

4. There will be significant association between

   (i) Each of the basal variables and each of the 13 Thinking Styles of secondary school pupils and

   (ii) Each of the basal variables and levels of School Adjustment of secondary school pupils.
5. There will be significant difference between the mean Thinking Style and School Adjustment scores of secondary school pupils for the selected subsamples based on the basal variables of the study.

6. There will be significant relationship between different Thinking Styles and School Adjustment of the secondary school pupils for

   (i) Whole sample and

   (ii) Sub samples based on the basal variables of the study.

7. There will be significant difference in relationships between different Thinking Styles and School Adjustment of the secondary school pupils for the comparable subsamples based on the basal variables of the study.

8. School Adjustment of the Secondary School Pupils can be predicted from different Thinking Styles considered for the study.

5.1.6 Methodology

1. Tools

   i) Thinking Styles Test Battery (TSTB) developed and standardized by the investigator and supervising teacher (2007).

   ii) School Adjustment Inventory (SAI) prepared by Naseema and Usha (2002).

2. Sample

   The present study was conducted on a sample of 486 secondary school pupils studying in government and aided schools in various districts of Kerala.
3. Statistical Techniques

i) Preliminary descriptive analysis

ii) Percentage analysis

iii) Comparison of percentages

iv) Analysis of association

v) Comparison of mean scores

vi) Correlation analysis

vii) Comparison of correlation

viii) Multiple regression analysis

5.2 IMPORTANT FINDINGS

The present study was intended to measure and analyze the Thinking Styles and School Adjustment of Secondary School Pupils in Kerala Detailed analysis of the obtained data was conducted for this purpose and some findings are made on the basis of this analysis.

The important findings derived from the analysis of the present study are described below:

5.2.1 Levels of Thinking Styles and School Adjustment

The percentage of pupils having high and low levels of Thinking Styles and School Adjustment were calculated from the numbers of pupils having high and low levels of these variables for the whole sample and subsamples.
Summary of percentages of pupils having high and low levels of Thinking Styles and School Adjustment are presented in Table 58.

### TABLE 58
Summary of Percentages of Pupils Belonging to High and Low Levels of Thinking Styles and School Adjustment

<table>
<thead>
<tr>
<th>Variables</th>
<th>Level and Sample</th>
<th>Whole sample</th>
<th>Boys</th>
<th>Girls</th>
<th>Government</th>
<th>Aided</th>
<th>Urban</th>
<th>Rural</th>
<th>Whole sample</th>
<th>Boys</th>
<th>Girls</th>
<th>Government</th>
<th>Aided</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>(486)</td>
<td>(228)</td>
<td>(258)</td>
<td>(325)</td>
<td>(161)</td>
<td>(265)</td>
<td>(221)</td>
<td></td>
<td>(486)</td>
<td>(228)</td>
<td>(258)</td>
<td>(325)</td>
<td>(161)</td>
<td>(265)</td>
<td>(221)</td>
</tr>
<tr>
<td>Legislative</td>
<td>54.7</td>
<td>56.6</td>
<td>53.1</td>
<td>54.5</td>
<td>55.3</td>
<td>59.2</td>
<td>63.8</td>
<td>45.3</td>
<td>43.4</td>
<td>46.9</td>
<td>45.5</td>
<td>44.7</td>
<td>40.8</td>
<td>36.2</td>
<td></td>
</tr>
<tr>
<td>Judicial</td>
<td>55.8</td>
<td>55.7</td>
<td>55.8</td>
<td>54.8</td>
<td>57.8</td>
<td>53.2</td>
<td>58.8</td>
<td>44.2</td>
<td>44.3</td>
<td>44.2</td>
<td>45.2</td>
<td>42.2</td>
<td>46.8</td>
<td>41.2</td>
<td></td>
</tr>
<tr>
<td>Executive</td>
<td>57.6</td>
<td>57.0</td>
<td>58.1</td>
<td>60.0</td>
<td>52.8</td>
<td>53.2</td>
<td>62.9</td>
<td>42.4</td>
<td>43.0</td>
<td>41.9</td>
<td>40.0</td>
<td>47.2</td>
<td>46.8</td>
<td>37.1</td>
<td></td>
</tr>
<tr>
<td>Monarchic</td>
<td>52.5</td>
<td>53.5</td>
<td>47.7</td>
<td>61.5</td>
<td>50.9</td>
<td>57.4</td>
<td>59.3</td>
<td>47.5</td>
<td>46.5</td>
<td>52.3</td>
<td>38.5</td>
<td>49.1</td>
<td>42.6</td>
<td>40.7</td>
<td></td>
</tr>
<tr>
<td>Hierarchic</td>
<td>56.8</td>
<td>51.3</td>
<td>53.5</td>
<td>54.2</td>
<td>50.3</td>
<td>52.5</td>
<td>52.9</td>
<td>43.2</td>
<td>46.7</td>
<td>46.5</td>
<td>45.9</td>
<td>49.7</td>
<td>47.6</td>
<td>47.1</td>
<td></td>
</tr>
<tr>
<td>Oligarchic</td>
<td>53.9</td>
<td>55.3</td>
<td>52.7</td>
<td>51.1</td>
<td>59.6</td>
<td>54.7</td>
<td>52.9</td>
<td>46.1</td>
<td>44.7</td>
<td>47.3</td>
<td>48.9</td>
<td>40.4</td>
<td>45.3</td>
<td>47.1</td>
<td></td>
</tr>
<tr>
<td>Anarchic</td>
<td>55.1</td>
<td>54.0</td>
<td>56.2</td>
<td>54.1</td>
<td>50.3</td>
<td>53.2</td>
<td>57.5</td>
<td>44.9</td>
<td>46.1</td>
<td>43.8</td>
<td>45.9</td>
<td>49.7</td>
<td>46.8</td>
<td>42.5</td>
<td></td>
</tr>
<tr>
<td>Internal</td>
<td>55.3</td>
<td>55.3</td>
<td>57.8</td>
<td>56.6</td>
<td>55.3</td>
<td>50.2</td>
<td>54.8</td>
<td>47.7</td>
<td>44.7</td>
<td>42.3</td>
<td>43.4</td>
<td>44.7</td>
<td>49.8</td>
<td>45.3</td>
<td></td>
</tr>
<tr>
<td>External</td>
<td>51.4</td>
<td>57.9</td>
<td>53.5</td>
<td>52.3</td>
<td>55.3</td>
<td>50.6</td>
<td>52.5</td>
<td>52.9</td>
<td>63.6</td>
<td>56.6</td>
<td>56.0</td>
<td>64.6</td>
<td>52.8</td>
<td>52.9</td>
<td></td>
</tr>
<tr>
<td>Global</td>
<td>52.9</td>
<td>63.6</td>
<td>56.6</td>
<td>56.0</td>
<td>64.6</td>
<td>52.8</td>
<td>52.9</td>
<td>47.1</td>
<td>36.4</td>
<td>43.4</td>
<td>44.0</td>
<td>35.4</td>
<td>47.1</td>
<td>47.1</td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>56.0</td>
<td>50.0</td>
<td>53.5</td>
<td>54.8</td>
<td>51.6</td>
<td>55.5</td>
<td>56.6</td>
<td>44.0</td>
<td>50.0</td>
<td>46.5</td>
<td>45.2</td>
<td>48.5</td>
<td>44.5</td>
<td>43.4</td>
<td></td>
</tr>
<tr>
<td>Liberal</td>
<td>63.6</td>
<td>57.9</td>
<td>58.1</td>
<td>63.4</td>
<td>53.4</td>
<td>52.5</td>
<td>60.6</td>
<td>36.4</td>
<td>42.1</td>
<td>41.9</td>
<td>36.6</td>
<td>46.6</td>
<td>47.6</td>
<td>39.4</td>
<td></td>
</tr>
<tr>
<td>Conservative</td>
<td>62.8</td>
<td>55.7</td>
<td>56.6</td>
<td>51.1</td>
<td>59.6</td>
<td>63.4</td>
<td>50.7</td>
<td>37.2</td>
<td>44.3</td>
<td>43.4</td>
<td>48.9</td>
<td>40.4</td>
<td>36.6</td>
<td>49.3</td>
<td></td>
</tr>
</tbody>
</table>

From Table 58 the following findings are made about the percentage of pupils having high and low levels of Thinking Styles and School Adjustment for the whole sample and subsamples.
1. Percentages of Pupils Belonging to High and Low Levels of Thinking Styles and School Adjustment for the Whole Sample

More than 50 percentage of the pupils possesses high level of School Adjustment and all dimensions of Thinking Styles in the whole sample. Among this, 63.6 percentage possess high level of Liberal Thinking Style and 62.8 percentage possess high level of Conservative Thinking Style. The percentages of pupils belonging to low level of Thinking Styles and School Adjustment is below 50 for all variables in the whole sample. This is below 40 percent in the case of Liberal and Conservative Styles.

2. Percentages of Pupils Belonging to High and Low Levels of Thinking Styles and School Adjustment for the Subsamples

More than 50 percentage of pupils in all the subsamples have high level of School Adjustment and all dimensions of Thinking Styles. Boys having high level of Global Thinking Style, Government School pupils having high level of Executive, Monarchic and Liberal Styles, aided school pupils having high level of, Global Style, urban school pupils having high level of Conservative style and rural school pupils having high level of Legislative, Executive, and Liberal Thinking Styles are above 60 percent. The percentage of pupils having low level of the variables are below 50 for all the subsamples.

Legislative, Judicial, Executive, Monarchic, Hierarchic, Oligarchic, Anarchic, Internal, External, Global, Local, Liberal and Conservative are the
13 dimensions of Thinking Styles considered in the study. The percentage of pupils having high and low levels of these Thinking Styles does not vary considerably across these dimensions in the whole sample and all the subsamples. It indicates that pupils may possess same levels of characteristic of all dimensions of Thinking Styles at the same time. More than 50 percentage of the pupils in the whole sample and all the subsamples possess high level of School Adjustment. It shows that more secondary school pupils are highly adjusted with their school environment.

5.2.2 Comparison of Percentages

The percentages of pupils having high and low levels of School Adjustment and dimensions of Thinking Styles were compared between the sub samples of:

(i) Boys and Girls

(ii) Government School Pupils and Aided School pupils and

(iii) Urban School Pupils and Rural School Pupils

Summary of findings of the comparison of percentages are given in Table 59.
As summarized in Table 59, the following are the major findings drawn from the comparison of percentages among subsamples having high and low levels of Thinking Styles and School Adjustment.
1. Comparison Between the Percentages of Boys and Girls Having High and Low Levels of Thinking Styles and School Adjustment

The critical ratios of differences between boys and girls having high and low levels of Thinking Styles and School Adjustment are not statistically significant either for all the dimensions of Thinking Styles or for School Adjustment. So, there is no significant difference between the boys and girls having high and low levels Thinking Styles and School Adjustment. It shows that there is no sex difference in the possession of different levels of Thinking Styles and School Adjustment.

2. Comparison Between the Percentages of Government School Pupils and Aided School Pupils Having High and Low Levels of Thinking Styles and School Adjustment

The critical ratios of difference between the percentages of government school pupils and aided school pupils having high and low levels of thinking styles and School Adjustment are significant at 0.05 level for Monarchic and Liberal Thinking Styles. More percentages of government school pupils possess high level of Monarchic and Liberal thinking Styles than aided school pupils and more percentage of aided school pupils belong to low level of Monarchic and Liberal Thinking Styles. As this differences are statistically significant, it can be seen that more government school pupils are highly Monarchic and Liberal in their Thinking Styles than the aided school pupils and the vice versa.
The critical ratios for all other dimensions of Thinking Styles and School Adjustment are not statistically significant. So there is no significant difference between the government school pupils and aided school pupils in possessing different levels of School Adjustment and Thinking Styles except in the case of Monarchic and Liberal dimensions of Thinking Styles.

3. Comparison Between the Percentages of Urban School Pupils and Rural School Pupils Having High and Low Levels of Thinking Styles and School Adjustment

The critical ratios of differences between the percentages of urban school pupils and rural school pupils having high and low levels of Thinking Styles are significant at 0.05 level for Executive Thinking Style and at 0.01 level for Conservative Thinking Style. More percentage of rural school pupils possess high level of Executive Thinking Style and more percentage of urban school pupils possess high level of Conservative Thinking Style. As these differences are statistically significant, it can be said that more rural school pupils are highly Executive in their Thinking Styles than the Urban school pupils and more Urban school pupils are highly Conservative in their Thinking Styles than the Rural school pupils.

The critical ratios for all other dimensions of Thinking Styles and School Adjustment are not statistically significant. So there is no significant difference between the Urban school pupils and Rural school pupils in possessing different levels of School Adjustment and Thinking Styles except in Executive and Conservative dimensions.
5.2.3 Association Between Basal Variables and Levels of Thinking Styles and School Adjustment

Chi-square tests of association in contingency tables were conducted for knowing about the association between each of the basal variables and levels of Thinking Styles and School Adjustment.

Sex, management category of schools and locality of schools are the basal variables considered for the study. High and low are the two levels of the variables considered. Chi-square tests were carried out between these basal variables and levels of Thinking Styles and School Adjustment. The observed frequencies are tested against those expected in independence.

The summary of the results of chi-square test of association is given in Table 60.
Table 60 shows the following major findings about the association between basal variables and the levels of Thinking Styles and School Adjustment.
1. Association Between Sex and Levels of Thinking Styles and School Adjustment

The chi-square values of association between sex, (boys and girls) and levels (high and low) of all dimensions of Thinking Styles and between sex and School Adjustment are not statistically significant. It shows that the observed frequencies of high and low levels of Thinking Styles and School Adjustment are close to those expected in unrelation with the sex (boys and girls) of the pupils. So, it can be said that there is no significant association between sex and levels of Thinking Styles or between sex and levels of School Adjustment.

2. Association Between Management Category of Schools and Levels of Thinking Styles and School Adjustment

The chi-square values of association between management category (government and aided) and levels (high and low) of Thinking Styles are significant at 0.05 level for Monarchic and Liberal Thinking Styles. So there is significant association between management category and levels of Monarchic and Liberal Thinking Styles.

The chi-square values of association between management category and levels of all other dimensions of Thinking Styles and between management category and levels School Adjustment are not statistically significant. It shows that there is no significant association between management category (government and aided) and levels (high and low) of School Adjustment and Thinking Styles except Monarchic Liberal dimensions.
3. Association Between Locality of Schools and Levels of Thinking Styles and School Adjustment

The chi-square values of association between locality of schools (urban and rural) and levels (high and low) of Thinking Styles are significant at 0.05 level for Executive Thinking Style and at 0.01 level for Local and Conservative Thinking Styles. This shows there is significant association between locality of schools and levels of Executive Thinking Style, between locality and levels of Local Thinking Style and between locality and levels of Conservative Thinking Style.

The chi-square values between locality and levels of all other dimensions of Thinking Styles and between locality and levels of School Adjustment are not statistically significant. So it can be seen that there is no significant association between locality of schools (Urban and Rural) and levels (High and Low) of School Adjustment and between locality of schools and levels of Thinking Styles except Executive, Local and Conservative dimensions.

5.2.4 Comparison Between Mean Thinking Styles and School Adjustment Scores Among Subsamples

Mean Thinking Style scores and mean School Adjustment scores were compared between boys and girls, between government school pupils and aided school pupils and between urban school pupils and rural school pupils. Comparisons were carried out by test of significance of difference between means (two tailed) and by working out the critical ratios.
Summary of the findings of test of significance of difference between means are presented in Table 61.

**TABLE 61**

Summary of the Test of Significance of Difference Between Mean Thinking Styles and Mean School Adjustment Scores Among Subsamples

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean and Critical Ratio</th>
<th>Mean and Critical Ratio</th>
<th>Mean and Critical Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Between Boys and Girls</td>
<td>Between Government and Aided School Pupils (N₁ = 325  N₂ = 161)</td>
<td>Between Urban and Rural School Pupils (N₁ = 265  N₂ = 221)</td>
</tr>
<tr>
<td></td>
<td>(N₁ = 228 N₂ = 258)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M₁</td>
<td>M₂</td>
<td>CR</td>
</tr>
<tr>
<td>Legislative</td>
<td>10.80</td>
<td>10.89</td>
<td>0.333</td>
</tr>
<tr>
<td>Judicial</td>
<td>9.89</td>
<td>9.71</td>
<td>0.806</td>
</tr>
<tr>
<td>Executive</td>
<td>9.20</td>
<td>9.34</td>
<td>0.486</td>
</tr>
<tr>
<td>Monarchic</td>
<td>19.13</td>
<td>18.68</td>
<td>0.988</td>
</tr>
<tr>
<td>Hierarchic</td>
<td>20.65</td>
<td>19.93</td>
<td>1.469</td>
</tr>
<tr>
<td>Oligarchic</td>
<td>18.08</td>
<td>17.93</td>
<td>0.376</td>
</tr>
<tr>
<td>Anarchic</td>
<td>16.02</td>
<td>16.67</td>
<td>1.537</td>
</tr>
<tr>
<td>Internal</td>
<td>16.01</td>
<td>15.13</td>
<td>2.146*</td>
</tr>
<tr>
<td>External</td>
<td>20.98</td>
<td>21.19</td>
<td>0.525</td>
</tr>
<tr>
<td>Global</td>
<td>15.97</td>
<td>16.40</td>
<td>1.208</td>
</tr>
<tr>
<td>Local</td>
<td>13.77</td>
<td>13.44</td>
<td>0.971</td>
</tr>
<tr>
<td>Liberal</td>
<td>13.09</td>
<td>12.03</td>
<td>3.610**</td>
</tr>
<tr>
<td>Conservative</td>
<td>16.66</td>
<td>17.74</td>
<td>3.620**</td>
</tr>
<tr>
<td>School Adjustment</td>
<td>39.26</td>
<td>37.08</td>
<td>3.050**</td>
</tr>
</tbody>
</table>

** indicates significance at 0.05 level

** indicates significance at 0.01 level
As shown in Table 61, the following findings can be summarized about the mean Thinking Style and School Adjustment score differences among subsamples.

1. Mean Thinking Styles and School Adjustment Score Differences Between Boys and Girls

The critical values of difference between the mean scores of boys and girls is significant at 0.05 level for Internal Thinking Style. The critical values are significant at 0.01 level for Liberal Thinking Style, Conservative Thinking Style and School Adjustment. Boys have high mean score of Internal Thinking Style than girls. As this mean difference is statistically significant, it may be concluded that boys possess more Internal Thinking Style than girls. In the case of Liberal Thinking Style, for which the mean difference between boys and girls is significant at 0.01 level, boys have high mean scores than girls. So boys are possessing more Liberal Thinking Style than girls. Girls have high mean score for Conservative Thinking Style than boys and the difference is significant statistically. So, it shows that girls exhibit more Conservative Thinking Style than boys. The Mean School Adjustment scores of boys are higher than that of girls and the difference is significant. It indicates boys are better adjusted with the school environment than the girls.

For all other dimensions of Thinking Styles, the difference between the mean scores of boys and girls are not statistically significant. So, there is no difference between the boys and girls in their possession of the characteristics of Legislative, Judicial, Executive, Monarchic, Hierarchic,
Oligarchic, Anarchic, External, Global and Local dimensions of Thinking Styles.

2. Mean Thinking Styles and School Adjustment Score Differences Between Government School Pupils and Aided School Pupils

The critical values of difference between the mean scores of government school pupils and aided school pupils are significant at 0.01 level for Monarchic Thinking Style, Internal Thinking Style and School Adjustment. Aided school pupils have high mean scores of Monarchic Thinking Style, Internal thinking Style and School Adjustment than Government School Pupils. It leads to conclusion that aided school pupils are more Monarchic and Internal in their Thinking Styles and they are better adjusted with school environment than the Government school pupils.

The critical values of differences between the mean scores of government and aided school pupils are significant at 0.05 level for Executive Thinking Style and Hierarchic Thinking Styles. Government school pupils have high mean scores of Executive Thinking Style and aided school pupils have high mean scores of Hierarchic Thinking Style. So it shows that government school pupils possess more characteristics of Executive Thinking Style and aided school pupils possess more characteristics of Hierarchic Thinking Style.

The critical values of difference between the mean scores of government and aided school pupils are not statistically significant for other
dimensions of Thinking Styles. So it is found that there is no difference between government school pupils and aided school pupils in Legislative, Judicial, Oligarchic, Anarchic, External, Global, Local, Liberal and Conservative dimensions of Thinking Styles.

3. Mean Thinking Styles and School Adjustment Score Differences Between Urban School Pupils and Rural School Pupils

The critical values of difference between the mean scores of Urban school pupils and Rural school pupils are significant at 0.05 level for Legislative, Judicial and Monarchic Thinking Styles. Urban school pupils have high mean score of Legislative Thinking Style and Rural school pupils possess high mean scores of Judicial and Monarchic Thinking Styles. It shows that Urban school pupils are more Legislative in their Thinking Styles than the Rural school pupils and Rural school pupils have more characteristics of Judicial and Monarchic Thinking Styles.

The critical value of difference between the mean School Adjustment scores of Urban school pupils and Rural school pupils is significant at 0.01 level. Rural school pupils high mean score than their urban counter parts. It shows that rural school pupils are more adjusted with the school environment than the urban school pupils.

The critical values of mean differences between urban and rural school pupils are not statistically significant for other dimensions of Thinking Styles. So there is no significant difference between the Urban and Rural
school pupils in their Executive, Hierarchic, Oligarchic, Anarchic, Internal, External, Global, Local, Liberal and Conservative Thinking Styles.

5.2.5 Relationship Between Thinking Styles and School Adjustment

For knowing about the relationship between Thinking Styles and School Adjustment, Pearson’s Product Moment Co-efficient of Correlation were calculated between each of the dimension of Thinking Styles and School Adjustment for the whole sample and subsamples. The obtained r’s were interpreted by testing the significance against null hypotheses, by verbal interpretation, by calculating the confidence intervals, and by determining the percentage overlaps.

Summary of the findings of correlation analysis of relationship between Thinking Styles and School Adjustment for the whole sample and subsamples are presented in Table 62.
TABLE 62
Summary of Relationship Between Thinking Styles and School Adjustment for the Whole Sample and Subsamples

<table>
<thead>
<tr>
<th>Thinking Styles</th>
<th>Correlation with School Adjustment for Various Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Whole sample (N=486)</td>
</tr>
<tr>
<td>Legislative</td>
<td>0.043</td>
</tr>
<tr>
<td>Judicial</td>
<td>0.063</td>
</tr>
<tr>
<td>Executive</td>
<td>-0.052</td>
</tr>
<tr>
<td>Monarchic</td>
<td>0.077</td>
</tr>
<tr>
<td>Hierarchic</td>
<td>0.172**</td>
</tr>
<tr>
<td>Oligarchic</td>
<td>0.100*</td>
</tr>
<tr>
<td>Anarchic</td>
<td>-0.099*</td>
</tr>
<tr>
<td>Internal</td>
<td>0.025</td>
</tr>
<tr>
<td>External</td>
<td>0.025</td>
</tr>
<tr>
<td>Global</td>
<td>0.103*</td>
</tr>
<tr>
<td>Local</td>
<td>-0.095*</td>
</tr>
<tr>
<td>Liberal</td>
<td>-0.092*</td>
</tr>
<tr>
<td>Conservative</td>
<td>0.106*</td>
</tr>
</tbody>
</table>

** indicates correlation significant at 0.01 level
* indicates correlation significant at 0.05 level

From Table 62, the following factors can be summarized about the relationship between Thinking Styles and School Adjustment for the whole sample and various subsamples.

1. **Relationship Between Thinking Styles and School Adjustment for the Whole Sample**

The Correlations of Legislative, Judicial, Monarchic, Hierarchic, Oligarchic, Internal, External, Global and Conservative Thinking Styles with...
School Adjustment scores are positive and correlations of other Thinking Styles with School Adjustment are negative for the total sample. Among the positive relationships, the statistically significant correlation co-efficients are those of Hierarchic (0.01 level), Oligarchic, Global and Conservative (all at 0.05 level) Thinking Styles and among the negative relationships, the statistically significant correlation co-efficients are those of Anarchic, Local and Liberal (at 0.05 level) Thinking Styles. It shows that there are significant positive correlations for Hierarchic, Oligarchic, Global and Conservative Thinking Styles with School Adjustment and Significant negative correlations for Anarchic, Local and Liberal Thinking Styles with School Adjustment. Other positive and negative relationships between Thinking Styles and School Adjustment are not statistically significant for the whole sample. So there are no significant relationships for Legislative, Judicial, Executive, Monarchic, Internal and External Thinking Styles with the School Adjustment in the whole sample.

2. Relationship Between Thinking Styles and School Adjustment for the Boys

The correlations of Legislative, Judicial, Monarchic, Hierarchic, Oligarchic, Global and Conservative Thinking Styles with School Adjustment are positive and correlations of other Thinking Styles with School Adjustment are negative. Among the positive relationships, the statistically significant correlation co-efficients are those of Legislative (0.01 level) and Global (0.05 level) Thinking Styles and among the negative
relationships, the statistically significant correlation coefficients are those of Executive (0.01 level) and Local (0.05 level) Thinking Styles. It indicates that there are significant positive correlations for Legislative and Global Thinking Styles with the School Adjustment and there are significant negative correlation for Executive and Local Thinking Styles with School Adjustment in the boys subsample. All other positive and negative relationships of Thinking Styles with School Adjustment are not statistically significant for the subsamples of boys. So there are no significant relationships for Thinking Styles except Legislative, Executive, Global and Local dimensions with the School Adjustment among boys.

3. Relationship Between Thinking Styles and School Adjustment for the Girls

The correlations of Judicial, Executive, Monarchic, Hierarchic, Oligarchic, Internal, External, Global and Conservative Thinking Styles with School Adjustment are positive and correlations of other Thinking Styles with School Adjustment are negative for the subsample of girls. Among the positive relationships, the statistically significant correlation co-efficients are those of Executive (0.05 level), Hierarchic, Oligarchic (both at 0.01 level) and Conservative (0.05 level) Thinking Styles and among the negative relationships, the statistically significant correlation co-efficients are that of Liberal (0.05 level) Thinking style. So, it can be say that there are significant positive correlations for Executive, Hierarchic, Oligarchic and Conservative
Thinking Styles with School Adjustment and there is significant negative correlation for Liberal Styles with the School Adjustment Scores. All other positive and negative relationships between Thinking Styles and School Adjustment are not statistically significant for the subsample of girls. So, there are no significant relationships for all Thinking Styles except Executive, Hierarchic, Oligarchic, Local and Conservative dimensions with the School Adjustment among girls.

4. Relationship Between Thinking Styles and School Adjustment for the Government School Pupils

The correlations of Judicial, Executive, Monarchic, Hierarchic, Oligarchic, Internal, External, Global and Conservative Thinking Styles with the School Adjustment are positive and the correlations of other Thinking Styles with the School Adjustment are negative for the subsample of government school pupils. Among the positive relationships, the correlation coefficient of Hierarchic Thinking Style with School Adjustment is significant at 0.01 level. It means that there is significant positive correlation between Hierarchic Thinking Style and School Adjustment. Other positive relationships and all the negative relationships between Thinking Styles and School Adjustment are not statistically significant for the subsample of government school pupils. So there are no significant relationships for all Thinking Styles except Hierarchic dimension with School Adjustment among government school pupils.
5. Relationship Between Thinking Styles and School Adjustment for the Aided School Pupils

The correlations of Legislative, Monarchic, Oligarchic, External, Global and Conservative Thinking Styles with School Adjustment are positive and the correlations of other Thinking Styles with the School Adjustment are negative for the subsample of aided school pupils. Among the positive relationships, only the correlation coefficient between Conservative Thinking Style and School Adjustment is statistically significant (at 0.05 level) and among the negative relationships, only the correlation coefficient between Anarchic Thinking Style and School Adjustment is statistically significant (0.05 level). So, there is significant positive relationship between Conservative Thinking Style and School Adjustment and there is significant negative correlation between Anarchic Thinking Style and School Adjustment. All other positive and negative relationships between Thinking Styles and School Adjustments are not statistically significant for the subsample of aided school pupils. So there are no significant relationships for all Thinking Styles except Anarchic and Conservative dimensions with the School Adjustment among aided school pupils.

6. Relationship Between Thinking Styles and School Adjustment for the Urban School Pupils

The correlations of Legislative, Judicial, Monarchic, Hierarchic, Oligarchic, Internal, External, Global and Conservative Thinking Styles with
School Adjustment are positive and the correlations of other Thinking Styles with School Adjustment are negative for the subsample of Urban school pupils. Among the positive relationships, the statistically significant correlation co-efficients are those of Legislative, Monarchic (both at 0.05 level) and Hierarchic (at 0.01 level) Thinking Styles and among negative relationships, the statistically significant correlation co-efficients are those of Executive and Anarchic (both at 0.05 level) Thinking Styles. So it can be said that there are significant positive correlation for Legislative, Monarchic and Hierarchic Thinking Styles with the School Adjustment and there are significant negative correlation for Executive and Anarchic Thinking Styles with the School Adjustment. All other positive and negative relationships between Thinking Styles and School Adjustment are not statistically significant for the subsample of Urban School Pupils. So there are no significant relationships for all Thinking Styles except Legislative, Executive, Monarchic, Hierarchic, and Anarchic dimensions with the School Adjustment among Urban school pupils.

7. Relationship Between Thinking Styles and School Adjustment for the Rural School Pupils

The correlations of Judicial, Executive, Hierarchic, Oligarchic, External, Global and Conservative Thinking Styles with the School Adjustment are positive and the correlations of other Thinking Styles with the School Adjustment are negative for the Subsample of Rural school pupils. Among the positive relationships, the statistically significant
correlation co-efficients are those of Oligarchic, Global and Conservative (at 0.05 level) Thinking Styles and among the negative relationships, the correlation co-efficient between Local Thinking Style and School Adjustment is significant at 0.05 level. It shows that there are significant positive correlations for Oligarchic, Global and Conservative Thinking Styles with School Adjustment and there is significant negative correlation between Local Thinking Style and School Adjustment. All other positive and negative relationships between Thinking Styles and School Adjustment are not statistically significant for the subsample of rural school pupils. So there are no significant relationship for all other Thinking Styles except Oligarchic, Global Local and Conservative dimensions with the School Adjustment among Rural school pupils.

5.2.6 Comparison of Relationships Between Thinking Styles and School Adjustment Among Subsamples

The relationships between Thinking Styles and School Adjustment were compared between boys and girls, between government school pupils and aided school pupils and between urban school pupils and rural school pupils. Comparison was conducted by calculating the critical ratios using the test of significance of difference between correlations and by testing the significance of these critical ratios against null hypotheses.

The summary of comparison of correlations between Thinking Styles and School Adjustment among the subsamples are presented in Table 63.
TABLE 63
Summary of Test of Significance of Difference Between Correlations of Thinking Styles and School Adjustment Among Various Subsamples

<table>
<thead>
<tr>
<th>Thinking Styles</th>
<th>Critical Ratios of Comparison Between r’s</th>
<th>Between Boys and Girls (N₁ = 228 N₂ = 258)</th>
<th>Between Government and Aided School Pupils (N₁ = 325 N₂ = 161)</th>
<th>Between Urban and Rural School Pupils (N₁ = 265 N₂ = 221)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>r₁</td>
<td>r₂</td>
<td>CR</td>
</tr>
<tr>
<td>Legislative</td>
<td></td>
<td>0.175</td>
<td>-0.053</td>
<td>2.493*</td>
</tr>
<tr>
<td>Judicial</td>
<td></td>
<td>0.110</td>
<td>0.018</td>
<td>1.006</td>
</tr>
<tr>
<td>Executive</td>
<td></td>
<td>-0.230</td>
<td>0.124</td>
<td>3.870**</td>
</tr>
<tr>
<td>Monarchic</td>
<td></td>
<td>0.120</td>
<td>0.025</td>
<td>1.039</td>
</tr>
<tr>
<td>Hierarchic</td>
<td></td>
<td>0.076</td>
<td>0.282</td>
<td>2.340*</td>
</tr>
<tr>
<td>Oligarchic</td>
<td></td>
<td>0.008</td>
<td>0.189</td>
<td>1.979*</td>
</tr>
<tr>
<td>Anarchic</td>
<td></td>
<td>-0.106</td>
<td>-0.075</td>
<td>0.339</td>
</tr>
<tr>
<td>Internal</td>
<td></td>
<td>-0.007</td>
<td>0.031</td>
<td>0.415</td>
</tr>
<tr>
<td>External</td>
<td></td>
<td>-0.016</td>
<td>0.079</td>
<td>1.039</td>
</tr>
<tr>
<td>Global</td>
<td></td>
<td>0.157</td>
<td>0.066</td>
<td>0.995</td>
</tr>
<tr>
<td>Local</td>
<td></td>
<td>-0.132</td>
<td>-0.074</td>
<td>0.634</td>
</tr>
<tr>
<td>Liberal</td>
<td></td>
<td>-0.092</td>
<td>-0.139</td>
<td>0.514</td>
</tr>
<tr>
<td>Conservative</td>
<td></td>
<td>0.107</td>
<td>0.154</td>
<td>0.514</td>
</tr>
</tbody>
</table>

** indicates significance at 0.01 level
* indicates significance at 0.05 level

The following major findings are made on the basis of the comparison of correlations as given in Table 63.

1. Comparison of Correlations Between Boys and Girls

The critical ratios of difference between correlations of boys and girls are significant at 0.05 level for Legislative, Hierarchic and Oligarchic
Thinking Styles and at 0.01 level for Executive Thinking Style. Boys and Girls differ significantly in their correlations of Legislative, Executive, Hierarchic and Oligarchic Thinking Styles with the School Adjustment. Boys have more positive relationship between their Legislative Thinking Style and School Adjustment and girls have better positive relationship between their Executive Thinking Style and School Adjustment, between Hierarchic Thinking Style and School Adjustment and between Oligarchic Thinking Style and School Adjustment.

For all other dimensions of Thinking Styles, the correlations with School Adjustment does not differ significantly between boys and girls.

2. **Comparison of Correlations Between Government School Pupils and Aided School Pupils**

The critical ratios of difference between the correlations of government school pupils and aided school pupils are significant at 0.01 level for Hierarchic Thinking Style and at 0.05 level for Liberal Thinking Style. Government School pupils and aided school pupils differ significantly in their correlations of Hierarchic and Liberal Thinking styles with the School Adjustment. Government school pupils have more positive relationship between their Hierarchic Thinking Style and School Adjustment than the aided school pupils. The negative relationship between Liberal Thinking Style and School Adjustment possessed by aided school pupils is higher than the negative correlation possessed by government school pupils.
For all other dimensions of Thinking Styles, the correlations with School Adjustment does not differ significantly between government school pupils and aided school pupils.

3. Comparison of Correlations Between Urban School Pupils and Rural School Pupils

The critical ratios of difference between the correlations of Urban school pupils and Rural school pupils are significant for the Executive Thinking Style (0.05 level) and Hierarchic Thinking Style (0.01 level) Urban School Pupils and Rural School Pupils differ significantly in their correlations of Executive and Hierarchic Thinking Styles with School Adjustment. Urban School pupils have negative correlation between their Executive Thinking Style and School Adjustment which is significantly different from the positive correlation possessed by rural school pupils. Urban school pupils possess more positive correlation between their Hierarchic Thinking Style and School Adjustment than the rural school pupils.

For all other dimensions of Thinking Styles, the correlations with School Adjustment does not differ significantly between urban school pupils and rural school pupils.

5.2.7 Multiple Correlation Between Thinking Style and School Adjustment

For finding out the efficiency of (separate and combined) independent variables (Thinking Styles) to predict the dependent variable (School
Adjustment), forward stepwise and enter methods of multiple correlation analysis were conducted.

The summary of the results of multiple correlation analysis are presented in Table 64.

**TABLE 64**

Summary of the Findings of Multiple Correlation Analysis

<table>
<thead>
<tr>
<th>Statistics</th>
<th>Method of Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Forward Stepwise Method (a)</td>
</tr>
<tr>
<td></td>
<td>0.233</td>
</tr>
<tr>
<td>R Square</td>
<td>0.054</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>0.048</td>
</tr>
<tr>
<td>Standard Error of Estimate</td>
<td>7.702</td>
</tr>
</tbody>
</table>

a) Predictors: (Constant), Hierarchic, Anarchic and Oligarchic, Thinking Styles

b) Predictors: (Constant), All dimensions of Thinking Styles

As shown in Table 64, it can be seen that when Hierarchic, Anarchic and Oligarchic Thinking Styles combined are considered as predictors (forward stepwise method) the multiple correlation (R) is 0.233 and when all dimensions of Thinking Styles are taken as predictors (enter method) the multiple correlation (R) is 0.270. It shows a low predictability for the independent variables (Thinking Styles) in the dependent variable (School Adjustment). Hierarchic, Anarchic and Oligarchic Thinking Styles as a group or all dimensions of Thinking Styles combined does not have much strength to predict the School Adjustment of secondary school pupils in Kerala.
The multiple R squares are 0.054 and 0.073 in forward stepwise and enter methods respectively which shows that 5.4 percentage or 7.3 percentage of the variance in School Adjustment is accounted by Hierarchic, Anarchic and Oligarchic Thinking Styles as a group or all dimensions of Thinking Styles combined. The remaining percentages of the variance can be attributed to variables not measured in this regression analysis.

5.3 CONCLUSIONS AND INTERPRETATIONS

The conclusions and interpretations made on the basis of the findings of the study are described below:

1) The present study revealed that more than 50 percentage of the whole sample have High levels of School Adjustment and all dimensions of Thinking Styles. It shows that majority of the pupils in the whole sample are highly adjusted with the school environment and majority of the pupils possess more characteristics of all Thinking Styles.

It was found that more than 50 percentage of the pupils in all subsamples have High levels of School Adjustment and all dimensions of Thinking Styles. So it may be concluded that majority of pupils in all subsamples are highly adjusted with the environment and have many characteristics of all Thinking Styles.

The study revealed that the percentage of pupils having High and Low levels of Thinking Styles does not vary considerably across various
dimensions. From this, it may be said that pupils may possess same levels of characteristics of all dimensions of Thinking Styles. Mental Self-Government Theory of Thinking Styles by Sternberg (1997) suggests that people do not have a style but rather a profile of styles and they show varying amount of each style but are not locked in to any one style profile. It may be due to this peculiarity of Thinking Styles, the possession of High or Low levels of one dimension of Thinking Style did not seem to have affected the possession of High or Low levels of another dimensions.

It was also found that more than 50 percentage of pupils in the whole sample and all the subsamples are better adjusted with their environment. The new teaching and learning approaches adopted in the primary and secondary educational sector in Kerala since 1990’s and the revised curriculum, textbooks and examination systems may have helped more students to adjust with the school atmosphere. But, besides all these changes in favour of the child, still a considerable portion (above 30 percentage in all samples) of the pupils are not well adjusted in the schools.

2) From the study, it was found that there is no significant difference between boys and girls in having High and Low levels of Thinking Styles or School Adjustment. The conclusion drawn from the above evidence is that there is no sex difference in having High and Low levels of these
variables. Sex is not influencing the possession of High and Low levels of Thinking Styles and School Adjustment among the secondary school pupils in Kerala. Equal potentialities and mental dispositions possessed by boys and girls may be resulted in the equal possession of different levels of Thinking Styles and School Adjustment.

It was found that significantly more percentages of government school pupils have High levels of Monarchic and Liberal Thinking Styles than the aided school pupils. Monarchic people prefer to do one thing at a time with maximum resource (characteristics of Monarchic Thinking Style) and Liberal people prefer to do things in different ways defying conventions (Characteristics of Liberal Thinking Style). So it may be concluded that more government schools pupils possess these characteristics than the aided school pupils. Due to the state level competitive selection procedure used to be adopting for the appointment of teachers in government schools, teachers in these schools are generally more qualified and more trained than the teachers in the aided schools. It may be resulted in the variation academic atmosphere of these schools and helped the government schools to provide more opportunities for the development of High level of Monarchic and Liberal Thinking Styles in Majority of its students.

Significantly more percentage of rural school pupils showed High level of Executive Thinking Style than the urban counterparts. People
with the Executive Thinking Style likes to follow directions and likes to do what is told (characteristics of Executive Thinking Style). So the conclusion derived from the evidence of this finding is that more rural school pupils possess these characteristics. Variation between the urban and rural areas due to the differences in life style may be resulted in the development of more Executive Thinking Style characteristics among majority of pupils studying in rural area schools. Better school atmosphere in rural areas may help in providing External Thinking Style.

3) From the study it was found that there is significant association between management category of schools (government and aided) and levels (High and Low) of Monarchic and Liberal Thinking Styles. So it may be concluded that the frequencies of High and Low levels of Monarchic and Liberal Thinking Styles is in association with the numbers of government and aided school pupils. Characteristics of Monarchic Thinking Style is that people with this style likes to do one thing at a time devoting to it almost all energy and resources. Characteristics of Liberal Thinking Style is that people with this style likes to do things in new ways and defy conventions. The results indicate significant association between the number of pupils in government and aided schools and the number of pupils with High and Low levels of these characteristics. Management category of schools might have influenced the academic and physical condition of the schools because appointment of teachers and
establishment and maintenance of infrastructure facilities are greatly depends on the management of the schools to a greater extent. It may be due to this influence, the possession of High and Low level of Monarchic Thinking Style and Liberal Thinking Style are associated with the Management category of the schools.

Analysis of Association revealed significant association between locality (urban and rural) and levels (High and Low) of Executive, Local and Conservative Thinking Styles. It may be concluded that the frequencies observed between locality and High and Low levels of Executive, Local and Conservative Thinking Styles are associated. People with Executive Thinking Style likes to follow direction and do what he or she is told (Characteristics of Executive Thinking Style). People with Local Thinking Style likes to deal with details, specifics and concrete examples (Characteristics of Local Thinking Style). People with Conservative Thinking Style likes to do things in tried and true ways and follow conventions (characteristics of Conservative Thinking Style). As the possession of High and Low Levels of these characteristics are associated with the locality of schools in which the pupils are studying, it may be interpreted that regional imbalances in transportation, communication and other life styles between urban and rural school pupils may have associated with the possession of High and Low level of the characteristics of Executive, Local and Conservative Thinking Styles.
4) Test of significance of difference between means revealed significant differences between the mean scores of boys and girls in their Internal, Liberal and Conservative Thinking Styles and in their School Adjustment. Boys possess high Internal Thinking Style mean score than girls. People with Internal Thinking Style likes more to work alone and focus inward (Characteristics of Internal Thinking Style). So the conclusion derived from the evidence of the findings of the study is that, boys possess more of these characteristics than girls. Principles of growth and development in human beings shows that there is variation in the pattern of development of boys and girls during the period of adolescence. In some stages of this period, girls are overcoming the boys in their developmental advancements. It may be due to the lag in the developmental advancement and adolescence awkwardness of boys, they tend to show more characteristics of Internal Thinking Style than girls. The mean Liberal Thinking Styles score of boys are also higher than girls and the difference is statistically significant. People with Liberal Thinking Style likes more to do things in new ways and defy conventions (Characteristics of Liberal Thinking Style). From the findings of the study, it can be interpreted that boys are possessing more of this characteristics than girls. The changed teaching-learning activities adopted in the secondary schools in recent years may have helped boys positively in the possession of these characteristics than girls. The mean Conservative Thinking Style scores
of girls are higher than that of boys and the difference is statistically significant. People with Conservative Thinking Style likes more to do things in tried and true ways and follow conventions (Characteristics of Conservative Thinking Style). So, it may be concluded that girls are possessing more of these characteristics than boys. The rules, regulations and discipline of the educational institutions, family and society may have influenced the girls more than boys and it may be resulted in their possession of more characteristics of Conservative Thinking Style.

Boys have High School Adjustment mean score than Girls and this significant difference leads to the conclusion that boys are better adjusted with the school atmosphere than girls. Comparing the boys, girls are experiencing vast changes in their biological organic system during the secondary school stage which is the beginning of adolescence. Awareness about these changes and the attitude and approach of family, friends, teachers and society may influence their adjustment to the changing situations. As the study revealed a better School Adjustment for boys in the secondary schools than girls, it can be said that the circumstances of the present secondary schools in the state are not so favourable for the girls in their adjustment with the school situation as the boys.

Significant difference between the mean scores of government and aided school pupils are found in their Executive, Monarchic, Hierarchic and Internal Thinking Styles and in their School Adjustment. Government
School pupils have high mean score of Executive Thinking Style than aided school pupils. Characteristics of Executive Thinking Style is that, people with this Thinking Style likes more to follow directions and to do what they are told. From the findings of the study, it may be concluded that government school pupils have more of this characteristics than the aided school pupils. supervision and guidance of the school activities by more trained and qualified teachers in the government schools may have helped the students in the government schools to develop more characteristics of Executive Thinking Style (follow directions and do what are told to do).

Aided School Pupils possess high Monarchic Thinking Style mean scores than government school pupils. People with Monarchic Thinking Style likes more to do one thing at a time using all energy and resources (Characteristics of Monarchic Thinking Style). So it may be said that aided school pupils likes more to do one thing at a time using all energy and resources (Monarchic) than government school pupils. Various curricular and co-curricular activities are more systematically organizing and successfully completing in many of the aided schools in the state. This might have helped them to provide their students better opportunities for the development of Monarchic Thinking Style (doing one thing at a time using all energy and resources). Similarly aided school pupils have high mean score of Hierarchic Thinking Style than the government school pupils.
pupils. Characteristics of Hierarchic Thinking Style is that people with this Thinking Style likes more to do many things at once setting priorities. So, the conclusion derived from the evidence of the results of the study is that aided school pupils possess more characteristics of Hierarchic Thinking Style than government school pupils. In Kerala, teachers and staff of the aided schools are recruited directly by the respective managements. As most of the schools are functioning under single management, transfer of service and other changes are rare in these schools and the teachers appointed by the managements are working in the same schools till retirement. This may be resulted in the systematic functioning of these schools and provide their students better opportunities for the development of more characteristics of Hierarchic Thinking Style (doing many things setting priorities). Similarly aided school pupils are possessing high mean score of Internal Thinking Style than government school pupils which means that aided school pupils likes more to work alone and focus inward (because, these are the characteristics of Internal Thinking Style) than the government school pupils. The teaching learning activities adopted after the curriculum revisions (since 1990s) in the primary and secondary schools of Kerala in are meant for the equal development of group skills and individual skills. Comparing the government schools, aided schools may be providing more classroom works for the development of individual skills and it may...
be resulted in the possession of more Internal Thinking Style characteristics (work alone and focus inward) among the students of aided schools.

Aided school pupils have high mean scores of School Adjustment than government school pupils. As this mean difference is significant, it can be said that aided school pupils are better adjusted with the school environment than the government school pupils. Aided schools are well rooted and well established in the public education sector of Kerala. It was a major part of the system for centuries. Their role in the field is still equally as important as the government sector. This well established background, lack of irregularities resulted from the frequent transfer of teachers and the systematic functioning may have helped the students in the aided schools for the better adjustment with the school situations comparing the government schools. Besides all the efforts of the educational administrators and policy makers, the government schools are still lagging behind in their pupil’s School Adjustment.

From the study, it was revealed that the mean differences between urban school pupils and rural school pupils were significant in their Legislative, Judicial and Monarchic Thinking Styles and in their School Adjustment. Urban School Pupils have high Legislative Thinking Style mean score than Rural school pupils. Characteristics of Legislative Thinking Style is that people with this Thinking Style likes more to
create, invent, design and to do things in their own way. So from the findings of the study it was concluded that urban school pupils are possessing more of this characteristics than the rural counterparts. Better exposure to divergent situations with the help of modern electronic and communication facilities may have helped the students in the urban areas to be more active and creative and possess more characteristics of Legislative Thinking Style.

Rural school pupils possess high Judicial Thinking Style mean score than urban school pupils. People with Judicial Thinking Style likes more to judge and evaluate people and things (Characteristics of Judicial Thinking Style). So it can be said that rural school pupils possess more of this characteristics than the urban school pupils. Comparing to the urban areas, our rural areas still lack the opportunities for participation and involvement in many facets of modern world activities. Instead due to the reach of communication facilities in each and every remote villages, rural pupils are in a position to know and see almost every happenings around the world. But they are mere spectators of these happenings. These differences between the urban and rural areas may have helped students studying in the rural schools to develop more characteristics of Judicial Thinking Style (judge and evaluate pupil and things) than urban school pupils. Similarly, rural school pupils possess high Monarchic Thinking Style mean scores than the Urban school pupils and the difference is
statistically significant. As the characteristics of Monarchic Thinking Style is that, people with this Thinking Style likes to do one thing at a time using all energy and resources, it may be concluded that rural school pupils likes more to do one thing at a time using all energy and resources than their urban counterparts. Diversity is the essence of modern urban world and its lack separates the rural areas from the urban. So the rural pupil may have more opportunities for concentrating on single matters and this may helped them to develop more Monarchic Thinking Style characteristics (doing one thing at a time using all energy and resources).

As the mean scores of School Adjustment for the rural school pupils are higher than the urban school pupils and the difference is significant statistically, it may be concluded that rural school pupils are better in their School Adjustment than the urban school pupils. From the findings of the study it can be interpreted that rural school pupils are better adjusted with the school and circumstances than the urban school pupils. Comparing rural areas, pupils in the urban areas of the state are more concerned about the education of their children for the past decades. In recent years, this care and concern are reported to have developed in to tendencies of over considerations and over expectations about the child’s education. This over consideration and over expectation of parents and teachers, increased burden of school activities, lack of leisure and play times and undesirable competitions put the urban pupils in more pressure
than the rural pupils. This circumstances may lead to the better adjustment of rural school pupils with the school environment than the urban school pupils.

5) From the correlation analysis, it was found that, there was significant positive correlations for Hierarchic, Oligarchic, Global and Conservative Thinking Styles with School Adjustment among the whole sample. From this evidence, it was concluded that School Adjustment of secondary school pupils in Kerala is positively related with their Hierarchic, Oligarchic, Global and Conservative Thinking Styles. Characteristics of Hierarchic Thinking Style is that people with this style likes to do many things at once setting priorities for which to do when and how much time and energy to devote to each. Oligarchic people likes to do many things at once but has trouble in setting priorities (characteristics of Oligarchic Thinking Style). People with Global Thinking Style likes to deal with big picture, generalities and abstractions. Similarly people with Conservative Thinking Style likes to do things in tried and true ways and follow conventions. As it is found that, pupils who possess more of these characteristics are better adjusted with the school situations, it can be said that the present educational atmosphere of the secondary schools in the state are more favourable and rewarding for the pupils who possess these Thinking Style characteristics. The teaching-learning situations, curricular and co-curricular activities of the secondary schools in the state may be
such that it requires the pupils to be more Hierarchic, Oligarchic, Global or Conservative for their better adjustment with the school situations.

From the study, it was also found that there was significant negative correlation for Anarchic, Local and Liberal Thinking Styles with School Adjustment. So it was concluded that School Adjustment of secondary school pupils in the state is negatively related with the Anarchic, Local and Liberal Thinking Styles. Characteristics of Anarchic Thinking Style is that people with this Thinking Style likes to take a random approach to problems and dislike systems, guidelines and all constraints. People with Local Thinking Style likes to deal with details specifics and concrete examples (Characteristics of Local Thinking Style). Similarly, characteristics of Liberal Thinking Style is that people with this Thinking Style likes to do things in new way and defy conventions. As it was found that pupils who possess more of these characteristics are not well adjusted with the school situations it may be assumed that these characteristics are unfavourable and not rewarding in the current secondary school situations of the state. Various curricular and co-curricular activities and the teaching learning situations and other school atmosphere of the present secondary schools may not be suited or go along with the characteristics of Anarchic, Local and Liberal Thinking Styles.
6) The study revealed that there are significant difference between boys and girls in their correlations of Legislative, Executive, Hierarchic, and Oligarchic Thinking Styles with the School Adjustment. Boys have better positive relationship between their Legislative Thinking Style and School Adjustment than girls. Legislative Thinking Style is positively related with the School Adjustment for boys and is negatively related with the School Adjustment among girls. So it can be said that Legislative Thinking Style is influencing the School Adjustment of boys and girls in different ways. While boys with more Legislative Thinking Style characteristics are better adjusted with the school situations, girls who possess more Legislative Thinking Style characteristics are found to be less adjusted with their schools. It was found that girls have significantly high positive relationships than boys between their Executive Thinking Style and School Adjustment, between Hierarchic Thinking Style and School Adjustment and between Oligarchic Thinking Style and School Adjustment. It can be said that Executive, Hierarchic and Oligarchic Thinking Styles of boys and girls are related with their School Adjustment in different ways. Executive Thinking Style is positively related with the School Adjustment of girls and negatively related with the School Adjustment of boys. Boys with more Executive Thinking Style characteristics are less adjusted with the schools. But girls with more Executive Thinking Style characteristics are better adjusted in their
school situations. The positive relationship for the Hierarchic and Oligarchic Thinking Styles with the School Adjustment for the girls is higher than the positive relationship of the boys. As the possession of same characteristics of Thinking styles by boys and girls influence their School Adjustment in different ways, it can be said that there is sex difference in the relationship of these Thinking Styles and School Adjustment. Possession of the characteristics of Legislative, Executive, Hierarchic and Oligarchic Thinking Styles are influencing the School Adjustment of boys and girls studying in the same standards and of the same age group in different ways. Difference between boys and girls in their physical, mental, biological and developmental aspects during the beginning period of adolescence may have influenced their relationship between Thinking Styles and School Adjustment.

Government school pupils and aided school pupils differ significantly in their relationship of Hierarchic and Liberal Thinking Styles with the School Adjustment. Hierarchic Thinking Style is positively related with the School Adjustment of government school pupils and is negatively related with the School Adjustment of aided school pupils. Government school pupils with more Hierarchic Thinking Styles are better Adjusted with their school situations where as aided school pupils with more Hierarchic Thinking Style are less adjusted with their school circumstances. Similarly the negative relationship between
the Liberal Thinking Style and School Adjustment for the aided school pupils is higher than the negative relationship of government school pupils. It can be said that possession of the characteristics of Hierarchic and Liberal Thinking Styles are influencing the government school pupils and aided school pupils in different ways. Differences between the government schools and aided schools in their management, teacher appointment, infrastructural facilities and other academic conditions may be resulted in difference in their pupils’ relationship between Hierarchic and Liberal Thinking Styles and School Adjustment.

It was found that urban school pupils and rural school pupils differ significantly in their correlations of Executive and Hierarchic Thinking Styles with School Adjustment. Urban School pupils have negative correlation between their Executive Thinking Style and School Adjustment where as rural school pupils have a positive correlation between their Executive Thinking Style and School Adjustment. Similarly, urban school pupils have more positive correlation between their Hierarchic Thinking Style and School Adjustment than the rural school pupils. The results of the comparison of the r’s of urban and rural school pupils leads to the conclusion that their Executive and Hierarchic Thinking Styles are related with their School Adjustment in different ways. This difference may be due to the difference between situations of
urban and rural areas and the varying adjustment needs of the pupils in urban and rural schools and other regional imbalances.

7) Multiple correlation analysis revealed the multiple correlation (R) as 0.233 (forward stepwise method) and as 0.270 (enter method). The multiple R squares were found to be 0.054 and 0.073 respectively in the forward stepwise and enter methods of analysis.

From these results it can be interpreted that Hierarchic, Anarchic and Oligarchic Thinking Styles as a group (forward stepwise method) or all the Thinking Styles combined (enter method) do not have much strength in predicting the dependent variable, the School Adjustment. Similarly, only 5.4 and 7.3 percentage of the variances in School Adjustment is accounted by the independent variables (various dimensions of Thinking Styles) in groups or combined. A major portion of the variance of School Adjustment is attributed to variables not measured in the regression analysis.

The conclusion derived from the evidence of the results of multiple correlation analysis is that Thinking Styles in groups or combined are not dependable enough to predict the School Adjustment of the secondary school pupils in Kerala.

5.4 TENABILITY OF HYPOTHESES

Based on the findings, the tenability of the hypotheses were tested
1. The first hypothesis states that, “a Thinking Styles Test Battery will be developed and standardized for the secondary school pupils in Kerala”.

   A Thinking Styles Test Battery (TSTB) was developed and standardized for the secondary school pupils in Kerala. So the first hypothesis was fully substantiated.

2. The second hypothesis states that, “Percentages of secondary school pupils having different levels of Thinking Styles and School Adjustment will be different for the whole sample and selected subsamples based on the basal variables of the study”.

   From the study it was found that different percentages of secondary school pupils possess different levels of Thinking Styles and School Adjustment for the whole sample and subsamples based on the basal variables of the study. So the second hypothesis is fully substantiated.

3. The third hypothesis states that, “There will be significant difference between the percentages of secondary school pupils having different levels of Thinking Styles and School Adjustment for selected sub samples based on the basal variables of the study.”

   The study revealed that there are no significant difference between the percentages of boys and girls having different levels of Thinking Styles and School Adjustment. There are no significant difference
between the percentages of government school pupils and aided school pupils having different levels of School Adjustment and Thinking Styles except Monarchic and Liberal dimensions of Thinking Styles. It was also found that there are no significant difference between the percentages of urban school pupils and rural school pupils having different levels of School Adjustment and Thinking Styles except Executive and Conservative dimensions.

As the differences between the percentages of subsamples having different levels of Thinking styles and School Adjustment was not significant for majority of variables, the third hypothesis is partially substantiated.

4. The fourth hypothesis stated that, “There will be significant association between

(i) Each of the basal variables and each of the 13 Thinking Styles of secondary school pupils and

(ii) Each of the basal variables and levels of School Adjustment of secondary school pupils”.

From the study, it was found that there is no significant association between sex and levels of Thinking Styles and School Adjustment. There is no significant association between management category and levels of School Adjustment and Thinking Styles except Monarchic and Liberal
dimensions of Thinking Styles. It was also revealed that no significant association exist between locality and levels of School Adjustment and Thinking Styles except Executive, Local and Conservative dimensions of Thinking Styles.

As the associations between basal variables and the levels of variables were significant only for some variables, the fourth hypothesis is partially substantiated.

5. The fifth hypothesis states that, “There will be significant difference between the mean Thinking Style and School Adjustment scores of secondary school pupils for the selected subsamples based on the basal variables of the study”.

From the study it was found that the mean differences between boys and girls for Internal, Liberal and Conservative Thinking styles and for School Adjustment were statistically significant. The difference in the mean scores between government school pupils and aided school pupils for Executive, Monarchic, Hierarchic and Internal Thinking Styles and for School Adjustment were also statistically significant. It was also found that the mean differences between urban and rural school pupils are significant for Legislative, Judicial and Monarchic Thinking Styles and for School Adjustment. For all other dimensions of Thinking Styles, the differences between the mean scores among the subsamples are not significant.
As the difference between the mean scores of Thinking Styles and School Adjustment are significant for some variables and not significant for others, the fifth hypothesis is partially substantiated.

6. The sixth hypothesis states that, “There will be significant relationship between different Thinking Styles and School Adjustment of the secondary school pupils for

(i) Whole sample and
(ii) Sub samples based on the basal variables of the study”.

From the study it was found that there is significant relationships for Hierarchic, Oligarchic, Anarchic, Global, Local, Liberal and Conservative Thinking Styles with the School Adjustment in the whole sample. Legislative, Executive, Global and Local Thinking Styles among boys, Executive, Hierarchic, Oligarchic, Liberal and Conservative Thinking Styles among government school pupils, Anarchic and conservative Thinking Styles among aided school pupils, Legislative, Executive, Monarchic, Hierarchic and Anarchic Thinking Styles among urban school pupils and Global, Local and Conservative Thinking Style among rural school pupils have significant relationships with their School Adjustment Scores. For other relationships, the correlations are not significant.

As some relationships between Thinking Styles and School Adjustment are significant and some others are not significant, the sixth hypothesis is partially substantiated.
7. The seventh hypothesis states that, “There will be significant difference in relationships between different Thinking Styles and School Adjustment of the secondary school pupils for the comparable subsamples based on the basal variables of the study”.

From the study, it was found that difference between the r’s of boys and girls are significant for Legislative, Executive, Hierarchic and Oligarchic Thinking Styles. For government and aided school pupils, the difference between the r’s are significant for Hierarchic and Liberal Thinking Styles and between urban and rural school pupils the difference between r’s are significant for Executive and Hierarchic Thinking Styles. The differences between the r’s for other comparisons among the subsamples were not statistically significant.

As majority of differences between the correlations are not significant among the subsamples, the seventh hypothesis is partially substantiated.

8. The eighth hypothesis states that, “School Adjustment of the Secondary School Pupils can be predicted from different Thinking Styles considered for the study”.

From the study, it was found that Hierarchic, Anarchic and Oligarchic Thinking Styles combined is efficient to predict only 5.4 percentage of the variances in School Adjustment and all the dimensions
of Thinking Styles together is efficient to predict only 7.3 percentage of the variances in School Adjustment.

As groups of various dimensions of Thinking Styles or all the dimensions of Thinking Styles combined does not predict the School Adjustment of secondary school pupils fully, the eighth hypothesis is partially substantiated.

5.5 EDUCATIONAL IMPLICATIONS

The present study, “Thinking Styles and School Adjustment of Secondary School Pupils in Kerala” was intended to (i) develop a Thinking Styles Test Battery and (ii) measure and analyze the Thinking Styles and School Adjustment of Secondary School pupils in the State. The results obtained from the study offers some practical suggestions which may be helpful for the policy makers and educationists in their attempt to enhance the quality of education in Kerala.

A Thinking Style Test Battery (TSTB) was developed and standardized during the study for the measurement of Thinking Styles of secondary school pupils in Kerala. Till now, no tools are available for the measurement of Thinking Styles of any group of subjects in the state. As Thinking Styles is an important construct explaining human performance (Sternberg-1997), it is important to know the Thinking Styles of the students in our schools. It may help the policy makers and educators to understand the
pupils more which is useful for improving the curricular designs and plans according to the needs of the students. It necessitates a reliable and standardized tool for the objective measurement of Thinking Styles of school pupils in the state. Thinking Styles Test Battery (TSTB) is an attempt in this direction. It was developed on the basis of the foundations of Mental Self-government theory of Thinking Styles by Sternberg (1997) and designed in tune with the revised activity oriented teaching-learning situations adopted in the secondary schools of the state for the last decade (curriculum revisions in Kerala since 1990’s). TSTB is a battery of four tests which was standardized by establishing validity and reliability. It is expected that TSTB is highly useful for the measurement of Thinking Styles of secondary school pupils of the state in future.

The present study revealed that a considerable percentage of the secondary school pupils have Low level of the characteristics of Thinking Styles. Since the development of Thinking Styles in all dimensions is essential for the successful and balanced life as responsible citizens in a diverse world, the teaching and learning processes should be rearranged to help all the students develop their Thinking Styles in all dimensions. This may also help the students to achieve curricular objectives.

From the study it was found that a considerable percentage of the secondary school pupils in Kerala are not well adjusted with the school situations. It shows that besides all the changes in favour of the students in
the educational sector in Kerala for the last years, a considerable portion is still lacking adjustment with their situations. As this may hinder their personality development and achievement of curricular objectives, the school situations should be changed to fit all the students.

It was found that boys are possessing more characteristics of Internal Thinking Style than girls in the secondary schools of the state. Showing more Internal Thinking Style characteristics means that boys prefer more to work alone and focus inward (Characteristics of Internal Thinking Style). Teaching learning activities in the classrooms should help all the students develop their individual skills and group skills because both are basic life skills which are necessary for the successful participation in modern society. As boys are found to be more focused towards individual skills (like working alone) comparing the girls, the reasons for this difference should be enquired and necessary changes in the approaches should be made to develop all major life skills in all groups of students.

Girls are found to be more conservative in their Thinking Styles than boys. This means that girls prefer more to do things in tried and true ways and follow conventions (characteristics of Conservative Thinking Style) than boys. Though this characteristics are also essential to be developed in our students, over domination of Conservative Thinking Style may not be helpful for catering to the changing needs of the modern life of our future citizens. So the factors leading to the concentration of conservative Thinking Style in
The study revealed that aided school pupils’ Thinking Styles are more Internal than the government school pupils. Having more Internal Thinking Style characteristics means that they like more to work alone and focus inward (characteristics of Internal Thinking Style) than the government school pupils. Government and aided schools are following the same curriculum, syllabus and teaching-learning approaches and are functioning under the same department. As students studying in the aided schools are possessing more characteristics of Internal Thinking Style, the reasons for this difference should be enquired. If any difference between the academic functioning of the aided and government schools are found to exist, necessary provisions should be made to avoid the management category difference of the schools.

It was found that Hierarchic, Oligarchic, Global and Conservative Thinking Styles are positively related with the School Adjustment of the secondary school pupils in the state. Pupils who possess the characteristics of these Thinking Styles are found to be better adjusted with the school situations. Better School Adjustment is essential for the successful completion of school life and adjustment with the future life. Our educational institutions should provide all possible background for the better School Adjustment of the pupils. As pupils who possess more characteristics of
Hierarchic, Oligarchic, Global and Conservative Thinking Styles are found to be better adjusted with the school situations, development of the characteristics of these Thinking Styles among all the pupils may help in their better School Adjustment. If more opportunities are provided in our schools for the development of these Thinking Style characteristics in all of its pupils, it may be beneficial for their better school and future life.

The results of the study revealed that Anarchic, Liberal and Local Thinking Styles are negatively related with the School Adjustment of secondary school pupils in the state. Pupils who possess more characteristics of these Thinking Styles are not well adjusted with their school situations. Mental Self Government Theory of Thinking Styles (Sternberg-1997) advocates development of all dimensions of Thinking Styles for a whole and flexible personality. As pupils with Anarchic, Liberal and Local Thinking Styles are found to be disadvantaged in the present secondary educational system in Kerala, the reasons for this factor should be analyzed and our educational system should be made suitable for all individuals with different characteristics.

It was found that boys are better adjusted with their school situations than girls in our secondary schools. It shows the girls in our secondary schools are still facing some problems for the well adjustment with the school situations. The reasons for the low adjustment of the girls in our
secondary schools should be analyzed and necessary measures for solving their problems should be taken.

The study revealed that aided school pupils are better adjusted with the school situations than the government school pupils. Reasons for the lack of adjustment of the pupils in the government school should be studied and necessary actions should be taken to solve their problems.

It was also found that pupils in rural schools are good in their School Adjustment than the pupils in urban schools. It shows a regional imbalance in the School Adjustment of secondary school pupils in the state. This may affect the total educational development of the state. The problems of urban school pupils leading to their low School Adjustment should be analyzed and handled separately. This may help in avoiding the regional imbalances in the educational sector in Kerala.

**5.6 SUGGESTIONS FOR FURTHER RESEARCH**

The present study brings light to a number of new areas to be covered by further studies. Further possible research areas based on the findings of the study are given below:

1. Thinking Styles may be studied in relation with other variables.
2. School Adjustment may be studied in relation with other variables.
3. Factors affecting Thinking Styles of secondary school pupils may be studied.
4. Thinking Style and School Adjustment may be studied on other group of subjects such as primary school pupils, teachers, etc.…

5. Relationship among the Thinking Style of pupils, parents and teachers may be analyzed.

6. School Adjustment problems of girls, government school pupils or urban school pupils may be studied separately.