CHAPTER-V

ANALYSIS OF DATA, INTERPRETATION AND DISCUSSION OF RESULTS

In the proceeding chapters objectives, conceptual framework, review of related studies, hypothesis and methodology of research for the study have been presented.

This chapter deals with the analysis of data, interpretation and discussion of results. Analysis involves a careful study of the tabulated material, which enables the investigator to interpret the results and generalize them to arrive at meaningful conclusions.

Analysis of data means studying the organized material in order to discover inherent facts. The data is studied from as many angles as possible to explore the new facts.

Interpretation calls for a careful, logical and critical examination of the results obtained after analysis, keeping in view the limitations of the sample chosen, the tools selected and used in the study.

In research work one has to go through the facts more deeply to find the cause of the occurrence of the phenomenon concerned with the problem. Analysis and Interpretation give tongue to the data and it begins to speak, which otherwise is a poor collection of mute and dump facts. Analysis of data means studying the tabulated material in order to make it meaningful. It involves breaking down the existing complex factors into simple facts and putting the parts together and making new
arrangement for the purpose of interpretation to draw conclusions.

**Kerlinger (1965)** has defined analysis as, “Analysis means the categorizing, manipulating and summarizing data to obtain answers to research questions”.

The purpose of analysis is to reduce data to intelligible and interpretable form so that the relations between various elements of data with reference to the research problems can be studied and tested. Therefore, researcher should lay out analysis paradigms when working in the problem. Analysis of data will help to test the various hypotheses of the study. The analysis of data and results have been presented in section I, II and III.

Details of analysis have been given in three sections.

Section – I deals with the nature of correlation of different independent variables i.e. cognitive styles, learning styles, and study skills and criterion measures of academic achievement.

Section – II deals with step-up regression equations. By taking one variable at a time with the depending variable of academic achievement.

Whereas Section III has been devoted to locate the significant differences if any in the academic achievement, cognitive styles, measure of learning styles and study skills due to gender differences and area wise differences.

For different types of statistical treatment, data were analysed with the help of computer. Results were discussed on the basis of 0.05 and 0.01 level of significance.
SECTION-I

(Coefficient of correlation)

This section deals with the analysis of data and discussion of results on the basis of co-relational analysis. The correlation is the study of relationship of one variable to another.

Correlation which is also known as bi-variate correlation studies the problem of describing the degree of simultaneous variation of two variables. For example, we get a bi-variate data if we have measure of both height and weight for a group of school children. The essential feature of the bi-variate data is that one measure can be paired with another measure for each member of the group. When we study bi-variate data, we may like to know the degree of relationship between two variables of such data. This degree of relationship is known as correlation. It can be represented quantitatively by the coefficient of correlation i.e. r.

We observe that the students who have high intelligence quotient tend to achieve high scores on an achievement test in one subject, whereas those with low intelligence quotient tend to score low. When this type of relationship is observed, the variables of intelligence and achievement in that subject are said to be positively correlated. In general, the individual above average in one, tend to be correspondingly below average in the other; and those at or near the average in one, tend also to be at or near the average in the other, the two variables (or measures) show a positive correlation. Sometimes students making high scores in one variable are likely to make low scores in another variable and vice-versa. To illustrate, suppose that in a class of
10 students who stood first in an achievement test in English ranked lowest on anxiety, the students who stood second in English test ranked next to the bottom, (ninth) in the test of anxiety, and each student stood just as far from the top in English test as from the bottom in anxiety test. Here the correspondence between ranks in English test and anxiety test is regular and definite enough but the direction of relationship is inverse (negative).

When the relationship between two sets of variables is a pure chance relationship, we say there is no correlation. For example, in a class of 10 students, a student with a high score in Hindi test is likely to be anywhere within the total range in terms of his score in a test of numbers. The three students scoring first three positions in the Hindi test may score fifth, seventh and fourth positions in the number test. The three lowest students in Hindi test may score third, eighth and sixth positions in the number test.

The intensity or degree of linear correlation is represented quantitatively by coefficient of correlation. Correlation is a statistical technique, that is used to measured the relationship between two variables. The linear correlation coefficient is measure of the relationship between two random variables X and Y, and denoted by r. If X and Y denote the deviations from the actual mean, then the formula for computing Pearson’s coefficient of correlation r is

\[ r = \frac{\sum xy}{n \sigma x \sigma y} \]
Where

\( \sigma_x \) = standard deviation of series X

\( \sigma_y \) = standard deviation of series Y

\( N \) = the number of pairs of observations.

\( r \) = the product moment correlation coefficient.

The value of coefficient of correlation as obtained by the above formula shall always be between -1.00 to +1.00, when \( r = +1 \), it means there is perfect positive correlation between the variables, when \( r = -1 \), it means there is perfect negative correlation between the variables. When \( r = 0 \), it means there is no relationship between the two variables. We normally get values, which lie between + 1 and -1. The coefficient of correlation describes not only the magnitude of correlation but also its direction. The sign of coefficient indicates the directions of the relationship and the numerical value, its strength. If \( r = 0.70 \), it means correlation is positive and high, if \( r = -0.80 \), it means correlation is negative and its magnitude is also high.

Although correlation has a number of different applications, the main application of this statistical technique is the prediction of results. In other words if two variables are known to be related in some systematic way, it is possible to use the one of the variables to make accurate predictors about the other variables.

This section accounts for the description and discussion of correlation of each of the independent variables, with the criteria variable of academic achievement as to know the analytical picture of relationship of different independent
variables and dependent variable. Pearson's product moment correlation was found out between independent variables taken one at a time on the one hand and academic achievement scores on the other hand in order to test the hypotheses 1, 2 a, b, c, d and 3 a, b, c, d, e, f, g, h, which are also presented below for ready reference

**HYPOTHESES**

1. a) There will be significant positive correlation between cognitive styles and academic achievement of prospective teachers.

2. a) There will be significant positive correlation between imaginative learning style and academic achievement of prospective teachers.
   b) There will be significant positive correlation between analytical learning style and academic achievement of prospective teachers.
   c) There will be significant positive correlation between precision learning style and academic achievement of prospective teachers.
   d) There will be significant positive correlation between dynamic learning style and academic achievement of prospective teachers.

3. (a) There will be significant positive correlation between goal orientation study skill and academic achievement of prospective teachers.
b) There will be significant positive correlation between activity structure study skill and academic achievement of prospective teachers.

c) There will be significant positive correlation between scholarly skill and academic achievement of prospective teachers.

d) There will be significant positive correlation between lecture mastery study skill and academic achievement of prospective teachers.

e) There will be significant positive correlation between textbook mastery study skill and academic achievement of prospective teachers.

f) There will be significant positive correlation between examination mastery study skill and academic achievement of prospective teachers.

g) There will be significant positive correlation between self mastery study skill and academic achievement of prospective teachers.

h) There will be significant positive correlation between study skills (total) and academic achievement of prospective teachers.

Variable of coefficient of correlation between independent variables of cognitive styles, four measures of learning styles and seven measures of study skills have been shown in table 5.1 and 5.2.
**Table 5.1**

**Values of Co-efficient of Correlation**

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Dependent Variables of Academic Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Cognitive styles</td>
<td>.063*</td>
</tr>
<tr>
<td>2.</td>
<td>Imaginative learning style</td>
<td>.062*</td>
</tr>
<tr>
<td>3.</td>
<td>Analytical learning style</td>
<td>.018</td>
</tr>
<tr>
<td>4.</td>
<td>Precision learning style</td>
<td>.006</td>
</tr>
<tr>
<td>5.</td>
<td>Dynamic leaning style</td>
<td>.031</td>
</tr>
</tbody>
</table>

*Significant at .05 level

**Cognitive Styles and Academic Achievement**

From the results of table 5.1, it was observed that positive significant correlation exist between field independent-field dependent cognitive styles and academic achievement of prospective teachers as r-value (r = .063) was found to be significant. In other words higher the scores of the prospective teachers on the variable of field independent cognitive styles, more will be his/her level of academic achievement or vice-versa.

The reasons for the above results may be that those prospective teachers use their field independent Cognitive styles, have analytical ability which help them to achieve more in their examination.

On the basis of above results hypothesis 1 that there will be significant positive correlation between cognitive styles and
academic achievement of prospective teachers was accepted in the present study.

Results of the present study resemble with the results of Rahul (1983), Verma and Swain (1991) and Kirk (2000).

**Learning Styles and Academic Achievement**

From the results of table 5.1, it was found that out of four measures of learning styles only one measure i.e. imaginative learning style was found to be positive significant correlate of academic achievement of prospective teachers ($r = 0.062$) at .05 level of significance. In other words those prospective teachers who are high on concrete experiences and reflective observations and have imaginative ability to produce new and more ideas; new patterns and can recognise discrepancies and problems may have higher academic achievement.

Other three measures of learning styles i.e. analytical learning style, precision learning style and dynamic learning style were not found to be significantly correlated with the academic achievement of prospective teachers.

Thus, based on the above results, hypothesis 2 (a) that there will be significant positive correlation between imaginative learning style and academic achievement of prospective teachers was accepted. As other three measures of learning styles i.e analytical learning style, precision learning style, dynamic learning style were not found to be significantly correlated with the academic achievement of prospective teachers, therefore hypotheses 2(b), 2(c) and 2(d) were not accepted.
Results of the present study were similar to the results of Srivastava (2002) and Gakhar (2005) but were not in agreement with the results of Mickens (1995).

**Study Skills and Academic Achievement**

**Table 5.2**

Values of Co-efficient of Correlation

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Dependent Variable of Academic Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Goal orientation study skill</td>
<td>.029</td>
</tr>
<tr>
<td>2.</td>
<td>Activity structure study skill</td>
<td>.029</td>
</tr>
<tr>
<td>3.</td>
<td>Scholarly skill</td>
<td>.014</td>
</tr>
<tr>
<td>4.</td>
<td>Lecture mastery</td>
<td>.048</td>
</tr>
<tr>
<td>5.</td>
<td>Textbook mastery</td>
<td>.034</td>
</tr>
<tr>
<td>6.</td>
<td>Examination mastery</td>
<td>.062*</td>
</tr>
<tr>
<td>7.</td>
<td>Self mastery</td>
<td>.023</td>
</tr>
<tr>
<td>8.</td>
<td>Study skills (Total)</td>
<td>.061*</td>
</tr>
</tbody>
</table>

*Significant at .05 level*

Table 5.2 indicated that out of seven measurements of study skills and study skills (total), only one measure viz examination mastery (r = .062) and variable of study skills (total) (r = .061) were found to be positively significantly related with the academic achievement of B.Ed. prospective teachers at .05 level of significance. Alternatively, it may be asserted that those prospective teachers who had stronger preference for examination mastery skill and were good in all the total study
skills were likely to be placed at a higher level of their academic achievement and vice-versa; it may be concluded that prospective teachers whose academic achievement was higher were likely to have stronger preference for examination mastery skill and very good preferences for all the study skills i.e. goal orientation, activity structure, scholarly skill, lecture mastery, text book mastery, examination mastery, and self-mastery.

Similarly prospective teachers showing weaker preference for examination mastery skill and other study skills were likely to obtain poor academic achievement or vice-versa.

Remaining six measures of study skills, namely-goal orientation, activity structure, scholarly skill, lecture mastery, text-book mastery and self mastery, were not significantly correlated with the academic achievement of prospective teachers or vice-versa.

The reasons for the above results may be that examination mastery on the part of prospective teachers in terms of knowledge about the style of question paper, preparing good notes, having confidence, studying good text-books and other reference books, observing regularity and punctuality in self-study and preparing themselves well in time for the examination with some goal. This may help the prospective teachers to secure higher in their papers.

Table 5.2 show that only two ‘r’ values for the examination mastery and total study skills in respect of academic achievement of prospective teachers were found to be significant at .05 level. Therefore hypotheses 3 (f) and 3 (h) were accepted,
whereas hypotheses 3 (a), 3 (b), 3 (c), 3 (d), 3 (e), and 3 (g), were not accepted.

Above findings of the present study were in agreement to the findings of Bala (1990), Gakhar (2005) and Kumar (2006).

SECTION-II

Regression Analysis

Regression analysis is a branch of statistical theory that is widely used in almost all the scientific disciplines. Regression is the measure of the average relationship between two or more variables in terms of the original units of data. The term ‘Regression Analysis’ (r) refers to the methods by which estimates are made of the values of variable from the knowledge of the values of one or more other variables and to the measurements of the errors involved in the estimation process.

In other words, regression analysis is a statistical device with the help of which we are in a position to estimate (or predict) the unknown values of one variable from known values of another variable. The variable, which is used to predict the variable of interest, is called the independent variable or explanatory variables and the variables we are trying to predict is called the dependent variable or explained variable. The independent variable is denoted by X and the dependent variable by Y. The analysis used is called the simple linear regression analysis-simple because there is only one predictor or independent variable and linear because of the assumed linear relationship between the dependent and the independent
variables. The term 'linear' means that an equation of a straight line of the form.

\[ Y = a + bX \]

Where \( a \) and \( b \) are constants used to describe the average relationship that exists between the two variables.

\( X \) = independent variable
\( Y \) = dependent variable

Here the terms 'dependent' and 'independent' refer to the mathematical or functional meaning of dependence—they do not imply that there is necessarily any cause and effect relationship between the variables.

What is meant is simply that estimates the values of the dependent variable may be obtained for given values of the independent variable \( X \) from a mathematical function involving \( X \) and \( Y \). In that sense, the values of \( Y \) are dependent upon the values of \( X \) and variables may or may not be causing change in the \( Y \) variable. For example, while estimating sales of a product from figures on advertising expenditures, sales are generally taken as the dependent variable and the advertising expenditures as independent variables. However, there may or may not be casual connection between these two factors in the sense that changes in advertising expenditures cause changes in sales: In fact, in certain cases, the cause-effect relation may be just opposite of what appears to be the obvious one.

**Kerlinger and Pedhazur (1973)** remarked that "Multiple regression analysis is a method of analyzing the collective and
separate contribution of two or more than two variables 'X' to the variation of dependent variable 'Y'. In the present study, step-up regression equations were set up _ by adding one independent variable to the previous one at a time with the criterion variable of academic achievement.

In order to examine the predictive efficiency of independent variables of cognitive styles, imagination learning style and examination study skill in predicting the criterion variable of academic achievement of prospective teachers, the technique of step-up regression equation was employed.

$R^2$, the square of multiple correlations, is called the coefficient of determination shows the proportion of variance of criterion variable accounted for by different predictors. The step-up regression analysis helps to know the most relevant variable, which accounts for the maximum variance for the criterion variable from the total set of independent variables. Therefore, all the independent variables, which were proved to be correlated with dependent variable of academic achievement, were taken as a set of predictor variables in different combinations taken one at a time and the academic achievement. Also, to find the significance of difference between the values of R's (Multiple correlation) from one specific correlation of independent variables to subsequent combination of variables, explaining the stepping of an additional variable to the previous set, F-ratios were worked out.
The step-up regression equation was applied for testing hypothesis No.4 which is given for ready reference.

**Hypothesis 4**: Joint effect of percentage variance will be more as compared to the individual prediction of independent variables in predicting the dependent variable of academic achievement of prospective teachers.

Variables symbols used in the regression equations have been given in table 5.3 values of multiple R, R² and F have been given from table 5.4 to 5.5.

<table>
<thead>
<tr>
<th>Table 5.3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable's Symbols</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Academic achievement</td>
<td>Y</td>
</tr>
<tr>
<td>2 Cognitive styles</td>
<td>X1</td>
</tr>
<tr>
<td>3 Imaginative learning style</td>
<td>X2</td>
</tr>
<tr>
<td>4 Examination mastery skill</td>
<td>X3</td>
</tr>
</tbody>
</table>

Only those variables were taken for this analysis which were found positive significant correlated at .05 level with the criterion variable of academic achievement.
Table 5.4  

Values of ‘R’, R² and F between dependent variables of academic achievement and independent variable of cognitive styles

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Regression Equation</th>
<th>R</th>
<th>R²</th>
<th>df</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive styles</td>
<td>Y = 46.13 + 1.77 x1</td>
<td>.597</td>
<td>.356</td>
<td>798</td>
<td>**88.62</td>
</tr>
</tbody>
</table>

Model I

This model was formed to see the predictive efficacy of cognitive styles in predicting the academic achievement of prospective teachers. Values of ‘R’, ‘R²’ and ‘F’ were found to be .597, .356 and 88.62 respectively. Therefore from the result of present study it was inferred that variable of cognitive styles predict 35-60 percent variance in predicting the academic achievement of prospective teachers. Therefore variable of cognitive style was found to be a good predictor in predicting the academic achievement of prospective teachers as F-value was significant at .01 level.

Table 5.5  

Values of ‘R’, R² and F between dependent variable and independent variables

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Regression Equation</th>
<th>R</th>
<th>R²</th>
<th>df</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive styles + imaginative learning style</td>
<td>Y = 42.18 + 1.63 x₁ +1.27 x₂</td>
<td>.662</td>
<td>.438</td>
<td>797</td>
<td>**61.11</td>
</tr>
<tr>
<td>Cognitive styles + imaginative learning style + Examination Mastery study skill</td>
<td>Y = 39.33+1.41 x₁ + 1.11 x₂ + 1.07 x₃</td>
<td>.698</td>
<td>.487</td>
<td>796</td>
<td>**39.41</td>
</tr>
</tbody>
</table>
From the results of table 5.5., when the imaginative learning style variable was added, there was increase in the values of 'R', 'R²' from .597, .356 to .662 and .438. Thus variable of imaginative learning style contributed 8.20% variance in predicting the academic achievement of prospective teachers. As F-value (F = 61.11) was significant, therefore this variable was found to be a good predictor.

Similarly when the third variable of examination mastery study skill was added to the previous model II, the values of 'R' and 'R²' increased from .662 and .438 to .698 and .487. Thus variable of examination mastery study skill contributed 4.90% variance in predicting the academic achievement of prospective teachers. As F-value (F = 39.41) was significant at .01 level. Therefore, variable of examination mastery study skill was found to be a good predictor in predicting the academic achievement.

Therefore hypothesis 4 that joint effect of percentage variance will be more as compared to the individual prediction of independent variables in predicting the academic achievement of prospective teachers is partially accepted.
SECTION - III

(t-ratio)

Since co-efficient of correlation revealed simple association between different variables, therefore, an effort was made to do the extreme group analysis for obtaining causal relationship between major variables i.e. academic achievement, cognitive styles, learning styles and study skills.

The most important parametric statistics is t-test. A parametric statistical test is one which specifies certain conditions about the parameter of the population from which a sample is drawn.

In order to test the significance of difference between two means, t-test is used. The computation involves the computation of a ratio between the experimental variance i.e. the obtained difference between two means and the error variance i.e. standard error of the mean difference.

Number of degree of freedom (df) depends upon the restriction placed upon the observation. One df is lost for each restriction imposed. There are N df for computing the means, but only N-1 available for the SD (standard deviation) as one df is lost in calculating the mean. The SD is of course, based upon the square of the deviation taken around the mean.

In general practice, two confidence intervals are accepted as standard by majority of statisticians. We know 95% of the cases in normal distribution fall within the limits M +1.96σM and that 99% fall within the limits M +2.58σM. If we take the limits specified by M +1.96σM, we define an interval for which
the level of confidence is 0.05. Basing our judgement as to the size the mean of the population on these limits, we stand to be right 95% of the time and wrong 5%. For greater assurance, we may take the interval defined by the limits \( M \pm 2.58\sigma M \). The limits \( M \pm 2.58\sigma M \) defined an interval for which the level of confidence is 0.01. Basing our judgement as to the size of mean of population on these limits, we stand to be right 99% of the time and wrong 1%. In nut shell, the main purpose of t-test is to enable us to make generalization from a sample to a large population.

T-test is considered to be more powerful than non-parametric statistical tests if its basic requirements or assumptions are met. These assumptions are

- The observations must be independent. In other words, the selection of one case must not be dependent upon the selection of any other case.
- The observation must be drawn from a normal distribution.
- The variable must be expressed in interval scale.
- The variable under study should be continuous

All the above assumptions of t-test were fulfilled before using this statistics.

T-test in the present study was used in order to test the following hypotheses which were already given in chapter- III. These hypotheses are again presented here for ready reference: -

5. There will be significant difference in the cognitive styles of male and female prospective teachers.
6. a) There will be significant difference in the imaginative learning style of male and female prospective teachers.
b) There will be significant difference in the analytical learning style of male and female prospective teachers.
c) There will be significant difference in the precision learning style of male and female prospective teachers.
d) There will be significant difference in the dynamic learning style of male and female prospective teachers.

7. a) There will be significant difference in the goal orientation study skill of male and female prospective teachers.
b) There will be significant difference in the activity structure study skill of male and female prospective teachers.
c) There will be significant difference in the scholarly study skill of male and female prospective teachers.
d) There will be significant difference in the lecture mastery study skill of male and female prospective teachers.
e) There will be significant difference in the text book mastery study skill of male and female prospective teachers.
f) There will be significant difference in the examination mastery study skill of male and female prospective teachers.
g) There will be significant difference in the self mastery study skill of male and female prospective teachers.
h) There will be significant difference in study skills (total) of male and female prospective teachers.
8. There will be significant difference in the cognitive styles of urban and rural prospective teachers.

9. a) There will be significant difference in the imaginative learning style of urban and rural prospective teachers.

   b) There will be significant difference in the analytical learning style of urban and rural prospective teachers.

   c) There will be significant difference in the precision learning style of urban and rural prospective teachers.

   d) There will be significant difference in the dynamic learning style of urban and rural prospective teachers.

10. a) There will be significant difference in the goal orientation study skill of urban and rural prospective teachers.

    b) There will be significant difference in the activity structure study skill of urban and rural prospective teachers.

    c) There will be significant difference in the scholarly study skill of urban and rural prospective teachers.

    d) There will be significant difference in the lecture mastery study skill of urban and rural prospective teachers.

    e) There will be significant difference in the textbook mastery study skill of urban and rural prospective teachers.

    f) There will be significant difference in the examination mastery study skill of urban and rural prospective teachers.
g) There will be significant difference in the self mastery study skill of urban and rural prospective teachers.

h) There will be significant difference in the study skills (Total) of urban and rural prospective teachers.

11. There will be significant difference in the academic achievement of male and female prospective teachers.

12. There will be significant difference in the academic achievement of prospective teachers belonging to urban and rural areas.

**Cognitive Styles and Gender-differences**

**Table 5.6**

**Values of mean, SD and t-ratio to locate difference in the cognitive styles of prospective teachers due to gender differences**

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cognitive Styles</td>
<td>Male</td>
<td>175</td>
<td>16.60</td>
<td>5.19</td>
<td>798</td>
<td>1.13</td>
<td>Not significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>625</td>
<td>17.13</td>
<td>5.59</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the results of table 5.6, it was found that insignificant difference exist in the cognitive styles of male and female prospective teachers as t-value was found to be insignificant (t =1.13) at .05 level. However after comparing the mean scores, it was found that female scored higher mean scores (mean = 17.13) as compared to male prospective teachers. In other words females were found to be higher on
independent cognitive styles as compared to male prospective teachers.

The reasons may be the serious involvement of female prospective teachers in doing B.Ed. course where they perceive everything analytically.

Therefore, hypotheses no. 5 that there will be significant difference in the cognitive styles of male and female prospective teachers was not accepted.

Learning Styles and Gender differences

Table 5.7

Values of mean, SD and t-ratio to locate difference in the Imaginative Learning Style of prospective teachers due to gender differences

<table>
<thead>
<tr>
<th>Vr. No</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Imaginative Learning Style</td>
<td>Male</td>
<td>175</td>
<td>110.60</td>
<td>30.00</td>
<td>798</td>
<td><strong>3.10</strong></td>
<td><strong>.01</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>625</td>
<td>101.98</td>
<td>33.16</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant at .01 level

On the variable of imaginative learning style there was positive significant difference between the male and female prospective teachers due to significant t-value at .01 level (t = 3.10) vide table 5.7). On the basis of their mean scores on academic achievement, it was found that male prospective teachers scored higher (mean = 110.60) on imaginative learning style as compared to female prospective teachers (mean = 101.98). In other words, findings of the present study indicated
that male prospective teachers had more preference for imaginative learning style as compared to female prospective teachers.

The reasons for the above results may be that male prospective teachers devote less time on studies and they depend on their imaginative ideas with the back ground information of the subject. They form new ideas and patterns which help them to score in the examination. Secondly it may be that male generally take initiative to interact with others, and this interaction may help them to form new ideas with their imaginative preferences.

Therefore, hypothesis No. 6(a) that there will be significant difference in the imaginative learning style of male and female prospective teachers was retained in the present study.

The findings related to imaginative learning style due to gender differences also get the support from the research study conducted by Kumar (2006) in the field of learning styles.

**Table 5.8**

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Analytical Learning Style</td>
<td>Male</td>
<td>175</td>
<td>50.49</td>
<td>25.59</td>
<td>798</td>
<td>0.203</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>625</td>
<td>50.09</td>
<td>22.23</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Values of mean, SD and t-ratio to locate difference in the Analytical Learning Style of prospective teachers due to gender differences
From the results of table 5.8 it was found that there exist insignificant difference in the analytical learning style of male and female prospective teachers as t-value was insignificant at .05 level of significance ($t = 0.203$). When mean scores were compared it was found that not much difference was found in the analytical learning style preference of both the groups.

The reasons for the above results may be that B.Ed. course perhaps is not challenging and there is not much challenge for the students to create theoretically something new.

Thus, hypothesis No. 6(b) that there will be significant difference in the analytical learning style of male and female prospective teachers was not accepted.

**Table 5.9**

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Precision Learning Style</td>
<td>Male</td>
<td>175</td>
<td>79.01</td>
<td>47.17</td>
<td>798</td>
<td>0.799</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>625</td>
<td>74.83</td>
<td>64.49</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Insignificant difference was obtained in the precision learning style of male and female prospective teachers due to insignificant t-value ($t = 0.799$) as shown in the results of table 5.9. When the mean scores were compared, it was found that male had more preference for precision learning style as compared to female prospective teachers although the difference was insignificant.
Above results may be due to the reasons that male prospective teachers write to the point material required for examination. Secondly they are less emotional as compared to female prospective teachers.

Therefore, hypothesis 6(c) that there will be significant difference in the precision learning style of male and female prospective teachers was not accepted.

**Table 5.10**

Values of mean, SD and t-ratio to locate difference in the Dynamic Learning Style of prospective teachers due to gender differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Dynamic</td>
<td>Male</td>
<td>175</td>
<td>239.30</td>
<td>73.60</td>
<td>798</td>
<td>*2.52</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>Learning Style</td>
<td>Female</td>
<td>625</td>
<td>224.38</td>
<td>67.91</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at .05 level.

Significant difference was obtained in the dynamic learning style preference of male and female prospective teachers due to significant t-value (t = 2.52) at .05 level of significance. In other words in the dynamic learning style preferences, both male and female prospective teachers differed from each other. On comparing their mean scores, it was found that male prospective teachers had more dynamic learning style preference (mean = 239.30) as compared to female prospective teachers (mean = 224.38).

Reasons for the above results may be that males by nature are more risk taking and they generally are interested in
concrete things. They generally solve problems by hit and trial method. Whereas females lack in risk taking habits.

Hence, in the light of above results, hypothesis, 6(d) that there will be significant difference in the dynamic learning style of male and female prospective teachers was accepted in the present study.

Above results were similar to the results of Hansen (2000) but contrary to the results of Kumar (2006).

**Study Skills and Gender differences**

**Table 5.11**

Values of mean, SD and t-ratio to locate difference in the Goal Orientation study skill of prospective teachers due to gender differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Goal Orientation Study Skill</td>
<td>Male</td>
<td>175</td>
<td>9.24</td>
<td>2.50</td>
<td>798</td>
<td>.764</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>625</td>
<td>9.39</td>
<td>2.37</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It was noted from the results of table 5.11 that insignificant difference exist in the goal orientation study skill of male and female prospective teachers due to insignificant t-value (t = 0.764) at .05 level. Their mean scores were also not very much different.

The reasons for the above result may be that in the present competitive world both male and female prospective
teachers are very careful about their career and are goal oriented.

Therefore, hypothesis 7(a) that there will be significant difference in the goal orientation study skill of male and female prospective teachers was not accepted.

Table 5.12
Values of mean, SD and t-ratio to locate difference in the Activity Structure of prospective teachers due to gender differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Activity Structure</td>
<td>Male</td>
<td>175</td>
<td>10.53</td>
<td>3.04</td>
<td>798</td>
<td>.045</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td>Study Skill</td>
<td>Female</td>
<td>625</td>
<td>10.52</td>
<td>2.94</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.12 revealed insignificant difference in the activity structure of male and female prospective teachers due to insignificant t-value ($t = 0.045$) at .05 level of significance. Also mean scores of male and female prospective teachers were not very much different.

The reason for the above results may be due to the fact that in B.Ed. curriculum both male and female prospective teachers are supposed to do same activities along with their curricular activities. That's why there is no difference in their activity structure.
Thus, hypothesis 7(b) that there will be significant difference in the activity structure of male and female prospective teachers was not accepted.

**Table 5.13**

Values of mean, SD and t-ratio to locate difference in the Scholary Skill of prospective teachers due to gender differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>Scholarly Skill</td>
<td>Male</td>
<td>175</td>
<td>11.77</td>
<td>3.71</td>
<td>798</td>
<td>1.079</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>625</td>
<td>12.12</td>
<td>3.75</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the results of table 5.13 it was observed that insignificant differences exist in the scholarly skill of male and female prospective teachers due to insignificant t-value (t = 1.079) at .05 level, although female prospective teachers scored higher on this variable (mean =12.12) as compared to male prospective teachers (mean = 11.77).

The reasons behind this insignificant difference may be due to the fact that both male and female prospective teachers come through entrance test with almost same academic background.

Therefore, hypotheses 7(c) that, there will be significant differences in the scholarly skill of male and female prospective teachers was not accepted.
Table 5.14

Values of mean, SD and t-ratio to locate difference in the Lecture Mastery Study Skill of prospective teachers due to gender differences

<table>
<thead>
<tr>
<th>Yr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Lecture Mastery Study Skill</td>
<td>Male</td>
<td>175</td>
<td>10.01</td>
<td>3.34</td>
<td>798</td>
<td>0.655</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>625</td>
<td>10.18</td>
<td>3.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results of table 5.14 presented insignificant differences in the lecture mastery study skill of male and female prospective teachers due to insignificant t-value (t = 0.655) at .05 level. Further there was not much differences in the mean scores of lecture mastery study skill of male and female prospective teachers.

The reason may be due to that in B.Ed. course both male and female prospective teachers have to undergo similar type of training and that is why there is not much difference in mastering the different lectures.

Thus, hypothesis No. 7 (d) that there will be significant differences in the lecture mastery study skill of male and female prospective teachers was not accepted.
Table 5.15
Values of mean, SD and t-ratio to locate difference in the Textbook Mastery Study Skill of prospective teachers due to gender differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>Text Book Mastery Study Skill</td>
<td>Male</td>
<td>175</td>
<td>11.89</td>
<td>4.24</td>
<td>798</td>
<td>.369</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>625</td>
<td>11.75</td>
<td>4.33</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Insignificant differences was found in the text-book mastery study skill of male and female prospective teachers due to insignificant t-value (t = 0.369) at .05 level. Also their mean scores on the measure of text-book mastery study skill were not too much different.

The reason behind this insignificant difference is due to the fact that B.Ed. curriculum is not too much challenging and complex. That for the preparation of notes, students must consult different text books. Because of simple curriculum, all B.Ed. prospective teachers whether male or female have same books and same type of reading material that is available to them.

Therefore hypothesis 7(e) that there will be significant differences in the text-book mastery study skill of male and female prospective teachers was not accepted.
Table 5.16
Values of mean, SD and t-ratio to locate difference in the Examination Mastery Study Skill of prospective teachers due to gender differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.</td>
<td>Examination Mastery Study Skill</td>
<td>Male</td>
<td>175</td>
<td>9.22</td>
<td>3.66</td>
<td>798</td>
<td>*1.99</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>625</td>
<td>8.97</td>
<td>3.74</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at .05 level

Due to significant t-value (t = 1.99, as entered in table 5.16) significant differences was obtained in the examination mastery study skill of male and female prospective teachers. After comparing their mean scores it was found that male prospective teachers scores higher mean scores (mean = 9.22) as compared to female prospective teachers (mean = 8.97).

The reasons behind this fact may be that male prospective teachers are more inclined to answer the questions and they prefer to the point answer. Males can sum up their conclusions briefly and quantitatively.

Second reason may be that generally male prospective teachers become serious near examination. They prepare themselves well and appear in the examination with confidence.

Therefore, hypothesis no.7 (f) that there will be significant difference in the examination mastery study skill of male and female prospective teachers was retained in the present study.
Table 5.17

Values of mean, SD and t-ratio to locate difference in the Self Mastery Study Skill of prospective teachers due to gender differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.</td>
<td>Self Mastery Study Skill</td>
<td>Male</td>
<td>175</td>
<td>6.92</td>
<td>4.18</td>
<td>798</td>
<td>.535</td>
<td>Not significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>625</td>
<td>6.72</td>
<td>4.36</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results as entered in table 5.17 revealed insignificant differences in the self mastery study skill of male and female prospective teachers due to insignificant t-value (t=0.535) at .05 level of significance. Further, their mean scores were also not found to be very much different.

The reasons behind this difference may be that male prospective teachers supposed to learn everything in an independent manner and for learning male prospective teachers did not depend upon teachers. Male prospective teachers have more curiosity to learn about new things and new ideas that is why they have more self mastery in their study skills.

Therefore hypothesis 7(g) that there will be significant differences in the self mastery study skill of male and female prospective teachers was not accepted.
Table 5.18
Values of mean, SD and t-ratio to locate difference in the Study Skills (Total) of prospective teachers due to gender differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>Study Skills (Total)</td>
<td>Male</td>
<td>175</td>
<td>69.43</td>
<td>16.19</td>
<td>798</td>
<td>0.525</td>
<td>Not significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>625</td>
<td>68.72</td>
<td>15.76</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the results of table 5.18, insignificant difference was found in the mean study skill of male and female prospective teachers due to insignificant t-value (t = 0.525) at .05 level. In other words male and female did not differ much in their total study skills except examination mastery. Both male and female prospective teachers were having nearly identical study skills.

The reasons for the above results may be that the routine work of is of such type/nature in B.Ed. course where not much challenge is there for the prospective teachers.

Hence, in the light of above results, hypothesis 7(h) that there will be significant difference in the study skills (total) of male and female prospective teachers was also not retained in the present study.

Results of the above study were similar to the results of Abraham (1973) and Verma (2001).
Cognitive Styles and Urban rural difference

**Table 5.19**

Values of mean, SD and t-ratio to locate difference in the Cognitive Styles of prospective teachers due to Area differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cognitive Styles</td>
<td>Urban</td>
<td>545</td>
<td>17.56</td>
<td>5.60</td>
<td>798</td>
<td><strong>4.17</strong></td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>255</td>
<td>15.83</td>
<td>5.12</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at .01 level

As per the results of table 5.19 significant difference was obtained in the cognitive styles of prospective teachers due to their area-wise differences. In other words prospective teachers belonging to urban and rural areas differed significantly in their cognitive styles preference. From their mean scores it was found that prospective teachers belonging to urban areas had preference for field independent whereas prospective teachers belonging to rural areas had preference for field dependence.

Reasons behind the results of the present study may be due to the fact that prospective teachers belonging to urban areas get more intellectual climate and more academic orientation as compared to prospective teachers belonging to rural areas.

Therefore hypothesis No. 8 that there will be significant difference in the cognitive style of urban and rural area prospective teachers was accepted.

These results are in conformity with the results of **De (1985)** and **Kumar (2006)**.
Learning Styles and Urban Rural Differences

Table 5.20
Values of mean, SD and t-ratio to locate difference in the Imaginative Learning Style of prospective teachers due to Area differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Imaginative Learning Style</td>
<td>Urban</td>
<td>545</td>
<td>103.73</td>
<td>32.90</td>
<td>798</td>
<td>.181</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>255</td>
<td>104.18</td>
<td>32.24</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Prospective teachers belonging to urban and rural areas differed insignificantly in their imaginative learning style preference due to insignificant t-value ($t = 0.181$) at .05 level of significance (vide table 5.20). After comparing their mean scores, it was found that not much difference was found in the imaginative learning style preference of prospective teachers belonging to urban and rural areas.

The reasons behind the insignificant difference in the imaginative learning style of rural and urban prospective teachers may be that rural prospective teachers have less means of entertainment. In order to take new information they generally take initiative to interact with others. This interaction may help them to form new ideas and patterns with their imagination.

Secondly, urban prospective teachers may have many sources for entertainment. They may take new information and ideas from multimedia like computers, internet, watching T.V. etc. They may be self centered and they did not take initiative to interact with others.
Therefore, hypothesis No. 9(a) that there will be significant difference in the imaginative learning style preference of urban and rural areas prospective teachers was not accepted.

Table 5.21

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Analytical Learning Style</td>
<td>Urban</td>
<td>545</td>
<td>50.22</td>
<td>22.82</td>
<td>798</td>
<td>.0693</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>255</td>
<td>50.10</td>
<td>23.40</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the results of table 5.21, it was revealed that prospective teachers belonging to urban and rural areas did not differ significantly in their analytical learning style preference, due to insignificant t-value at .05 level. Also after comparing the mean scores, it was found that prospective teachers belonging to urban and rural areas did not differ much as mean scores of urban areas prospective teachers were (mean = 50.22) just near to mean scores of rural areas prospective teachers (mean = 50.10).

Reasons behind the fact may be that urban prospective teachers perceive information in an abstract manner but process it in a reflection way. Urban prospective teachers may be more interested in abstract concepts than people.

Secondly, urban prospective teachers may have the ability to create theoretical model. They may prefer to do work in an inductive way.
Therefore, from the results of present study hypothesis No. 9(b) that there will be significant difference in the analytical learning style of urban and rural areas prospective teachers was not accepted.

### Table 5.22

Values of mean, SD and t-ratio to locate difference in the precision learning style of prospective teachers due to Area differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Precision Learning Style</td>
<td>Urban</td>
<td>545</td>
<td>75.72</td>
<td>50.98</td>
<td>798</td>
<td>.015</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>255</td>
<td>75.79</td>
<td>78.64</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results as obtained from table 5.22 clearly revealed insignificant difference in the precision learning style preference of prospective teachers belonging to urban and rural areas due to insignificant t-value (t = 0.015) at .05 level. When their mean scores were compared, it was obtained that mean scores of prospective teachers belonging to urban areas (mean = 75.72) were not different from the mean scores of prospective teachers belonging to rural areas (mean = 75.79).

Reason may be due to the fact that both the prospective teachers perceived information in same way so there is not much difference between the precision learning style of urban and rural prospective teachers.

Therefore, hypothesis No. 9(c) that there will be significant difference in the precision learning style of urban and rural prospective teachers was not accepted.
Values of mean, SD and t-ratio to locate difference in the dynamic Learning Style of prospective teachers due to Area differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Dynamic Learning Style</td>
<td>Urban</td>
<td>545</td>
<td>228.35</td>
<td>68.42</td>
<td>798</td>
<td>.419</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>255</td>
<td>226.15</td>
<td>71.65</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Insignificant difference was obtained in dynamic learning style preference of prospective teachers belonging to urban and rural areas due to insignificant t-value (t = 0.419) at .05 level of significance, as per the results of table 5.23. Also on comparing their mean scores, it was found that mean difference of prospective teachers belonging to urban areas (mean = 228.35) was not very much different from the mean scores (mean = 226.15) of prospective teachers belonging to rural areas.

Reason may be that urban prospective teachers may depend upon concrete experiences and active experimental modes. They may perceive information concretely and take initiative in doing things, carrying out new plans and involves in new experiences.

Therefore, hypothesis No. 9(d) that there will be significant difference in the dynamic learning style of urban and rural areas prospective teachers was not accepted.
Study Skills and Urban Rural Differences

Table 5.24

Values of mean, SD and t-ratio to locate difference in the Goal Orientation Study Skill of prospective teachers due to Area differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Goal Orientation Study Skill</td>
<td>Urban</td>
<td>545</td>
<td>9.32</td>
<td>2.40</td>
<td>798</td>
<td>.650</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>255</td>
<td>9.44</td>
<td>2.40</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the results of table 5.24 insignificant difference was found in the goal orientation study skill of prospective teachers belonging to urban and rural areas due to insignificant t-value (t = 0.650) at .05 level. Further, not much difference was found in the mean scores of both the groups.

Reasons behind this insignificant difference may be due to the fact that in such a competitive world both rural and urban prospective teachers are very aware and conscious about their career both are goal oriented.

Therefore, hypothesis 10(a) that there will be significant difference in the goal orientation study skill of urban and rural areas prospective teachers was not accepted.
Table 5.25

Values of mean, SD and t-ratio to locate difference in the Activity Structure Study Skill of prospective teachers due to Area differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Activity Structure</td>
<td>Urban</td>
<td>545</td>
<td>10.63</td>
<td>2.88</td>
<td></td>
<td>798</td>
<td>1.59</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>255</td>
<td>10.28</td>
<td>3.13</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As per the results of table 5.25, insignificant difference was found in the activity structure of prospective teachers belonging to urban and rural areas as t-value was insignificant at .05 level. In the mean scores both the groups did not differ too much on activity structure.

Reason behind the insignificant difference in the activity structure of prospective teachers belonging to rural urban areas, may be due to the fact that urban teachers may have a strong intellectual environment than rural prospective teachers. Urban prospective teachers may have good public school background where a lot of activities are introduced in order to develop the intellect of the child and these activities suppose to make the students more proficient in doing activity work.

Thus, hypothesis 10(b) that there will be significant difference in the activity structure study skill of urban and rural areas prospective teachers was not accepted.
From the results as given in table 5.26, it was found that insignificant difference exist in the scholarly skill of prospective teachers belonging to urban and rural areas due to insignificant t-value (t = 0.852) at .05 level. Prospective teachers belonging to urban and rural areas also not differed much in their mean scores on scholarly study skill.

Reason for the above results may be that urban prospective teachers take an active part in classroom discussion and share their views with others. They may use their spare time to review briefly some of their particular notes.

Therefore, hypothesis 10(c) that there will be significant difference in the scholarly skill of urban and rural areas prospective teachers was not accepted.
Table 5.27
Values of mean, SD and t-ratio to locate difference in the Lecture Mastery Study Skill of prospective teachers due to Area differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Lecture Mastery Study Skill</td>
<td>Urban</td>
<td>545</td>
<td>10.21</td>
<td>3.57</td>
<td>798</td>
<td>.894</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>255</td>
<td>10.00</td>
<td>3.58</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results of the present study as given in table 5.27 indicated insignificant difference in the lecture mastery study skill due to insignificant t-value (t = 0.894) at .05 level of significance. Also there was negligible mean difference between the prospective teachers belonging to urban areas (mean = 10.25) and rural areas (mean = 10.00) in their lecture mastery study skill.

Reason behind the negligible mean difference between prospective teachers belonging to urban and rural areas may be that both urban as well rural prospective teachers take notes. Whatever teacher is explaining in the class whether it may be rules, ideas or facts.

Therefore, hypothesis 10(d) that there will be significant difference in the lecture mastery study skill of urban and rural areas prospective teachers was not accepted.
Table 5.28

Values of mean, SD and t-ratio to locate difference in the Text Book Mastery Study Skill of prospective teachers due to Area differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Text Book Mastery Study Skill</td>
<td>Urban</td>
<td>545</td>
<td>11.89</td>
<td>3.57</td>
<td>798</td>
<td>1.077</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>255</td>
<td>11.54</td>
<td>3.58</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It was noticed from the results of table 5.28 that insignificant difference exist in the text book mastery of prospective teachers belonging to urban and rural areas due to insignificant t-value (t = 1.077) at .05 level. Not much difference was also noticed in the mean scores of prospective teachers belonging to urban areas (mean = 11.89) and rural areas (mean = 11.54).

Reason behind these results may be that urban and rural prospective teachers studies all chapters and turn the topical headings and subheadings into questions and then try to answer the questions. All prospective teachers whether urban or rural teachers have same pattern in text book for notes.

Thus, hypothesis 10(e) that there will be significant difference in the text-book mastery of urban and rural areas prospective teachers was not accepted.
Table 5.29
Values of mean, SD and t-ratio to locate difference in the Examination Mastery Study Skill of prospective teachers due to Area differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Examination Mastery Study Skill</td>
<td>Urban</td>
<td>545</td>
<td>9.05</td>
<td>3.69</td>
<td>798</td>
<td>.470</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>255</td>
<td>9.18</td>
<td>3.82</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results as entered in table 5.29 indicated insignificant difference in the examination mastery study skill of prospective teachers belonging to urban and rural areas as t-value was insignificant at .05 level (t = 0.470). Both groups also did not differ much in their mean scores.

Reason for the above results may be that both rural and urban prospective teachers during exams prefer to study the classroom notes and text book material in order to recall and recite the facts and ideas point by point.

Therefore, hypothesis No. 10(f) that there will be significant difference in the examination mastery of urban and rural areas prospective teachers was not accepted.
Table 5.30
Values of mean, SD and t-ratio to locate difference in the Self Mastery Study Skill of prospective teachers due to Area differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Self Mastery Study Skill</td>
<td>Urban</td>
<td>545</td>
<td>6.73</td>
<td>4.41</td>
<td>798</td>
<td>.304</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>255</td>
<td>6.83</td>
<td>4.12</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Insignificant difference was found in the self-mastery study skill of prospective teachers belonging to urban and rural areas due to insignificant t-value (t = 0.304) at .05 level. Prospective teachers belonging to urban and rural areas did not differ in their mean scores on self mastery study skill.

Reasons behind the above result may be due to the fact that both urban and rural prospective teachers feel that they will learn better from teachers because for them teachers are generally very considerate of student’s needs and feelings.

Secondly, rural as well as urban prospective teachers can memorize facts then solve the problems.

Therefore hypotheses No. 10(g) that there will be significant difference in the self mastery study skill of urban and rural areas prospective teachers was not accepted.
Table 5.31
Values of mean, SD and t-ratio to locate difference in the Study Skills (Total) of prospective teachers due to Area differences

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent Variables</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Study Skills (Total)</td>
<td>Urban</td>
<td>545</td>
<td>69.14</td>
<td>15.73</td>
<td>798</td>
<td>.688</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>255</td>
<td>68.31</td>
<td>16.11</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On the variable of study skills (total) prospective teachers belonging to urban and rural areas did not differ significantly due to insignificant t-value (t = 0.688) at .05 level. Both the group of prospective teachers obtained nearly identical mean scores. In other words, study skills of prospective teachers belonging to urban and rural areas are nearly identical.

The reasons for the above results may be the routine curriculum of B.Ed. class which perhaps do not provide any challenging job for the prospective teachers of both the groups.

Hence, based on the above results, hypothesis No. 10(h) that there will be significant difference in the study skills (total) of prospective teachers belonging to urban and rural areas was not retained in the present study.
### Academic Achievement and Gender Differences

#### Table 5.32

**Values of mean, SD and t-ratio to locate difference in the Academic Achievement of prospective teachers due to gender differences**

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent variable</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Gender differences</td>
<td>Male</td>
<td>175</td>
<td>64.94</td>
<td>3.46</td>
<td><strong>2.74</strong></td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>625</td>
<td>65.83</td>
<td>3.84</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant at .01 level

Results of present study as entered in table 5.32 revealed significant difference in the academic achievement of prospective teachers as t-ratio (t = 2.74) was found to be significant at .01 level of significance. After comparing their mean scores, it was found that female prospective teachers scored higher mean scores (mean = 65.83) as compared to male prospective teachers (mean = 64.94).

Reason behind the high academic achievement of female prospective teachers may be that they are more serious in doing B.Ed. course and perhaps they are more hardworking. On the other hand, male prospective teachers have in their mind to shift the profession whenever there will be some opportunity for them and that is why they are not serious.

Therefore, hypothesis No. 11 that there will be significant difference in the academic achievement of male and female prospective teachers was accepted here.
Results of the present study resemble with the results of Singh (2006).

**Academic Achievement and Urban-Rural Difference**

**Table 5.33**

<table>
<thead>
<tr>
<th>Vr. No.</th>
<th>Independent variable</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-value</th>
<th>Level of significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Urban Rural Differences</td>
<td>Urban</td>
<td>545</td>
<td>65.76</td>
<td>3.85</td>
<td>1.38</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>255</td>
<td>65.36</td>
<td>3.61</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the results of table 5.33 it was found that insignificant difference exist in the academic achievement of B.Ed. prospective teachers belonging to urban and rural areas due to insignificant t-value (t = 1.38) at .05 level. From their mean scores it was found that urban prospective teachers scored little more as compared to rural prospective teachers.

The reasons for the above results may be that rural prospective teachers get less intellectually oriented environment in their homes and school in comparison to urban prospective teachers.

Thus, hypothesis no. 12 that there will be significant difference in the academic achievement of urban and rural prospective teachers was not accepted in the present study.
Figure - 5.6

Bar diagram showing difference in the cognitive styles of prospective teachers due to gender differences
Figure - 5.7

Bar diagram showing difference in the imaginative learning style of prospective teachers due to gender differences

Male

Female

110.6

101.98
Figure - 5.8

Bar diagram showing difference in the analytical learning style of prospective teachers due to gender differences
Bar diagram showing difference in the precision learning style of prospective teachers due to gender differences
Figure - 5.10

Bar diagram showing difference in the dynamic learning style of prospective teachers due to gender differences.
Figure - 5.11

Bar diagram showing difference in the goal orientation study skill of prospective teachers due to gender differences.

GOAL ORIENTATION STUDY SKILL

Male: 9.24
Female: 9.39
Figure - 5.12

Bar diagram showing difference in the activity structure study skill of prospective teachers due to gender differences
Figure - 5.13

Bar diagram showing difference in the scholarly study skill of prospective teachers due to gender differences
Figure - 5.14

Bar diagram showing difference in the lecture mastery study skill of prospective teachers due to gender differences.
Figure - 5.15

Bar diagram showing difference in the text-book mastery study skill of prospective teachers due to gender differences.
Bar diagram showing difference in the examination mastery study skill of prospective teachers due to gender differences
Figure - 5.17
Bar diagram showing difference in the self-mastery study skill of prospective teachers due to gender differences.
Figure - 5.18

Bar diagram showing difference in the total study skills of prospective teachers due to gender differences.
Figure - 5.19

Bar diagram showing difference in the cognitive styles of prospective teachers due to area differences
Figure - 5.20

Bar diagram showing difference in the imaginative learning style of prospective teachers due to area differences.
Figure - 5.21

Bar diagram showing difference in the analytical learning style of prospective teachers due to area differences
Figure - 5.22

Bar diagram showing difference in the precision learning style of prospective teachers due to area differences
Figure - 5.23

Bar diagram showing difference in the dynamic learning style of prospective teachers due to area differences.
Figure - 5.24

Bar diagram showing difference in the goal orientation study skill of prospective teachers due to area differences
Figure - 5.25

Bar diagram showing difference in the activity structure study skill of prospective teachers due to area differences
Figure - 5.26

Bar diagram showing difference in the scholarly study skill of prospective teachers due to area differences
Figure - 5.27

Bar diagram showing difference in the lecture mastery study skill of prospective teachers due to area differences.
Figure - 5.28
Bar diagram showing difference in the text-book mastery study skill of prospective teachers due to area differences.
Figure - 5.29

Bar diagram showing difference in the examination mastery study skill of prospective teachers due to area differences.
Figure - 5.30

Bar diagram showing difference in the self mastery study skill of prospective teachers due to area differences.
Figure - 5.31

Bar diagram showing difference in the study skills (total) of prospective teachers due to area differences.
Figure - 5.32

Bar diagram showing difference in the academic achievement of prospective teachers due to gender differences
Figure - 5.33

Bar diagram showing difference in the academic achievement of prospective teachers due to area wise differences