CHAPTER – III

METHODOLOGY

3.1 INTRODUCTION

In the previous chapter, this researcher has presented a detailed review of the researches related to the present study.

In this chapter, the terms and concepts used in the study have been operationally defined. Hypotheses have been stated for empirical validation. The procedure followed in selecting the sample, tools used for data collection and the statistical techniques used are also presented. The 'Methodology' is discussed under the following headings.

3.2 STATEMENT OF THE PROBLEM

The present study purported to analyse the level of Teacher Effectiveness, Emotional Intelligence and categories Secondary School Science Teachers into respective Personality Type and also to find out the inter relationship among the variables. The statement of the problem is as follows: “A Study of Teacher Effectiveness in relation to Emotional Intelligence and Personality Type of Secondary School Science Teachers”

3.3 OBJECTIVES OF THE STUDY

The following objectives were formulated for the present study;

1) To examine the level of Teacher Effectiveness, Emotional Intelligence of Secondary School Science Teachers and categories Secondary School Science Teachers into Personality Type.

2) To examine the difference in Teacher Effectiveness with respect to the following categories related to Secondary School Science Teachers.

   a) Gender: Male and Female Science Teachers

   b) Type of School: Government, Private aided and Private unaided Secondary School
c) Teaching Experience: Junior (<15 years) and Senior (>15 years)
d) Subject Stream: Physical Science and Biological Science

3) To examine the difference in Emotional Intelligence with respect to the following categories related to Secondary School Science Teachers.
   a) Gender: Male and Female Science Teachers
   b) Type of school: Government, Private-aided and Private unaided Secondary School
   c) Teaching Experience: : Junior (<15 years) and Senior (>15 years)
   d) Subject Stream: Physical Science and Biological Science.

4) To examine the difference in Personality Type with respect to the following categories related to Secondary School Science Teachers.
   a) Gender: Male and Female Science Teachers
   a) Type of school: Government, Private-aided, Private unaided Secondary School
   b) Teaching Experience: : Junior (<15 years) and Senior (>15 years)
   c) Subject Stream: Physical Science and Biological Science.

5) To examine the relationship between Teacher Effectiveness of Secondary School Science Teachers and their :
   a) Emotional Intelligence
   b) Personality Type

6) To examine the relationship between Emotional Intelligence and Personality Type of Secondary School Science Teachers; and

7) Whether Emotional Intelligence and Personality Type are significant predictors of Teacher Effectiveness
3.4 HYPOTHESES OF THE STUDY

Under the purview of the derived objectives, the following null hypotheses are formulated;

1) There is no significant difference between Male and Female Science Teachers of Secondary School in their level of Teacher Effectiveness.

2) There is no significant difference between Government, Private aided and Private unaided Science Teachers of Secondary School in their level of Teacher Effectiveness.

3) There is no significant difference between Junior and Senior Science Teachers of Secondary School in their level of Teacher Effectiveness.

4) There is no significant relationship between Physical Science and Biological Science Teachers of Secondary School in their level of Teacher Effectiveness.

5) There is no significant relationship between Male and Female Science Teachers of Secondary School in their level of Emotional Intelligence.

6) There is no significant relationship between Science Teachers of Government, Private aided and Private un-aided Secondary School in their level of Emotional Intelligence.

7) There is no significant relationship between Junior and Senior Science Teachers of Secondary School in their level of Emotional intelligence.

8) There is no significant relationship between Physical Science and Biological Science Teachers of Secondary School in their level of Emotional Intelligence.

9) There is no significant relationship between Male and Female Science Teachers of Secondary School in their Personality Type.

10) There is no significant relationship between Science Teachers of Government, Private aided and Private un-aided Secondary School in their Personality Type.
11) There is no significant relationship between Junior and Senior Science Teachers of Secondary School in their Personality Type.

12) There is no significant relationship between Physical Science and Biological Science Teachers of Secondary School in their Personality Type.

13) There is no significant relationship between Teacher Effectiveness and Emotional Intelligence of Secondary School Science Teachers.

14) There is no significant relationship between Teacher Effectiveness and Personality Type of Secondary School Science Teachers.

15) There is no significant relationship between Emotional Intelligence and Personality Type of Secondary School Science Teachers.

16) There is no significant influence of Emotional Intelligence and Personality Type on Teacher Effectiveness.

3.5 VARIABLES CONSIDERED FOR THE PRESENT STUDY

• **Main Variables**
  a) Teacher Effectiveness
  b) Emotional Intelligence
  c) Personality Type

• **Background Variables**
  a) Gender: Male and Female Science Teachers
  b) Type of School: Government, Private-aided, and Private-unaided Secondary School
  c) Teaching Experience: Junior (<15 years) and Senior (>15 years)
  d) Subject Stream: Physical Science and Biological Science

3.6 METHODOLOGY

In the present study Descriptive Survey Method has been adopted. Analysis is carried out based on quantitative techniques.
3.7 DETAILS OF TOTAL POPULATION

The population defined for the present study involves all the Secondary School Science Teachers teaching 8th, 9th and 10th standard students belong to Government, Private- aided and Private- unaided Secondary School of Mandya District, Karnataka state.

Table 3.1 Shows the total number of Government, Private- aided and Private-unaided Secondary School in Mandya District.

<table>
<thead>
<tr>
<th>Educational Blocks</th>
<th>Type of schools</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Government</td>
<td>Private Aided</td>
</tr>
<tr>
<td>Mandya South</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>Mandya North</td>
<td>18</td>
<td>8</td>
</tr>
<tr>
<td>Maddur</td>
<td>39</td>
<td>17</td>
</tr>
<tr>
<td>Malavally</td>
<td>37</td>
<td>16</td>
</tr>
<tr>
<td>Nagamangala</td>
<td>25</td>
<td>12</td>
</tr>
<tr>
<td>Sriranga Patna</td>
<td>19</td>
<td>04</td>
</tr>
<tr>
<td>K R Pet</td>
<td>29</td>
<td>10</td>
</tr>
<tr>
<td>Pandavapura</td>
<td>23</td>
<td>07</td>
</tr>
<tr>
<td></td>
<td>215</td>
<td>89</td>
</tr>
</tbody>
</table>

Source: DDPI office of Mandya District (2010-2011)

3.8 SAMPLING TECHNIQUES USED

In the present study, Multi Stage Sampling Technique has been adopted. Simple Random Sampling Technique is used at the initial stage and Purposive Sampling Technique is used at the next stage.

3.8.1 SAMPLING PROCEDURE

Selection of samples has been done at three stages,
Sampling at Stage - 1 (Selection of Schools)
Secondary School of all the Seven (07) taluks of Mandya District with eight educational blocks have been considered for the study.

**Sampling at Stage-2 (Sample size)**

The researcher has used the formula derived by Creative Research Systems (Denmark) to calculate the sample size for the present study. The formula used is as follows:

**Sample Size**

\[
S_s = \frac{Z^2 \cdot (p) \cdot (1-p)}{c^2}
\]

Where:

- \(Z\) = Z value (e.g. 1.96 for 95% confidence level)
- \(p\) = percentage of picking a choice, expressed as decimal (.5 used for sample size needed)
- \(c\) = confidence interval, expressed as decimal (e.g., .04 = ±4)

**Correction for Finite Population**

\[
\text{new } S_s = \frac{S_s - 1}{1 + \frac{S_s - 1}{\text{Pop}}}
\]

(Where: pop = population)

To find out the Sample Size by using the formula (Creative Research System), the researcher has considered the confidence level to be 95% and confidence interval to be .03 to get the result that reflect the target population as precisely as possible. The resulting size of the sample calculated is 306. Therefore the researcher has selected 306 Secondary School out of 428 Secondary School by using Random Sampling Technique. It represents approximately 71.49% of total number of Secondary School in Mandya District.
Table 3.2 Shows the number of Government, Private aided and Private unaided Secondary School of Mandya District selected as sample for the study.

<table>
<thead>
<tr>
<th>Educational blocks</th>
<th>Type of Schools</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Government</td>
<td></td>
</tr>
<tr>
<td>Mandya South</td>
<td>18</td>
<td>54</td>
</tr>
<tr>
<td>Mandya North</td>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>Maddur</td>
<td>28</td>
<td>52</td>
</tr>
<tr>
<td>Malavally</td>
<td>26</td>
<td>44</td>
</tr>
<tr>
<td>Nagamangala</td>
<td>18</td>
<td>33</td>
</tr>
<tr>
<td>Sri Ranga Patna</td>
<td>14</td>
<td>33</td>
</tr>
<tr>
<td>K R Pet</td>
<td>21</td>
<td>38</td>
</tr>
<tr>
<td>Pandavapura</td>
<td>16</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>154</td>
<td>306</td>
</tr>
</tbody>
</table>

The table 3.2 reflect the fact that researcher has selected 306 Secondary School of 08 educational blocks which are belonging to selected 07 taluks of Mandya District. It includes 54 schools from Mandya south block, 22 schools from Mandya north block, 52 schools from Maddur block, 44 schools from Malavalli block, 33 schools from Nagamangala block, and 33 schools from Sri RangaPatna block, 38 schools from K R Pet block and 30 schools from Pandavapura block. This constituted 154 Government, 64 Private aided and 88 Private unaided Secondary Schools.

**Sampling at Stage - 3 (Selection of Teachers)**

From the selected 306 Secondary School all the Teachers teaching Science Subjects at 8th, 9th and 10th Standards are considered by adopting Purposive Sampling Techniques. Therefore 610 Science Teachers of Secondary School formed the Sample for the present study.
Table 3.3 Shows the sample of Secondary School Science Teachers selected for the study based on Gender, Experience, Subject Stream and Type of schools.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Experience</th>
<th>Subject Stream</th>
<th>Type of Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Female</td>
<td>Junior (&lt;15year)</td>
<td>Senior (&gt;15years)</td>
</tr>
<tr>
<td>324</td>
<td>286</td>
<td>240</td>
<td>369</td>
</tr>
<tr>
<td></td>
<td></td>
<td>610</td>
<td>610</td>
</tr>
</tbody>
</table>


3.9 TOOLS USED FOR THE STUDY

The suitable tools for Teacher Effectiveness and Personality Type are readily available, so the researcher has decided to use ‘Eysenck Personality Inventory’ by Hans Eysenck (Published by Psychotronics,a laboratory workbook for teacher educators 2012, page no 129, 130) and ‘Kulsum Teacher Effectiveness Scale’ by Umme Kulsum to collect the data related to Personality Type and Teacher Effectiveness respectively.

To test the Emotional Intelligence of the Secondary School Science Teachers the researcher has decided to construct the requisite tool. To the best of the researcher’s knowledge, there is no readily available tool. Hence, the investigator has constructed ‘Teachers’ Emotional Intelligence Scale’ by considering Daniel Goleman’s model of Emotional Intelligence.
3.9.1 MEASURING TOOLS USED FOR DATA COLLECTION

The following tools are used for the collection of data in the present study.

Table 3.4: Measuring tools used for data collection.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Tools used</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.Teacher Effectiveness</td>
<td>Kulsum Teacher Effectiveness Scale (KTE) by Umme Kulsum</td>
<td>Adapted self rating scale of KTE and is translated into Kannada by the investigator.</td>
</tr>
<tr>
<td>2.Personality Type</td>
<td>Eysenck Personality Inventory by Hans Eysenk</td>
<td>EPI tool published by PSYCHOTRONICS,-A laboratory workbook for Teacaher Educators, 2012, page no. 129, 130 is used by investigator.</td>
</tr>
<tr>
<td>3.Emotional Intelligence</td>
<td>‘Teachers' Emotional Intelligence Scale’ by the investigator both in English and kannada</td>
<td>------</td>
</tr>
<tr>
<td>Personal Data of teachers</td>
<td>Personal Data Sheet</td>
<td>Prepared by the investigator</td>
</tr>
</tbody>
</table>

3.9.2 Kulsum Teacher Effectiveness Scale

To study the Teacher Effectiveness of Secondary School Science Teachers the investigator has used “Kulsum Teacher Effectiveness Scale (KTS)”. It is developed by Umme Kulsum. It is a self anchoring striving scale constructed on the lines of self anchoring striving scale of Kilpatrick and Cantril (1960). The format of this scale is more or less corresponds to the one developed by Muthayya (1971).
**Areas of the Scale**

5 major areas of Teacher Effectiveness are included in this scale to ensure objectivity, comprehensiveness and content validity: namely-

1. Preparation and planning for teaching
2. Classroom management, discipline, motivation, interaction and evaluation
3. Knowledge of the subject matter, its delivery and presentation including Black-board summary.
4. Personality characteristics of teachers
5. Interpersonal relations of teachers with others

**Scoring**

Self-rating Teacher Effectiveness Scale consists of 60 items distributed over the 5 areas or dimensions. Its total score range from 0 to 600. For each item respondents are expected to give two responses:

a) Step number on ‘now’

b) Step number aspiring to attain in next 3 years.

As the respondents score for the step number aspiring to attain in the next three years and it depends on the present situation, the score obtained for step number on now is taken as the final score of Teacher Effectiveness of each of respondent teacher.

**Validity**

Scale includes all the aspects of Teacher Effectiveness. So it possesses high face validity and content validity. Three types of criterian validity are established for the scale. The correlation between the total score of rating scale is found to be 0.85, t-value of the effectiveness was 9.9 which is significant at 0.001 level and the internal consistency ranges between 0.69 to 0.76. Thus it possesses high criterian related validity.
Reliability

It is established by using test-retest and split-half techniques. The test-retest co-efficient of correlation and split-half co-efficient of correlations are found to be 0.63 and 0.68 respectively. After applying the Spearman’s Brown Prophecy Formula, the reliability coefficient is found to be 0.94.

In the present study investigator has adopted self rating scale with all the 60 items to collect data regarding Teacher Effectiveness of Secondary School Science Teachers. It is converted into a 5 points scale. As all the items of the scale are positively worded the score for each item ranged from 01 to 05. The total score ranged from 60 to 300. The total score obtained for step number on ‘now’ is considered to find the level of Teacher Effectiveness of the Secondary School Science Teachers.

The adopted scale is translated into vernacular language (Kannada) by the investigator without changing the original intension of each item. Then it is verified by the language experts to establish its validity. Its reliability is established on a sample of 60 Science Teachers i.e., n=60. Split-half technique has been used. Its reliability is found to be 0.944 (Cronbach’s Alpha) and 0.722 (Guttman Split of co-efficient).

3.9.3 Eysenck Personality Inventory

Eysenck Personality Inventory (EPI) is developed on the basis of Maudsely Personality Inventory (MPI). Like its original instruments, it tries to measure two major dimensions of personality, Extroversion and Neuroticism. In this respect it is quite similar to Maudsely personality instrument. It is developed by Hans Eysenck. Its reliability is established by using test-retest and split-half reliability techniques. Its test-retest reliabilities run between 0.84 and 0.94 for the entire test and between 0.80 and 0.97 for the separate forms. Its split-half reliabilities for the combined scales run from 0.85 to 0.95. For the separate scales they run from 0.74 to 0.91. Thus, it possesses high reliability.
VALIDITY

The concept, Validity is a vexed one in relation to Personality; the notion of “agreement with a criterion” is clearly inapplicable. There is an alternative proof used to establish validity, i.e., the method of nominated groups. In this independent judges were asked to nominate subjects into ‘extroverted’ and ‘introverted’ or ‘stable’ and ‘unstable’ subjects. Then the nominated subjects were asked to fill Eysenck Personality Inventory. If the scoring failed to match with the judge’s nomination it was deemed to be the judge’s fault, rather than of the Inventory answers. On the whole, there seems to be hardly any doubt that questionnaire responses given under usual conditions give a reasonably valid picture of the subject’s habitual behaviour pattern.

Lie Scale

Eysenck Personality Inventory includes 9 items on Lie-scale (L). If the respondent scores is less than 4/5 on lie scale then the inventory answers are accepted and if it is 5 and more than person is lying. But, this scale has not been used very much in conjunction with the EPI.

Administration of the EPI

To this questionnaire respondents were expected to answer either “Yes” or “No”. It consists of 57 questions. As it measures two major aspects; namely Extroversion -Introversion dimension and Neuroticism dimension. On each dimension there are 24 items and 9 items on the Lie Score.

In the present study, the investigator uses Eysenck Personality Inventory published by PSYCHOTRONICS-A laboratory workbook for Teacher Educators 2012, page no. 129, 130, to classify Secondary School Science Teachers into Extroverts, Introverts and Ambiverts on the basis of their total scores obtained for Extroversion- Introversion dimension. If the total score is 17 and above then they are categorized as Extroverts. If the respondents score is 7 and below then they are categorized under Introverts. Similarly if their score lies between above 7 and below 17 then they were placed under Ambiverts. Similarly investigator uses
Eysenck Personality Inventory to classify Secondary School Science Teachers into Neurotics, Normal and Emotionally Stable on the basis of their total score obtained for Neuroticism dimension. If the respondents total score is 14 and above then they are grouped under Neurotics. If the respondents score is 4 and below they are grouped under Emotionally Stable. Likewise, if their total score is between below 14 and above 4 then they are classified under Normal.

3.9.4 Emotional Intelligence Scale

To study the Emotional Intelligence of Secondary School Science Teachers, the investigator has developed a five point scale using Likert’s Summative Technique, as it is easy to construction and administration.

Initial Draft

The investigator has pooled together a large number of items related to Emotional Intelligence after reviewing many related studies conducted in India and abroad. In the present study the researcher has selected five components which are related to the Emotional Intelligence of Teachers on the basis of Daniel Golman’s model of Emotional Intelligence namely: Self-awareness, Self-regulation, Self-motivation, Empathy and Social skills. These five components of Emotional Intelligence are placed under 2 major categories: Personal Competence and Social Competence.

PERSONAL COMPETENCE

This includes the behaviours which help an individual to maintain himself/herself under abnormal or odd situations. The competencies such as ‘Aware of Emotions’ and Maintaining the level of Motivation towards Achieving One’s own Goals are included. It includes three dimensions viz, Self-awareness, Self-regulation and Self-motivation.

I. Self-awareness

Includes 3 basic competencies, they are
**Accurate self-assessment** It relates to the knowledge of one’s strengths and limitations.

**Emotional awareness** It relates to recognizing one’s emotions and their effect on others and understanding how our feelings affect our performances.

**Self-confidence** It relates to the strong sense of one’s self worth and capabilities.

- **Self-regulation:**

  The personal competence includes the behaviours which help an individual to maintain himself/herself in accordance with existing as well as future demands. It includes following competencies.

  **Innovation** It includes competencies such as willingness to seek out new ideas, taking risks in implementing original and novel ideas in order to solve problem.

  **Adaptability** It includes the abilities such as handling multiple demands to change responses / approaches in a given situation.

  **Conscientiousness** This includes the ability to meet commitment/ keep promises and to be well organized.

  **Trust worthiness** It includes the ability to act in an ethical fashion and maintaining a standard of honesty and integrity.

  **Self-control** It includes abilities such as managing impulsive feelings, staying composed and being focused over tiring situations.

- **Self motivation**

  This personal competence enables individual to achieve success. It includes the following emotional competencies.

  **Optimism** It includes the ability to stay strong inspite of setbacks, to be hopeful of successful outcomes.
Commitment It includes abilities such as aligning one’s goal/goals with the goals of a group or organizations.

Initiative It includes the ability to mobilize others, to seize opportunities actively.

Achievement drive It includes ability to meet a standard of excellence or striving for improvement.

SOCIAL COMPETENCE

The successful social life of an individual depends on social skills. As the human being is a social being, she/he always interacts with others in the society. This competence is very essential for the teachers, because they always interact with the students who are in the process of socialisation. It includes two dimensions. They are empathy and social skills.

- Empathy It refers to the capacity of an individual to understand other’s plight by placing himself/herself in their situation. It includes the following competencies.

  Understanding others It includes ability to sense other’s feelings and taking active interest in other’s difficulties and showing concern.

  Developing Others This includes sensing other’s development, needs and rendering required help.

  Service Orientation It includes competencies such as anticipating, recognizing and meeting the needs of others.

  Leveraging Diversity It includes the ability to challenge bias and intolerance.

  Political Awareness It includes the ability to understand forces that shape view points and actions of students.
• **Social Skills** The social skills help an individual in contributing to effective transaction and the maintainance of social relations. It includes the following competencies:

  **Communication** This includes the ability to transmit the content effectively and to deal with difficult issues in a straightforward manner.

  **Influence** It includes the ability to use persuasions to affect others performance.

  **Conflict Management** It includes negotiating and resolving disagreements.

  **Leadership** It includes inspiring and guiding individuals and groups.

  **Change Catalyst** It includes the ability to initiate or manage change.

  **Building Bonds** It includes the ability to cultivate interpersonal relationships through networking.

  **Collaboration and Co-operation** It includes working with others towards goals and the ability to help voluntarily.

  **Team Capabilities** It includes ability to create group synergy in pursuing collective goals.

  Personal Competence includes 3+5+4=12 Competencies. They are classified under 3 heads. The Personal Competencies help a teacher in shaping his/her behaviour and pool his/her energy to excel in his personal as well as academic life.

  Social Competence includes 5+8=13 competencies. They are classified under 2 heads. Social Competencies help teachers in handling themselves as well as the students.

  Acquisition of these 25 competencies ensures the success in personal and social interaction, educational endeavors and at the working place.

  Keeping these domains, a large number of statements are framed which are positively and negatively correlated to the Emotional Intelligence of Teachers.
Content Validation

The researcher has requested the Guide and five Experts to validate the tool. The experts are requested to go through the items and to suggest ways to improve the tool.

The experts have examined each item of the tool. Based on the suggestions of experts, the statements of the following types were excluded: statements which refer to the past rather than the present; statements that may be interpreted in more than one way, statements that are irrelevant to the psychological object under consideration; statements that are likely to be endorsed by almost everyone or by almost none; statements which are lacking in clarity, directness and simplicity, statements, which include words that may not be understood by those who answer, statements which have double negatives and statements which contain universals such as always, none and never resulting in ambiguity.

After a careful scrutiny of the statements by the experts, 98 statements (71 positive and 27 negative) were selected for the pilot study.

Pilot Study

After constructing the Teachers' Emotional Intelligence Scale for Secondary School Teacher by using Likert’s method, a pilot test is conducted on a random sample of 60 Secondary School Science Teachers of Mandya District, Karnataka State, India. The pilot study is conducted with a view to finding out the reliability and validity of the tool and to eliminate any ambiguity so that teachers do not have any difficulty in responding to the items in the Teachers’ Emotional Intelligence Scale.

Item Analysis

Cronbach’s Alpha is used to assess the degree of internal consistency among all sets of items. Then the task value is calculated using Cronbach’s Alpha technique items with ‘r’ values less than 0.30 are rejected, according to de Vaus anything less than 0.30 is a weak correlation for item analysis purpose (de vaus
2004). Ultimately 64 items remained in the tool for final data collection (41 positively worded and 23 negatively worded). Thus the tool possesses high content and constructs validity.

**Reliability and Validity**

The scale has the ‘Universe of content’ as it includes statements from the selected domains of Emotional Intelligence namely Self-awareness, Self-regulation, Motivation, Empathy and Social skills. Appropriate weightage is given to the domains while selecting items. The scale contains 64 statements which represent the universe of content. Hence, it has face validity. It also has construct validity as the items have the ‘r’ values more than 0.30 (de Vaus 2004). The scale is given to experts in the field of education and they have agreed upon the items in the scale which are relevant to the objectives of the study. Hence it has content validity too. The present study employs split-half method in determining the internal consistency. The reliability of the split-half test is found to be 0.724 (Spearmen-Brown prophecy formula). The reliability of the whole test is found to be 0.722 (Guttman Split-half Co-efficient).

**Final form of the tool**

Final form of the Teachers’ Emotional Intelligence Scale consists of 64 items, which includes 41 +ve items and 23 –ve items.

**Scoring**

The scale is constructed by using Likert’s method of summation to get a five point judgment on each item. Against each statement, five alternative responses, namely; “Strongly Agree” (SA), “Agree” (A), “Undecided” (U), “Disagree” (D), and “Strongly Disagree” (SD) are provided. Weights of 5, 4, 3, 2, and 1 are awarded for Positive statements in the order of their favourableness and for Negative statements, the scoring system is reversed. Thus, if one chooses ‘Strongly Agree’ response for a positive statement, she/he gets a score of 05 and for the same response, if the statement is negative she/he gets a score of 01. Only for the ‘Undecided’ response, he/she gets a score of 03 whether a statement is
positive or negative. An individual’s score in this scale is the sum of the total of
the scores for all the statements by the subject (Summated ratings). The scores in
the final scale of ‘Teachers’ Emotional Intelligence Scale ranges from 64 to 320 in
the direction of increasing level of Emotional Intelligence.

3.9.5 PERSONAL DATA SHEET

Personal Data Sheet is prepared by the investigator both in English and
Kannada. It consists of items of personal information about the respondents. The
personal details such as Name, Address of the School, Type of School
(Government, Private-aided and Private-unaided), Gender, Subject Stream
(Physical Science and Biological Science) and Teaching Experience (Junior less
than 15 years and Senior more than 15 years), personal address and phone
numbers depending upon their willingness.

3.10 STATISTICAL ANALYSIS USED IN THE STUDY

Descriptive and the Inferential Statistical Techniques are used in the
present study. To analyse the collected data for 610 Science Teachers of Secondary
School SPSS package version 21.00 has been used. Descriptive statistics such as
mean, standard deviation and Inferential statistics such as t- test, One Way
ANOVA, Pearson’s correlation coefficient and Regression analysis has been
used.

1. Descriptive Statistics i.e., Mean and SD has been used to report the level of
Teacher Effectiveness, Emotional Intelligence. To categories Secondary School
Science Teachers into respective Personality Type Mean and SD has ben used.

2. ‘t’ test is used to find out significance between Male and Female Science
Teachers, Junior and Senior Science Teachers, Physical Science and Biological
Science Teachers of Secondary School with regard to Teacher Effectiveness,
Emotional Intelligence and Personality Type.

3. One way ANOVA and Tukey’s HSD post hoc procedures are been used to find
out the difference among Science Teachers of different categories based on the
Type of schools with regard to the level of Teacher Effectiveness, Emotional Intelligence and Personality Type.

4. Pearson’s Product Moment Correlation has been used to analyse relationships between

   (i) Teacher Effectiveness and Emotional Intelligence

   (ii) Teacher Effectiveness and Personality Type and

   (iii) Emotional Intelligence and Personality Type.

5. Regression Analysis has been used to find out whether Emotional Intelligence and Personality Type are significant predictors of Teacher Effectiveness.