CHAPTER V
CONSTRUCTION OF RESEARCH TOOLS THEIR DESCRIPTION AND ADMINISTRATION

5.1 INTRODUCTION

The present study is designed to find out the self-concept of secondary school teachers of Karnataka in relation to their Area (Urban/Rural) Sex (Male/Female) teachers classroom performance, student achievement level, length of experience of secondary school teachers of Karnataka.

In this study Areas, sex, Teacher’s classroom performance and student achievement level, Length of Experience are termed independent variable. The dependent variable of the study is a measure of self concept. In order to find out the relationship between the aforesaid dependent and independent variables the investigator administered self concept inventory (developed by the investigator), Teacher classroom performance was collected by administering Teacher’s classroom performance scale developed by N. Hari, RIE (NCERT), Mysore. The information pertaining to Area (urban/rural), Sex (Male/Female), Teachers classroom performance, Student achievement level in four subjects (Science, Maths, Social Science and Language) and Length of Experience were collected using a personal data sheet developed for the purpose.

An examination of various instruments developed to measure self-concept reveals that these measures have not incorporated many important components of self-concept presumed in theory and in observation. These measures do not deal with
all aspects of self-concept, but provide narrow limited information depending upon purpose and interest of investigators.

As such a valid, reliable and comprehensive measure of self-concept for secondary school teachers needs to be developed.

The investigator presumes that the result of this study will have far reaching use for teachers in general and guidance counsellors in particular. Besides it would provide a ready made tool to the future researchers for measuring self concept of teachers.

The findings of the study would also enable to know the factors that affect or help the self-concept of secondary school teachers.

**5.2 DEVELOPMENT OF SELF CONCEPT INVENTORY**

**5.2.1 Introduction**

The concept of self is probably the most distinctive and indispensable concept in psychology of personality. There is vast literature in psychology dealing with the nature of self concept, components of self concept, types of self concept, development of self concept, discrepancy between social, ideal and basic self concept, and effect of self concept on behaviour and adjustment.

There are several terms that are virtually synonymous with self-concept. Among them are “Self-image”, the “Ego”, “Self understandings” and “Phenomenal Self”. The concept of “Self-Concept” has gained prominence through the theoretical statements and researches of Snygg, Combs, Robers, Jourard and Super among others.
In psychological discussion the word ‘self’ has been used in many ways giving rise to two chief meanings of self one, the self as the subject or agent and two, the self as the individual who is known to himself. The term self concept has come into common use to refer to the second meaning which relates to the phenomenological approach.

Allport (1961) has described self concept as something of which we are immediately aware. We think of it as the warm, central private region of our life. Each behaviour of an individual, simple or complex, is influenced by how he sees himself. If any individual feels he is accepted socially, he will act friendly.

The structure of the self-image determines the day-to-day behaviour of the individual. Decisions and reactions are determined, not by what one is, but by what one believes he is and that which will tend to maintain the image intact.

Saraswat and Gaur (1981) described self-concept as :”The self concept is the individual’s way of looking at himself. It also signifies his way of thinking, feeling and behaving”.

Research studies, from several areas of behaviour, have shown how self concept built in early years of life and reinforced by later experiences influences behaviour and characteristic reaction to people and situations.

Self concept is dominant element in personality pattern, therefore, the measurement of self concept become essential. A variety of methods and techniques have been developed to measure self concept. A few important techniques among these are Q-sort, semantic differential techniques, types of rating methods, questionnaire and adjective checklists.
5.2.2 Review of Various Techniques Developed to Measure Self Concept

During the last few decades a good deal of effort has been made to develop adequate instruments to measure self concept of adolescents. Among the various techniques used to assess the self-concept are paper and pencil tests, in which the subject responds to questionnaires, rating scales, adjectives check lists, and inventories to determine self concept through introspective self-reflection, and subjective self reports. There are also projective TAT type tests to assess the self-concept as also there are objective tests. Besides, statements in interviews, dream reports and direct observations and many other sources of information may be used by the researcher to study and understand subject self concept.

5.2.2.1 Techniques to obtain self acceptance score

To find out to what extent does the subject accept or reject himself, two different techniques have been developed. The statements which have positive traits and misusing the negative traits the assessor gets the subjects self acceptance score. In the second instance by computing the correspondence between responses that describe him and those he would like them describe him, the examiner arrives at an index of subject’s self acceptance.

5.2.2.2 Goughs Adjective Checklist and Bill’s Rating Scales

The adjective checklist (ACL) was developed by Gough (1960). It contains hundreds of randomly mixed favourable and unfavourable words, arranged in columns. The subject is asked to put a check against the words that describe him. Then the assessor can obtain the score for whatever aspect of ‘self” as described above.
The adjective rating scales method was used by Bills Vance and McBoan (1951) for finding out the self-acceptance score as the sum of self-concept ratings (1-5 scale) on 49 traits and also a self ideal discrepancy score calculated. Sarbin (1952) used adjective checklist thinking that it would be better than questionnaire method.

Sarbin Das (1964) modified the Sarbin list to study the self concept of engineering, medicine, arts and science students adjective checklist method, perhaps is the most popular measure of self concept.

5.2.2.3 Q-Sorts

Developed and popularised by Stephenson (1953) wherein subjects describe both their self-concept and self ideals, sorting out of a given package (70-150) cards with a different statements on each card, I am a happy-go-lucky person. In effect as Q-sorts is the application of a rating scale to all items, but with the limitation that the subject most put number of items in each point along the scale thus providing the normal distribution. Q-Sorts also provide for various investigations, e.g. self-description, self-ideal description, and description of others.

5.2.2.4 The Who Am I ? Method

Bugental and Zeien (1950) were among the first to suggest this technique wherein the respondent simply is asked to describe himself, giving three answers to the question ‘Who are you?’ These answers were classified by mention of name, status characteristics, affective quality and the like. Later Kuhn and McPartland (1954) offered an expanded version of the above procedure. They asked respondents
to give 20 answers to the question ‘Who am I?’ in a period of 12 minutes, calling this technique the ‘twenty statement test’.

Ira Gordon (1966) developed ‘How I see Myself’ Scale, another similar technique to study self concept of school children.

5.2.2.5 Where Are You Game

Engel and Raine (1963) developed ‘Where Are You Game’ for third grade children composed of seven bi-polar dimensions, on which the child was asked to rate in five-point scale in the form of a vertical ‘ladder’. The children first were asked to place themselves in the crayon drawings made by the investigator, out of two happy vs. sad expression boy or girl, to locate where are you.

Strang (1957) has suggested a few more techniques of studying the self concept, besides already discussed above:

1. The individual’s own description of himself in the form of (a) Diaries and letters, (b) Autobiography, (c) Conversation – informal, casual and unstructured, or more formal interviews.

2. Relatively unstructured compositions . . . how he wants to present himself or about others.

5.2.3 Need for the Development of Present Self Concept Inventory

The problem of measuring the self concept to a large extent still remains unsolved. The difficulty in conducting research in such an area is that the concept of self is not very well defined and is in a state of flux.

have quoted William Fitts’ suggestion that attention should be shifted from global measures of the self concept to configurations of responses across self concept dimensions. Such configurational patterns should be more sensitive to environmental effects.

An examination of various instruments developed to measure self concept reveals that these measures have not incorporated many important components of self concept presumed in theory and in observation. These measures do not deal with all aspects of self concept, but provide narrow and limited information depending upon purpose and interest of investigators. As such, a valid, reliable and direct measure of self concept is not available. Most of the instruments are available for children and young adults. No instrument deals areas of self concept which are of more significance for teachers who are adults.

This is precisely the reason why an attempt has been made in this study to develop a self concept inventory for eliciting information regarding teachers’ perception and characteristics.

5.3 THE PROCEDURE FOLLOWED IN THE CONSTRUCTION OF SELF CONCEPT INVENTORY

5.3.1 Introduction

Even though there are many questionnaires and inventories available on self concept the present investigator feels the need for developing his own self concept inventory, for the secondary school teachers as there are very few inventories developed for the secondary school teachers.

Therefore present self concept inventory has been developed by investigator.
5.3.2 Planning

Planning is an important principle in all stages of test construction. It avoids wasteful preparation of unnecessary items. Planning helps to have a good coordination between different phases of test construction. Suggestions offered by Transeler and North (1957), Eble (1965), Gronlund (1976), Karmel and Karmel (1978), Stanely (1964) with regard to the steps to be followed during construction of tools carefully studied. The steps given by Transeler and North were by and large found to confirm the suggestions given by others and they are:

5.3.2.1 A survey of the aims and objectives in the concerned subject field.
5.3.2.2 Deciding the weightages to be given for different objectives.
5.3.2.3 Selection and preparation of test items.
5.3.2.4 Setting up a trial forms of the tools.
5.3.2.5 Submission of the tools in trial form to the experts for their critical evaluation.
5.3.2.6 Try out of the trial form.
5.3.2.7 Statistical analysis of the items to know the difficulty level.
5.3.2.8 Selection of the best items for the final test on the basis of the item analysis.
5.3.2.9 Establishing norms.
5.3.2.10 Formulating precise instructions for administration and scoring.
5.3.2.11 Establishing the validity and reliability of the test.

5.4 OBJECTIVES OF SELF CONCEPT INVENTORY

The main objective of the self concept inventory was to find out the teachers integrated perception of themselves with regard to their physical, social, temperamental, educational, intellectual and moral spheres.
The inventory developed by the present investigator provides six separate measures of self concept namely physical, social, temperamental, educational, intellectual and moral self concept.

5.4.1 Physical: Individual’s view of their body, health, physical appearance and strength.

5.4.2 Social: Individual’s sense of worth in social interactions.

5.4.3 Temperamental: Individual’s view of their prevailing emotional state or predominance of a particular kind of emotional reaction.

5.4.4 Educational: Individuals’ view of themselves in relation to school, teachers and extra curricular activities.

5.4.5 Intellectual: Individual’s awareness of their intelligence and capacity of problem solving and judgements.

5.4.6 Moral: Individuals’ estimation of their moral worth right and wrong activities.

5.5 SELECTION OF ITEMS

The items related to different self concept dimensions have been selected keeping in view the theoretical literature. Some of the items were selected by going through different popular self concept inventories. The investigator also had discussion with a group of experts. Thus to begin with the investigator was able to select 180 items related to different dimensions of self concept.

5.6 PREPARATION AND EDITING OF ITEMS

After a thorough searching and scrutinisation, the investigator prepared preliminary draft of 30 tests items each related to six dimensions of self concept namely physical, social, temperamental, educational, intellectual and moral. Thus 180
items were prepared from six dimensions of self concept. The test items were framed in the form of statements as well as situations each items with five alternate responses. A few days after the construction of items, the items were subjected to critical review by the investigator. Afterwards these 180 items were given to experts in test construction, and to 20 professors and readers in psychology (known for their familiarity in the area of self concept) to get the items reviewed with regard to content suitability and coverage. On the basis of their suggestions, the test items were modified and restructured. After this exercise there were 20, 20, 25, 25 and 20 items related to physical, social, temperamental, educational, intellectual and moral dimensions respectively. Later all the statements were translated into vernacular language Kannada.

5.7 TRY-OUT

The modified and restructured items related to physical, social, temperamental, educational, intellectual and moral were tried out on a sample of 100 secondary school teachers random from ten schools in the city of Mysore. This was done to know the common reactions of teachers with regard to their comprehension. The try-out of the items resulted in eliminating a few test items from each of the six dimensions of self concept and thus there were, 18, 19, 18, 20, 21 and 19 items for physical, social, temperamental, educational, intellectual and moral areas and these were considered for the pilot study.

5.8 PILOT STUDY

After the tryout it was found that teachers were able to answer the test with ease and confidence. This encouraging performance of teaching led to conduction of
the pilot-study. The purpose of pilot study was to identify weak or defective items to make further improvement, identify ambiguous, intermediate, implausible distracters, very difficulty and very easy items, to determine the difficulty level of such individual test items and the number of items to be included in the final test.

One hundred teachers from ten secondary schools of Mysore city were selected for the purpose of Pilot study. Stratified random sampling technique was adopted to select the teachers for the pilot study.

Table 9: Number of items included in the self concept inventory for the pilot study

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Sub Area</th>
<th>Number of Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Positive</td>
</tr>
<tr>
<td>1</td>
<td>Physical</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>Social</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Temperamental</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>Educational</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>Intellectual</td>
<td>13</td>
</tr>
<tr>
<td>6</td>
<td>Moral</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>66</td>
</tr>
</tbody>
</table>

5.9 ITEM ANALYSIS

After the pilot study, item analysis exercise was carried out carefully with a view to find out difficulty index and discriminatory power of the test. After reviewing
the different techniques used to find out the discriminating power and difficulty index of the items, the investigator adopted the method suggested by Ebel (1966).

Accordingly the Investigator

1. Arranged the self concept inventory in the ascending order of the total scores obtained by the teachers.

2. Since the pilot study was made on a sample of 100 teachers, top 81 respondents (27% of the highest group) and bottom 81 respondents (27% of the lowest scoring group) formed high and low groups respectively.

3. Counted the number of correct responses in the ‘high’ and ‘low’ groups and

4. Using the above data, difficulty index ‘D’ of each item was calculated using the formula.

\[
D = \frac{R_H + R_L}{2N} \times 100
\]

and discriminating power “DP” was calculated using the formula.

\[
DP = \frac{R_H + R_L}{N} \times 100
\]

where

\(R_H\) = Number of correct responses to an item in the High group.

\(R_L\) = Number of correct responses to an item in the low group.

\(N\) = 27% of the total group.

5.10 ITEM SELECTION

As suggested by Noll et al (1965) the items with a difficulty index in the range 21-80 present and discriminating power greater than 0.20 were selected and included
in the final self concept inventory. By doing this exercise the investigator obtained a total of 60 items 10 each from the six dimensions of self concept namely physical, social, temperamental, educational, intellectual and moral and this constituted the final self concept inventory. The following table shows the particular of statements that were selected to form the final self concept inventory. A copy self concept inventory both in Kannada language and English is made available in appendices section.

**Table 10: Self concept dimensions along with the number of positive and negative items**

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Self concept dimension</th>
<th>Item Numbers</th>
<th>Number of items</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Positive</td>
<td>Negative</td>
</tr>
<tr>
<td>1</td>
<td>Physical</td>
<td>3,4,11,13,16,22,24,39,47,50</td>
<td>3,16,11,24,47</td>
<td>4,13,22,39,50</td>
</tr>
<tr>
<td>2</td>
<td>Social</td>
<td>1,6,12,19,26,28,34,37,40,45</td>
<td>1,12,26,28,34,45</td>
<td>6,19,37,40</td>
</tr>
<tr>
<td>3</td>
<td>Temperamental</td>
<td>7,9,15,17,21,27,32,38,55,60</td>
<td>15,17,27,32,55</td>
<td>7,9,21,38,60</td>
</tr>
<tr>
<td>4</td>
<td>Educational</td>
<td>2,8,18,25,29,31,49,52,56,58</td>
<td>25,31,52,58</td>
<td>2,8,18,29,49,56</td>
</tr>
<tr>
<td>5</td>
<td>Intellectual</td>
<td>5,10,14,23,30,33,36,48,53,59</td>
<td>5,23,30,36,48,53,59</td>
<td>10,14,33</td>
</tr>
<tr>
<td>6</td>
<td>Moral</td>
<td>20,35,41,42,43,44,46,51,54,57</td>
<td>20,35,44,46,54,57</td>
<td>41,42,43,51</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td>60</td>
</tr>
</tbody>
</table>
5.11 RELIABILITY OF THE SELF CONCEPT INVENTORY

Reliability of the test refers to the consistency with which it measures. A test score is called reliable when there are reasons for believing the score to be stable and trustworthy. Stability and trustworthiness depends upon the degree to which the score is an index of ‘True ability’ is free of chance error (Garrett, 1966, p. 337).

There are four approaches to estimate the reliability of a test. There are:

a) test - retest (repetition),

b) alternate or parallel form,

c) split-half technique and

d) rational equivalence

Among all these methods split-half method is regarded by many the best of the methods for measuring test reliability. In this study the coefficient of internal consistency (C.I.S.) was obtained using split-half method and Kuder Richardson formula - 20.

5.11.1 Split-half Reliability (Coefficient of Internal Consistency)

A test is said to be internal consistent if all its items measured the same thing. To estimate the internal consistency of the self concept inventory, split-half method was used.

The coefficient of internal consistency was computed separately for all the six dimensions of self concept as well for the entire inventory together. This was done by finding first the product - moment correlation between the scores of the students on odd and even numbered items in the inventory and then estimating the reliability of the total inventory using the Spearman - Brown formula.
\[
\gamma^{++} = \frac{2r_{mn}}{1+r_{nn}}
\]

Where \( \gamma^{++} = \) Reliability coefficient

\( r_{mn} = \) Product-Moment correlation coefficient between scores of odd and even items.

In this study a raw or obtained scores was applied to the above formula and the investigator obtained 0.86 as the reliability coefficient for the whole inventory which indicates high internal consistency.

**Table 11: Reliability coefficient for 6 dimensions of Self Concept Inventory and total self concept**

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Self concept dimensions</th>
<th>Reliability coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Physical</td>
<td>0.74</td>
</tr>
<tr>
<td>2</td>
<td>Social</td>
<td>0.87</td>
</tr>
<tr>
<td>3</td>
<td>Temperamental</td>
<td>0.80</td>
</tr>
<tr>
<td>4</td>
<td>Educational</td>
<td>0.81</td>
</tr>
<tr>
<td>5</td>
<td>Intellectual</td>
<td>0.73</td>
</tr>
<tr>
<td>6</td>
<td>Moral</td>
<td>0.75</td>
</tr>
<tr>
<td></td>
<td>For total self concept</td>
<td>0.86</td>
</tr>
</tbody>
</table>

Another aspect of the reliability of the test is the standard error of measurement (SEM). This provides a useful yardstick of the dependability of the obtained score on the test. The investigator obtained 2.45 as the standard error of the measurement of the test, which indicates that chances are 2 to 1 that any obtained
score on this test will not vary from the true score by more than 2.45 points. This implies that the score indicate a more accurate estimate of the true scores of the teachers.

5.11.2 Kuder - Richardson Formula - 20 (the Method of Rational Equivalence)

The method of rational equivalence represents an attempt to get an estimate of the reliability of a test. This method stresses internal correlations of the items in the test. Reliability coefficient of the test was calculated using Kuder-Richarson’s formula - 20.

\[ \gamma_{11} = \frac{n}{n-1} \times \frac{\sigma^2 - \sum PQ}{\sigma^2} \]

where \( \gamma_{11} \) = Reliability coefficient of the test.

- \( n \) = Number of items in the test
- \( t \) = Standard deviation of the test scores.
- \( P \) = Proportion of the group answering a test item correctly.
- \( Q = (1 - P) \) = Proportion of the group answering test item incorrectly.

The investigator calculated reliability coefficient of the test with the help of obtained scores and got 0.881 as reliability coefficient of the test which indicates a high internal consistency. The standard error of the measurement of the test is 2.51 which indicate that the chances are about 2 to 1 that any obtained score on this test will not vary from the score by more than 2.51 points. This implies that the score indicate a more accurate estimate of the true scores of the subjects.
5.12 VALIDITY OF THE SELF CONCEPT INVENTORY

While reliability is concerned with the stability of test scores, its validity refers to its accuracy i.e., how closely that test measures what it intends to measure. There are many types of validity. In this study content validity and face validity were established for the test.

5.12.1 Content Validity

This indicates how adequately the content of the test samples the domain about which inferences are to be made. This type of validity is particularly important for an inventory. The self concept inventory consists of six dimensions – physical, social, temperamental, educational, intellectual and moral. The items from these dimensions were screened and selected for the final test from the view point of validation. The six areas to be tested was systematically analysed with a view to ensure that all major aspects were adequately covered and in the correct proportion by the test items. The proportion of test items was determined by a thorough and systematic examination of the relevant literature as well as by consultation with the experts in the subject. Items were scrutinised by the experts for their appropriateness and that is how all the items in the final test were selected after careful scrutiny. Thus every effort was made to ensure the content validity of test items of self concept. In order to secure a better validity the number of items was kept comparatively as high as 60. In the light of the above procedures adopted, it may be mentioned that the inventory constructed to assess self concept of secondary school students possessed the required content validity.
5.12.2 Face Validity

“A test is said to have face validity when it appears to measure whatever the author has in mind, namely, what he thought of he was measuring” (Garrett, 1966, p. 355).

When the investigator showed Self concept inventory prepared by his to those who did not have any knowledge of test construction method they readily perceived the purpose of the items. Thus it may be said that items framed in the self concept inventory satisfied the face validity requirements.

The experts on test construction indicate two criteria as possible indicators of face validity. Perhaps, the point under discussion would become crystal clear if the saying of Guilford is recalled. He said (1954, P 400), “the terms face validity has many meanings and has been loosely used. It is best restricted to the fact that a test looks valid, particularly to those who are unsophisticated in test practices . . . A more scientifically and professionally justifiable person for face validity is to make it palatable to examine”. As a matter of fact inventory statements can claim little more than face validity. Reiterating this point Garrett (1985, P 355) says, “Rating scales for various hypothesized traits, inventories, attitude scales and even intelligence tests often claim little more than face validity.”

5.13 THE FINAL VERSION OF SELF CONCEPT INVENTORY

After the item analysis, the reliability and validity of the self concept inventory was established. The final version of self concept inventory consists of 60 items, ten from each of the six dimensions (10 x 6 = 60).
The following instructions were given to the secondary school teachers of all the secondary schools selected for the study for answering the self concept inventory.

5.13.1 Instructions to Teachers

Read the following instructions from the inventory in Kannada and English as the case may be.

“This is a self-concept inventory. There are 60 items in it. Against each item there are five responses. You have to read each item carefully and respond to it by marking a tick (right) on any of the five responses given against that item, which you think describe you well.

There is no right or wrong answer. The right answer is only what you feel about yourself. Try to give your responses according to what you feel about yourself with reference to that a statement. Your answers will be kept confidential.”

5.14 SCORING METHOD

The respondent is provided with five alternatives to give his responses ranging from most acceptable to least acceptable description of his self concept. The alternatives or responses are arranged in such a way that the scoring system for all the items will remain the same i.e., 5, 4, 3, 2, 1 whether the items are positive or negative. If the respondent put (right) mark for first alternative the score is 5, for second alternative the score is 4, for third alternative score is 3, for the fourth it is 2 and for the fifth and last alternative these score is one. The summated score of all the sixty items provide the total self-concept score of an individual. A high score on this inventory indicates a higher self-concept, while a low score shows low self concept.
Table 12: Interpretation and classification of Raw scores for all dimensions

<table>
<thead>
<tr>
<th>Self concept dimension score</th>
<th>Interpretation (category)</th>
</tr>
</thead>
<tbody>
<tr>
<td>41 to 50</td>
<td>High self concept</td>
</tr>
<tr>
<td>31 to 40</td>
<td>Above Average self concept</td>
</tr>
<tr>
<td>21 to 30</td>
<td>Average self concept</td>
</tr>
<tr>
<td>11 to 20</td>
<td>Below average self concept</td>
</tr>
<tr>
<td>upto 10</td>
<td>Low self concept</td>
</tr>
</tbody>
</table>

Table 13: Interpretation and classification of raw score for total self concept

<table>
<thead>
<tr>
<th>Raw score</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>241 – 300</td>
<td>High self concept</td>
</tr>
<tr>
<td>181 - 240</td>
<td>Above Average self concept</td>
</tr>
<tr>
<td>121 - 180</td>
<td>Average self concept</td>
</tr>
<tr>
<td>61 – 120</td>
<td>Below average self concept</td>
</tr>
<tr>
<td>1 – 60</td>
<td>Low self concept</td>
</tr>
</tbody>
</table>

5.15 OTHER TOOLS

It has already been mentioned that in this study Teachers classroom performance scale, students achievement level in four subjects (Science, Maths, Social Science and Languages) and length of experience (collected through school records) have been used to get relevant data from secondary school teachers of Karnataka.
The modus-operandi of each of the tools have been explained in the following pages.

5.15.1 Teachers Classroom Performance Schedule

Teachers classroom observation schedule was intended to know classroom practices of teachers and to study if teacher competencies are reflected in their classroom practices.

The classroom observation schedule consists of eight major components which are:

(a) Introduction

This involves the observations related to ways in which a lesson is introduced, establishing rapport, review of previous knowledge, developing links between introduction and main teaching points.

(b) Content

This involves the observation of accuracy of the content, sequential and logical development and budgeting of time.

(c) Learning experiences

This involves the use of different strategies that can be used in a classroom, like charts models and so on. This also includes the organisation of activities, effectiveness in achieving objectives, suitability to learners, methods used whether discussion method, lecture method, demonstration method, problem solving method or textbook method, adequacy and appropriation, student participation, expression of joy and happiness in learning and traces historical developments.
(d) **Blackboard skills**

This involves the legibility, neatness and proper usage of blackboard while teaching.

(e) **Questions**

This component includes the observation of questioning skills like specifically, clarity, appropriations of question, and suitability to the individual differences.

(f) **Review and evaluation**

This includes the items to know whether,

(i) Evaluation is done continuously

(ii) Context is covered completely through evaluation

(iii) Distribution of questions

(iv) Review of the whole lesson is done

(g) **Classroom management**

This component include the observation whether teacher acts democratically in the classrooms. Whether the teacher calls students by their name, or gives clear directions, or ensures sufficient work for each pupil or recognizes and reinforces pupil’s behaviours or checks inappropriate behaviour are included.

(h) **Transaction**

This component involves the overall observation of teacher’s classes and to indicate whether the class was teacher centred, subject centred or child centred.

All the above components were observed in the classroom and rated on a five point scale ranging from 1 to 5.
The table 14 shows the total range of scores for each component of classroom observation schedule.

**Table 14: Total range scores for each component of teachers classroom observation schedule**

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Component</th>
<th>Number of criteria observed</th>
<th>Range of scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
<td>4</td>
<td>4-20</td>
</tr>
<tr>
<td>2</td>
<td>Content</td>
<td>3</td>
<td>3-15</td>
</tr>
<tr>
<td>3</td>
<td>Learning experiences</td>
<td>11</td>
<td>11-55</td>
</tr>
<tr>
<td>4</td>
<td>Blackboard skill</td>
<td>1</td>
<td>1-5</td>
</tr>
<tr>
<td>5</td>
<td>Questions</td>
<td>4</td>
<td>4-20</td>
</tr>
<tr>
<td>6</td>
<td>Review and evaluation</td>
<td>4</td>
<td>4-20</td>
</tr>
<tr>
<td>7</td>
<td>Classroom management</td>
<td>6</td>
<td>6-30</td>
</tr>
<tr>
<td>8</td>
<td>Transaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) Teacher centred</td>
<td>1</td>
<td>1-5</td>
</tr>
<tr>
<td></td>
<td>(b) Subject centred</td>
<td>1</td>
<td>1-5</td>
</tr>
<tr>
<td></td>
<td>(c) Student centred</td>
<td>1</td>
<td>1-5</td>
</tr>
</tbody>
</table>

5.15.2 Academic Achievement

As already mentioned in the Chapter I, in this study student achievement level of teachers was collected through school records.

Student achievement level is defined as the attainment of a student in the scholastic subjects at a particular grade level.
Students’ final marks in the 8th class examination constituted the student achievement level in four subjects (Science, Maths, Social Science, Language).

5.16 COLLECTION OF DATA

The present study as already mentioned attempted to investigate self concept of secondary school teachers of Karnataka in relation to their Teachers classroom performance, students achievement level in four subjects (Science, Maths, Social Science, Language) and length of experience.

In this study, data was obtained in the first stage from a sample of 320 school teachers from all the 40 secondary schools located in Mysore district of Karnataka. In the first stage student achievement level in four subjects (Science, Maths, Social Science, Language) was collected from school records.

Information regarding name, area, sex, length of experience were collected by providing personal information schedule in which they have to fill up their personal and professional details, data on teacher classroom performance were collected by observing their classroom teaching.

5.16.1 Teacher Classroom Performance

In order to study, to what extent the self concept of secondary school teachers are reflected in their classroom practices. These classroom teachings were observed by using teachers classroom performance scale developed by N. Hari, RIE (NCERT), Mysore.

As per the design of the study 2050 teachers were grouped into 32 groups and in each cell ten teachers were selected on the basis of demographic and personality variables. Thus teachers were categorised into high and low student achievement level
group; and high and low length of experience. Teacher were grouped on the basis of sex, teachers classroom performance and area (urban and rural). In second stage of data collection (i.e. final sample) there were 320 teachers (32 x 10 = 320). All these 320 teachers were administered self concept inventory prepared by the investigator.

5.17 TABULATION OF DATA

The collection of records was followed by the next step which involved scoring teachers classroom performance scale and self concept inventory and tabulation of data.

The next step was to undertake the statistical analysis, interpretation and discussion of data and the same have been made available in Chapter VI.