CHAPTER - V

SUMMARY, CONCLUSIONS AND SUGGESTIONS

5.1 STUDY IN RETROSPECT

In this chapter, the investigator presents an overview of the study together with some significant aspects like major findings, educational implications and suggestions for future research.

5.2 STATEMENT OF THE PROBLEM

Higher secondary commerce students’ Social Competence is related to the social situations related to them, especially the learning conditions. If the higher secondary students of today get proper learning strategies, if they are trained to develop social relations and ways for social competencies, they can improve their social competence. It also empowers the scholastic achievement and academic growth of students. Hence, the problem of the present study has been stated as under,

“SOCIAL FAMILY MODELS OF TEACHING IN RELATION TO SOCIAL COMPETENCE AMONG HIGHER SECONDARY STUDENTS OF COMMERCE GROUP”

5.3 OBJECTIVES OF THE STUDY

The objectives of the present study are the following.

a. To compare the mean pre-test scores of social competencies of experimental and control groups.

b. To compare the mean post-test scores of social competencies of experimental and control groups.

c. To compare the mean gain scores of social competencies of experimental and control groups.
d. To study the effectiveness of social family models of teaching for the development of social competencies among higher secondary Commerce students.

5.4 HYPOTHESES OF THE STUDY

The following hypotheses are formulated for the present study.

a. There is no significant differences in the mean pre-test scores of social competencies of experimental and control group.

b. There is no significant differences in the mean post-test scores of social competencies of experimental and control group.

c. There is no significant difference in the mean gains scores of social competencies of experimental and control groups.

d. There is no significant difference in the development of social competencies between the students taught through social family models of teaching and through conventional method.

5.5 METHODOLOGY OF THE STUDY

5.5.1 Design Of The Study

Quasi-experimental Design

In quasi-experimental designs, random assignment of members to the experimental and control groups is not made but random selection of experimental and control group among the groups available is made and as such the initial equivalence of groups is not assured.

In quasi-experimental design, the non-equivalent pre-test-Treatment-post test design is adopted by the investigator. The design is illustrated as follow:

\[
\text{Gr I} \quad T_1 \xrightarrow{X} T_2 \\
\text{(Treatment)} \\
\text{Gain} = T_2 - T_1 = DE
\]
Gr II  $T^1_1$ No Treatment $T^1_2$  Gain = $T^1_2 - T^1_1 = DC$

Two groups as they exists are selected and one group is taken to be experimental group and the other the control group. Pre-tests were administered to both the groups. The control group does not received any treatment. Treatment was given only to the experimental group. After the treatment, post-tests are conducted. The differences in the pre-test and post-test measures are calculated separately for the two groups. The significance of difference between the different measures of the groups is computed. If the difference is significant, then conclude that the treatment is effective.

This is the most common design being adopted in the so called experimental researches in education. Randomization of groups generally will not be possible in the existing classroom and school administrative structures; so often we are satisfied with this design. Initial differences if any exists between the two groups, it can also be controlled by a statistical technique known as co-variance analysis.

5.5.2 SAMPLE AND SAMPLING PROCEDURE.

The sample of the study consist of 110 students of XII standard from St. John’s Higher Secondary School in Thrissur District of Kerala State. The samples selected through random sampling technique.

5.5.3 TOOLS AND TECHNIQUES TO BE USED.

The required data for the present study was collected by using social competence scale developed by the investigator in consultation with the guide.

Investigator also prepared lesson transcripts based on Jurisprudential inquiry model, group investigation model, role playing model and existing curriculum.

5.5.4 STATISTICAL TECHNIQUES USED

Analysis of the sample through the following statistical techniques:

Mean, Median, Mode and Standard Deviation were used as descriptive statistical techniques.

T-test, ANOVA and ANCOVA were used as inferential statistical techniques.
5.6 LESSON PLAN BASED ON JURI PRUDENTIAL INQUIRY TRAINING MODEL

The investigator prepared lesson plans to experimental groups based on Jurisprudential Inquiry Training Model with a view to help pupils think systematically about contemporary issues. Analysing and debating social issues help them in redefining social values in accordance with changing societal conditions.

Different phases of the model are as follows:

**Phase 1 - Orientation to the case**

At this stage the materials concerning the social issue are introduced and opportunity given to review the facts.

**Phase 2 - Identifying the issues**

The facts gathered and reviewed are synthesized into public policy issues. These are considered one by one. The values and value conflicts associated with the underlying factual and definitional questions.

**Phase 3 - Taking a position**

State on position regarding the issue. This position has to be stated in terms of the framework of values.

**Phase 4 - Exploring the stance(s)**

Find out the point of stance at which the value is violated (on the basis of factual evidence). Also thoroughly examine and substantiate the desirable or undesirable consequences of a position. Explain the value conflicts with the help of analogies and set priorities for the various values.
Phase 5 - Refining and Qualifying the position

On the basis of the exploration in the fourth phase, the changed position is stated and justified on the basis of values. Also examine a number of similar stances.

Phase 6 - Testing factual assumptions behind qualified position

This is a jurisprudential examination of the restated position (phase five) on the basis of factual support and the consequences. The validity of the position is examined.

5.7 LESSON PLAN BASED ON GROUP INVESTIGATION MODEL

The investigator prepared lesson plans for the XII students in business studies on the basis of group investigation model for the experimental group.

Different phases of the model are as follows

*Phase I:* Students encounter puzzling situation (planned or unplanned)

*Phase II:* Students explore reactions to the situation.

*Phase III:* Students formulate study task and organize for study.

*Phase IV:* Independent and group activity.

*Phase V:* Students analyze progress and process.

*Phase VI:* Recycle activity.

5.8 LESSON PLAN BASED ON ROLE PLAYING MODEL

The investigator prepared lesson plans for the XII students in business studies on the basis of role playing model for the experimental group.

Different phases of the model are as follows
Phase I: Warming up the group

- Identify or introduce problem
- Make problem explicit
- Interpret problem story, explore issues
- Explain role playing

Phase II: Select Participant

- Analyze roles
- Select role players

Phase II: Set the stage

- Set the line of action
- Restate roles
- Get inside problem situation

Phase IV: Prepare the observers

- Decide what to look for
- Assign observation task

Phase V: Enact

- Begin role play
- Maintain role play
- Break role play

Phase VI: Discuss and evaluate

- Review action of role play
- Discuss major focus
- Develop nest enactment

**Phase VII: Reenact**

- Play revised roles, suggest next steps or behavioral alternatives.

**Phase VIII: Discuss and evaluate**

- As in phase six

**Phase IX: Share experiences and generalize**

- Relate problem situation to real experience and current problems.
- Explore general principles of behavior

### 5.9 LESSON PLAN BASED ON EXISTING CURRICULUM

The investigator prepared lesson plans for the XII students in business studies on the basis of existing curriculum (objective based instruction) for the control group.

### 5.10 CONSTRUCTION AND STANDARDISATION OF SOCIAL COMPETENCE SCALE

**Planning**

Planning is the key to effective testing. One of the major errors when preparing tests are inadequate planning. Careful planning will remove all the deficiencies of a test. The selection of areas to be included in the social competency like empathy, leadership, communication, co-operation, collaboration, etc.

**Preparation**

The investigator prepared 82 items. For preparing this items the investigator referred lot of books related to Social Family Models of teaching and social competency.

After the scrutiny of experts 20 items were excluded and some of them were modified. Each test item is expressed in clear unambiguous language; students are
not given any clues to the correct answer. The scoring is objective; a table of specifications has been prepared and followed.

For each of the items there were five alternative responses – strongly agree, agree, not decided, disagree and strongly disagree are given in the response sheet.

**Try out**

The draft was tried on a stratified representative sample of 100 students of standard XII. The discriminating power of each item was calculated for the analysis.

**Item discrimination**

Item discrimination refers to the degree to which an item differentiates correctly among test takes in the behaviour that the test is designed to measure. It is desirable for each item to have as high on index of discrimination as possible. Ebel has suggested the following “rules of thumb” for interpreting items discrimination index for standardized test.

<table>
<thead>
<tr>
<th>D – Value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.40 and up</td>
<td>Very good item</td>
</tr>
<tr>
<td>0.30 – 0.39</td>
<td>Reasonably good items, but possibly subject to improvement</td>
</tr>
<tr>
<td>0.20 – 0.29</td>
<td>Marginal items, usually needing and being subject to improvement</td>
</tr>
<tr>
<td>Below 0.19</td>
<td>Poor them, to be rejected or improved by revision.</td>
</tr>
</tbody>
</table>
It should be noted that items with zero or negative D-value probably were inadvertently unsuited or also are intrinsically ambiguous. These interpretations are relevant only for the ability of the item to measure individual differences.

From responses, discarded incompleted ones and selected responses. Then scored for item analysis. The procedure suggested by Edward (1957) was used to find out the discriminating power of the item. The response sheets of 100 subjects were arranged in rank order of total scores obtained by them. The score obtained by the top 27% students and bottom 27% were taken on the high group and low group respectively.

**Why 27 percent (27%)?**

The answer is that 27% provides the best compromise between two desirable but inconsistent aims as to make the extreme groups as large possible and to make extreme groups as different as possible. (Keley, 1969).

Although upper and lower groups of 27% are best, they are not really much better than groups of 25 percent would be. If one like to work with sample fractions like one fourth or one third. Instead of an add percentage like 27% he should feel free to use upper and lower fourths or thirds. However he should grant against the intuitive feeling that 33% is better than 27% because it involves groups of larger size or that 25% is better than 27% because the difference between the groups is greater in each case the supposed advantage is slightly more than offset by the opposing disadvantage. The optimum values is 27%.

Then the ‘t’ value for each item was calculated using the formula

\[
t = \frac{\overline{X}_H - \overline{X}_L}{\sqrt{\frac{\sum(X_H - \overline{X}_H)^2 + \sum(X_L - \overline{X}_L)^2}{n(n-1)}}}
\]

where,

\(\overline{X}_H\) = Arithmetic mean of the given item for high group

\(\overline{X}_L\) = Arithmetic mean of the given item for low group
\[ X_H = \text{Score of high group} \]
\[ X_L = \text{Score of low group} \]
\[ n = \text{number of subjects in the group} \]
The prepared inventory is given appendix.

**VALIDITY**

According to Murphy and David Shofer “If a test determining or measuring what is supposed to measure and determine whether that test can be used in making accurate discussion, such a test said to be valid”.

The degree of validity is the single most important aspect of a test. While discussing about validity, it is useful to think of two general types of aims.

(1) For making general predictions about the individual tested

(2) For describing or representing aim.

It should be evident that validity is a multifaceted concept. A test possesses many validities. It may highly valid for one purpose but not for others. Hence there is no single validity index for a test.

The latest standard for educational and psychological tests and manuals of American psychological Association (APA) delimits only three kinds of validity: Content validity, criterion validity, construct validity.

The present inventory was constructed in such a way that it covers the two areas. Each item in the inventory was prepared by the components and such components proposed by Howard Gardner. So inventory possess content validity.

The criterion related validity was established using Pearson product moment correlation coefficient.
\[ r = \frac{N \sum XY - \sum X \sum Y}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}} \]

Where,
- X is the score of group I
- Y is the score of group II
- N is the total number of sample

The criterion related validity was established by correlating the scores of inter and intra personal intelligence obtained from 100 pupils from standard XII and the criterion related validity was found as .682.

**REALIABILITY**

When we measure the consistency of test by determining how much variations exists in specific individuals score, such variability is intra individuals variability. It is expressed as standard error measurement. If you measure the consistency at scores of a group by determining how much variation exists between the two groups measures, such type of variability is inter-individual validity or reliability measurement.

According to Freeman (1962) “the reliability of a test is its ability to yield consistent results from one set of measures to another”.

Meheren and Lehman (1978) says “reliability can be defined as the degree of consistency between two measures of the same thing”.

<table>
<thead>
<tr>
<th>Reliability coefficient</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.85 and above</td>
<td>High reliability</td>
</tr>
<tr>
<td>0.85 to 0.60</td>
<td>Moderate reliability</td>
</tr>
<tr>
<td>Below 0.60</td>
<td>Very low reliability</td>
</tr>
</tbody>
</table>
Reliability of the inter and intrapersonal intelligence inventory was found using split half method.

Items selected through item analysis of inter and intra personal intelligence inventory were splitted into two equal halves in such a way that the scores of odd number items of the total 42 items forms the first half and the scores of the even number item out of 42 items forms the second half. The two sets of scores were asked to find out the reliability coefficient using Pearson product Moment Method (Garret 1979)

\[
r = \frac{\sum X \sum Y - \sum X \sum Y}{\sqrt{\left[N \sum X^2 - (\sum X)^2\right] \left[N \sum Y^2 - (\sum Y)^2\right]}}
\]

X = Total scores for first half items
Y = Total scores for second half items
N = number of students

From the self-correlation of the half-test, the reliability coefficient of the whole test may be estimated from Spearman-Brown prophecy and as follows :

\[
r_{xx} = \frac{2 r_{1/2}^{1/2}}{1 + r_{1/2}^{1/2}}
\]

Where,

\[
r_{xx} = \text{Estimate reliability of the whole test}
\]
\[
r_{1/2}^{1/2} = \text{reliability of the half test}
\]

The obtained reliability index was 0.862.

**EXPERIMENTATION**
The present study is basically experimental study in which quasi experimental design, pre-test post-test non-equivalent groups design was adopted for the study. To conduct the experiment the investigator selected St. John’s Higher Secondary School Parappur, in the district of Thrissur in Kerala State. One division of Class XII a was exposed to the Social Family Models of Teaching acted as experimental group, while the other class XII B which was exposed conventional objective based instruction teaching (Behaviourism) acted as a control group.

Twenty periods of forty five minutes duration were taken to both experimental and control groups. The experimental group had 55 students while the control group also had 55 students.

A pre test (Social Competency Inventory) was administered to the pupils to test their Social Competencies before the treatment, in both experimental and control groups. After teaching the two different teaching strategies in both groups, a post test (Social Competency Inventory ) was administered to the pupils.

SCORING

The investigator adopted specific method for scoring the responses from the students, finally 55 samples from experimental group and 55 samples from control group were obtained. The completed answer sheets of 110 students were consolidated for further analysis and all entries were coded by daises facilitating computer feeling.

5.11 STATISTICAL TECHNIQUES USED:

Suitable descriptive and inferential techniques were used in the interpretation of the data to draw out meaningful pictures of results from the collected data. In the present study, the following statistical measures were used:

1. Mean \( \bar{X} = A + \frac{\sum f_i d_i}{N} \times I \)

Where,

\( A = \) Assured Mean
F = Frequency
D = Deviation from the assured Mean
N = Number of observations
I = Class interval

2. Standard Deviation

$$SD = \sigma = I \sqrt{\frac{\sum fd^2}{N}} - \left(\frac{\sum fd}{N}\right)^2$$

Where,
F = Frequency
D = Deviation from arithmetic Mean
I = Class interval
\(\sigma\) = Standard Deviation

3. Quartile Deviation

$$Q_1 = L_1 + \frac{\left[ N - C_1 \right]}{f_1} \times I$$

Q.D = \(\frac{Q_3 - Q_1}{2}\)
Q.D = Quartile Deviation
Q_1 = First Q.D
Q_3 = Third Q.D
L_1 L_3 = Lower Limit of medium class
N = Total Frequency
C_1 C_3 = Cumulative frequency
F_1F_2 = Frequency of the medium class

4. Standard Error

$$SE = \frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}$$
\( \sigma_1, \sigma_2 \) = Standard Deviation

\( N_1, N_2 \) = Total number of classes

**5. Critical Ratio (CR)**

\[
(CR) = \frac{M_1 - M_2}{SE}
\]

\( M_1, M_2 \) = Means of two groups

**6. Analysis of Variance (ANCOVA)**

\[
F \text{ ratio} = \frac{\text{Variance between group}}{\text{Variance within group}}
\]

Correlation term \( c \) = \[
\frac{\left( \sum X_1 + \sum X_2 + 2 \times 3 \right)^2}{N}
\]

TSS = \( X_2 - c \)

BSS = \[
\left( \frac{\sum X_1}{W_1} \right)^2 + \left( \frac{\sum X_3}{W_3} \right) - C
\]

WSS = TSS – BSS

Where, \( X_1, X_2, X_3 \) are scores in different groups

\( C \) = Correlation term

TSS = Total Sum of squares

BSS = Sum of SQRS between groups

WSS = With in groups.

**Single Factor ANCOVA**

By the use of the single factor ANCOVA the influence of the uncontrolled variable, some times called the co-variable or concomitant variable was removed.
In the present study, initial status of the student in terms of social competence is the covariate. By the use of ANCOVA, the effect of this co-variable can be removed (Ferguson, 1971).

5.12 MAJOR FINDINGS

Major findings of the present study are the following.

- Experimental group and control group students do not differ significantly with regard to their social competence.
- There is a significant difference in post test between experimental and control group of students with regard to their social competence.
- Experimental group students scored a high score in social competence.
- Teaching through social family models of teaching is highly effective to develop the social competence among higher secondary students.
- There is a significant difference between experimental group and control group girl students with regard to social competence.
- Post test score of girls in experimental group is higher than that of the control group.
- There is a significant difference between the experimental and control group boys with regard to social competence.
- Experimental group boys scored a high score in post test of social competence than that of control group counterparts.

5.13 EDUCATIONAL IMPLICATIONS AND CONCLUSION

Cooperation is a generic human endeavor that affects many different instructional outcomes simultaneously. Over the past 100 years researchers have focused on such diverse outcomes as achievement, higher-level reasoning, retention, achievement motivation, intrinsic motivation, transfer of learning, interpersonal attraction, social support, friendships, prejudice, valuing differences, self-esteem, social competencies, psychological health, moral reasoning, and many others. The finding of the present study is significant to the present system of teaching and learning.
Social competence has significant relationship with the development of various faculties of students at higher secondary level. The significant difference between the experimental and control group higher secondary school students suggest that if the students are taught by using social family models of teaching, favourable social competence can be developed in an effective manner and they can exhibit a high level of achievement. The difference exhibited by the girl and boy students of experimental group suggests that if the students are taught through social family models of teaching, they can develop social competence irrespective of their gender.

5.14. SUGGESTIONS FOR FURTHER RESEARCH

1. The experimentation of the Social Family models of teaching can be extended to other subject areas.
2. A comparative study between Social Family models of teaching and other family models can be attempted.
3. In order to ensure the general applicability of the findings experiment must be conducted involving more number of units, large samples and for longer duration.
4. A study can be conducted to find the attitude or interest of teachers to the introduction of Social Family models of teaching in higher secondary schools.
5. Equalizing the experimental and control group on the basis of intelligence is also possible through the Social Family models of teaching.
6. If a pre-test post test equivalent groups design is used for the study the two group can be Equated on the basis of previous knowledge also.

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