Chapter–IV

Methodology
CHAPTER–IV: METHODOLOGY

4.0 Introduction

4.1 Research Design

4.2 Phase-I

4.2.1 Assessment of Situational Stress of Upper Primary Teachers in Relation to Personality Patterns

4.2.2 Description, Development and Construction of the Rating Scale on Situational Stress (RS-SS)

4.2.2.1 Pilot Stage

4.2.2.2 Item Analysis

4.2.2.3 Reliability of Rating Scale on Situational Stress (RS-SS) of Upper Primary Teachers

4.2.2.4 Validity of the Rating Scale on Situational Stress (RS-SS) of Upper Primary Teachers

4.2.3 Description, Development and Construction of the Extrovert and Introvert Inventory (E-I I)

4.2.3.1 Pilot Stage

4.2.3.2 Reliability of the Extrovert and Introvert Inventory (E-I I) of Upper Primary Teachers

4.2.3.3 Validity of the Extrovert and Introvert Inventory (E-I I) of Upper Primary Teachers

4.2.4 Sampling Procedure for the Assessment of Situational Stress and Personality Patterns of Upper Primary Teachers

4.2.5 Final Format of the Rating Scale on Situational Stress (RS-SS) and Extrovert and Introvert Inventory (E-I I) of Upper Primary Teachers

4.2.6 Administering of the Rating Scale on Situational Stress (RS-SS) and Extrovert and Introvert Inventory (E-I I) of Upper Primary Teachers
4.3 Phase-II: Development of Remedial Program to Upper Primary Teachers for Reducing Situational Stress

4.3.1 Remedial Program for Reducing Situational Stress

4.3.2 Development of Remedial Program for Reducing Situational Stress

4.3.3 Validity of the Developed Remedial Program

4.4 Phase-III: Experimentation of Developed Remedial Program for Upper Primary Teachers to Reduce Situational Stress

4.5 Scoring procedure

4.6 Locale and Sample

4.7 Sampling Procedure

4.8 Data Collection

4.9 Statistical Techniques used in the Study
CHAPTER – IV
METHODOLOGY AND RESEARCH DESIGN

4.0. Introduction

The present Chapter IV methodology deals with the research procedures and design followed in the present research study. As per the statement of Best and Khan (1995), the methodology of any investigation describes in detail the activities of research measuring tools to be used, individual participation in the research, sample and data analysis and different methods used in research studies. For realizing this investigator has discussed and presented this chapter under different headings such as: research methods adapted in the different phases of the investigation, development and construction of research tools such as Rating Scale on Situational Stress (RS-SS) and Extrovert-Introvert Inventory (E-I I), identification of situational stress and personality patterns of upper primary teachers, development and validation of remedial program to overcome situational stress of upper primary teachers, locale and sample of the study, experimentation and use of remedial program of upper primary teachers, data collection, scoring procedure and statistical techniques used in the investigation.

4.1. Research Design

Research methods adapting different phases of this present research study are discussed hereunder. The present research study has been carried out in three phases.

In phase-I, the level of situational stress of upper primary teachers and the personality patterns of upper primary teachers has been assessed through descriptive survey method by administrating Rating Scale on Situational Stress (RS-SS) and Extrovert-Introvert Inventory (E-I I) subject to item analysis and establishing reliability and validity developed by the investigator by using stratified random sampling technique. Further the relationship of situational stress with personality patterns of upper primary teachers has been also found.

In phase–II, remedial program is developed and validated based on the assessment of the level of situational stress of upper primary teachers.
Finally in phase-III, the developed Rating Scale on Situational Stress (RS-SS) Extroversion and Introversion Inventory (E-I I) has been taken as pre test before experimentation with developed remedial program.

Then the developed remedial program is experimented to the identified upper primary teachers who possessed high level of situational stress.

Further during, after and after 15 weeks of experimentation of the remedial program, the same Rating Scale on Situational Stress (RS-SS) is used by the investigator as progressive, post and retention tests. At the end of the experimentation, the personality patterns of the Upper primary teachers were assessed through Extrovert-Introvert Inventory (E-I I) for finding the relation with situational stress at the end of the experimentation.

The single quasi experimentation methodology is adapted for the experimentation of the developed remedial program to the upper primary teachers for reducing situational stress of upper primary teachers. The following flow chart shows the research procedures adapted in different phases of the present research investigation.
Identification of Situational Stress of Upper Primary Teachers through Rating Scale on Situational Stress (RS-SS).

Identification of Personality Patterns of Upper Primary Teachers through Extrovert-Introvert Inventory (E-I I).

Finding the Relation of Situational Stress with Personality Pattern of Upper Primary Teachers

Phase - I

Descriptive Survey Method

Stratified Random Sampling Technique

Phase - II

Conceptualisation of Remedial Program - Four Stages


Conceptual Formulation: Acknowledgement and acceptance of situational stress: beating self sabotage, boosting self esteem, building self confidence, anger management, time management, knowing limitations and reframing problems; performance planning, stress reduction practice and focus on positive; aware of trigger points and hot spots, surviving to the fittest, learning to be patient, pro active in situations and willing to compromise

Mode of Deliverance: Introduction, discussion, group work, stress presentation and stress test, imagery, guided imagery, physical relaxation techniques, exercise, meditation, breathing, conscious breathing, self assignment, identifying own strengths and weakness, plays, recreations, songs, acts, games, stress journal-diary, situational decision makings, refraim problems, exposure to real situations, task analysis, find solutions to own problems, time management, effectual scheduling and allocate jobs, Structural equation modeling, laughter therapy, listening to music, adjust standards, pacing, away from/avoid worries, participate in hobbies, time for everyday, joint support group, avoid negative environments celebrate strengths, emotional well being, learn to refraim, manage or ignore cannot change attitude, focus outside self and consider the health benefits and positive response, go outdoors, sense of humour, feedback, self evaluation, group evaluation, self stress and situational stress assessment

-Validation of Remedial Program

Phase-III

Administration and use of the Developed Remedial Program to Upper Primary Teachers

Single Group Quasi Experimental Design

Phase - I

Pilot Stage

Item Analysis

Establishing Reliability and Validity

Sample Selection

Data Collection

Phase - II

Developing and Validating Remedial Program to Overcome Situational Stress of Upper Primary Teachers

Phase-III

Pre Identification of Situational Stress and Personality Pattern (before adopting RP)

Application and use of the Developed RP to Upper Primary Teachers

Progressive Stage Identification of Situational Stress (while adopting RP)

Post Identification of Situational Stress and Personality Pattern (after adopting RP)

Retention Identification of Situational Stress (30 days after adopting RP)
4.2. Phase-I

4.2.1. Assessment of Situational Stress of Upper Primary Teachers in Relation to Personality Patterns

Babbie (1973) stated that survey is a non experimental, descriptive research method. It can be useful when a research wants to collect data on phenomenon that cannot be directly observed. James and Sally (1984) expressed that surveys are used to learn about peoples’ attitudes, beliefs, values, facts, behaviours, opinions, desires, views and other types of information. Survey is a method used to collect systematic way of information from a sample of individual (Abranson and Abranson, 1999). Usually in survey method interview schedule questionnaire, scale, test inventory and observation schedule are used. Realizing the above all the investigator considered and followed the descriptive survey method for the assessment of situational stress of upper primary teachers in relation with personality patterns.

Careful reviewing and scanning of such related research studies and literature with reference to situational stress and personality patterns of upper primary teachers giving scope to the researcher to develop appropriate tools to assess the situational stress and personality patterns of upper primary teachers. A successful research’s essential ingredient the tool relevant data to find a solution is collected with a suitable tool.

So, selection of tool is an important process that has to be carried out. In Indian and foreign context, there are various tools available to collect the necessary data for a research study. A researcher can permit to select a suitable tool for his or her investigation. In case, if there is no suitable tool available it is advisable to prepare a required and necessary tool which is appropriate for the study (Arunachalam, 2004; Gopal, 2010; Vijayan, 2011; Moorthy, 2011 and Periyasamy, 2011).

Keeping this in mind, considered and followed to construct the Rating Scale on Situational Stress (RS-SS) of Upper Primary Teachers and Extrovert and Introvert Inventory (E-I I) for upper primary teachers have been discussed in detail hereunder.
4.2.2. Description, Development and Construction of the Rating Scale on Situational Stress (RS-SS)

For the assessment of situational stress of upper primary teachers by the investigator, he has developed Rating Scale on Situational Stress (RS-SS) in the following procedures.

Several standard instruments like Organizational Role Stress Scale (Uday Pareek, 1983), Teacher Occupational Stress Factor Questionnaire (Clark, 1980), Maslach Teacher Burnout Inventory (1981), Occupational Stress Index (Srivastava and Singh, 1981), Situational Stress Questionnaire (Latha, 2001), Situational Stress Assessment (Sarah and Gnanadevan, 2003), Occupational Stress Questionnaire (Chandraiah, 2009) were considered and taken into account for the development and construction of the Rating Scale on Situational Stress (RS-SS) in the present investigation.

4.2.2.1. Pilot Stage

Statements to measure the situational stress of upper primary teachers were constructed and a draft pool of 102 statements was developed with a five point scale by the researcher by matching use of the reviewed related researches. The situational stress statements were assigned with Strongly Disagree, Disagree, Undecided, Agree and Strongly Agree with a weightage score 5,4,3,2 and 1 respectively. The negative statement items were scored reversely. Care was taken to formulate the 102 statements for upper primary teachers in a clear and concise format and free from ambiguity.

The list of 102 statements was given to a panel of experts consisting of education and psychology apart from clinical and social psychologists and also a medical practitioner. In addition to the expert panel it was given to teacher educators, educational psychologists, upper primary school administrators and upper primary teachers with a request to point out the relevance. Then the same was given to upper primary teachers for field try out. Based on the expert’s panel views, comments of teacher educators and educational psychologists and the responses of upper primary teachers, the addition and omission were made by the researcher in the statements. Finally 95 statements were given importance and weightage and they were applied with item analysis for finalizing of final format of Rating Scale on Situational Stress (RS-SS) and rest of the items were omitted.
4.2.2.2. Item Analysis

Finding the truthfulness of test items and interconnectedness of different items in the same questionnaire Rating Scale on Situational Stress (RS-SS), item validity was calculated by using item analysis in SPS-12 statistics software as it is very essential for selecting items to the final Rating Scale on Situational Stress (RS-SS).

95 Situational Stress statements were given to 50 upper primary teachers. From the responses obtained, ‘r’ is calculated by correlating the individual item score and the corresponding component score. The correlation co-efficient at 5% level of significant is 0.42 to 0.90 (Best, 1989). Finally the Situational Stress statements having r value of 0.42 to 0.90 were selected. For further improvement and refinement the Rating Scale on Situational Stress (RS-SS) was administered against to the sample and 't' value was calculated at 0.05 level of significance for Situational Stress statement. By applying this method, the investigator did not considered too difficult and too easy item statements in the Rating Scale on Situational Stress (RS-SS).

Finally 74 situational stress statements were considered and taken into final format of the Rating Scale on Situational Stress (RS-SS).

4.2.2.3. Reliability of the Rating Scale on Situational Stress (RS-SS) of Upper Primary Teachers

A test is reliable to the extent that is measured accurately and consistently from one time to another (Best, 1977). If an instrument is unreliable, the information is ambiguous, inconsistent and useless (James and Salley, 1984). So it is necessary to establish the reliability.

In this study split half method and Kuder Richardson method (K-R-20) are used to establish the reliability of the Rating Scale on Situational Stress (RS-SS) of upper primary teachers for reducing situational stress and enhancing personality patterns of upper primary teachers. The final format of the Rating Scale on Situational Stress (RS-SS) of upper primary teachers was given to 50 upper primary teachers for establishing the reliability of the Rating Scale on Situational Stress (RS-SS) of upper primary teachers. The obtained data have been used to establish the reliability of the Rating Scale on Situational Stress (RS-SS) of upper primary teachers by using SPSS-12 software package.
The reliability of the Rating Scale on Situational Stress (RS-SS) of upper primary teachers by using Split-half method was 0.632. The reliability of the Rating Scale on Situational Stress (RS-SS) of upper primary teachers by using Kuder Richardson method was 0.776.

The reliabilities of the Rating Scale on Situational Stress (RS-SS) of upper primary teachers by using split-half method and Kuder Richardson method were positive and high (0.632 and 0.776) indicating its reliability for the investigation.

4.2.2.4. Validity of the Rating Scale on Situational Stress (RS-SS) of Upper Primary Teachers

Validity of the research tool or procedures that measures what’s its purpose (or) its purposes to measure validity is the quality of data gathering instrument or procedure that enables it to measure what it is supposed to measure. For ascertaining the validity of Rating Scale on Situational Stress (RS-SS) of upper primary teachers, the investigator used content, face and intrinsic validities.

Content Validity

Best (1977) viewed that there is no numerical way to express the content validity, it can be assessed by a panel of experts in the field of who could judge its adequacy. The type and nature of statements in the Rating Scale on Situational Stress (RS-SS) of upper primary teachers were validated by the panel of educationists, educational psychologists, psychologists and upper primary teachers. Their suggestions have been taken into account to enhance the contents and quality of the statements. Therefore, it can be said that Rating Scale on Situational Stress (RS-SS) of upper primary teachers developed by the researcher possesses content validity.

Face Validity

This is used to the characteristics of test materials that appear to measure what the test the author desires to measure. That is, the test contains statements that seem to be related to the variables being measured. The researcher here assured that by the opinion and view of the panel of experts who are familiar with the subject content for assessing the situational stress of the upper primary teachers in Rating Scale on Situational Stress (RS-SS) of upper primary teachers do possess face validity.
**Intrinsic Validity**

Intrinsic validity is stated that as how well the obtained scores measure the test through score component. The square root of the reliability values of the tool means its intrinsic validity. The obtained intrinsic validity of Rating Scale on Situational Stress (RS-SS) of upper primary teachers is high (0.795 and 0.881) and possesses intrinsic validity.

**4.2.3. Description, Development and Construction of the Extrovert and Introvert Inventory (E-I I)**

The trait of Extroversion - Introversion is a central dimension of human personality. The terms introversion and extroversion was first popularized by Carl Jung (1921). In addition to extroversion and introversion, ambiversion is a balance of Extrovert and introvert characteristics.

Virtually all comprehensive models of personality include extroversion, introversion and ambiversion concepts such as Jung’s Analytical Psychology, Eysenck’s (1960) Three Factor Model, Cattel’s 16 personality factors, Carl Jung’s assessment (1970), the Big Five Personality Traits (Costa and McCrare, 1985), the Four Temperaments, the Minnesota Multiphasic Personality Inventory, the Myers Briggs Type Indicator and Socionics (Wikipedia, 2010), Examination of Personality Characteristics by Elmore and Ellett (1979), Assessment of Personality Configurations by Prema (2007), Personality Test Sheet by Conklin’s (2003) and Assessment of Personality Types by Sarah Williams and Gnanadevan (2003) were considered for the assessment of personality patterns of upper primary teachers in the present investigation. Extroversion and introversion is normally measured by self report.

Eysenck and Eysenck (1958) stated that Extrovert person tend to be sociable, outgoing, talkative, responsive, easygoing, lively, carefree, leadership (sanguine), touchy, restless, aggressive, excitable, changeable, impulsive, optimistic and active (choleric). The introvert tend to be passive, careful, thoughtful, peaceful, controlled, reliable, even tempered, calm (plegmatian), moody, anxious, rigid, sover, pessimistic, reserved, unsociable and un-quite (melancholic).

For keeping this in mind, the investigator has developed Extrovert-Introvert Inventory (E-I I) for upper primary teachers for the assessment of personality patterns.
4.2.3.1. Pilot Stage

Statements to measure the extroversion and introversion were constructed and a draft pool of 42 statements was developed with a three point scale by the investigator with the help of reviewed related literatures. The extrovert-introvert statements were assigned with very much, to some extent and not at all with a weightage score of 2, 1, 0 scores for extrovert statements and with a weightage scores of -1, -2, 0 for introvert statements respectively. Care was taken to formulate 21 Extrovert statement and 21 introvert statements in a clear and concise format and free from ambiguity. The list of 21 extrovert and 21 introvert statements were given to a panel of experts consisting of teacher educators and psychologists with a request to point out the relevance.

Then the same was given to upper primary teachers for field try out. Based on the expert’s panel views, comments of teacher educators and educational psychologists and the responses of upper primary teachers, the addition and omission were made by the researcher in the statements. Finally 30 statements of 15 extroversion and 15 introversion were given importance and weightage and they were applied with reliability for finalizing of final format of Extrovert-Introvert Inventory (E-I I) and rest of the items were omitted.

4.2.3.2. Reliability of the Extrovert and Introvert Inventory (E-I I) of Upper Primary Teachers

The reliability of the Extrovert-Introvert Inventory (E-I I) is applied with split-half method. It was obtained in different formats for assuring the reliability of the developed Extrovert-Introvert Inventory (E-I I) and it is given hereunder.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Type</th>
<th>Split Half Reliability</th>
<th>Spearman Brown whole test Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Odd-even split</td>
<td>0.8567</td>
<td>0.9009</td>
</tr>
<tr>
<td>2</td>
<td>First-Second half split</td>
<td>0.8078</td>
<td>0.8987</td>
</tr>
<tr>
<td>3</td>
<td>Random 50% Rest 50%</td>
<td>0.8346</td>
<td>0.8809</td>
</tr>
</tbody>
</table>

Significant at 0.01 level

The reliabilities of the Extrovert-Introvert Inventory (E-I I) of upper primary teachers by using split-half method were positive and high (0.8567, 0.8078 and 0.8346) indicating it reliability for the investigation.
4.2.3.3. Validity of the Extrovert and Introvert Inventory (E-I I) of Upper Primary Teachers

For ascertaining the validity of Extrovert-Introvert Inventory (E-I I) of upper primary teachers, the investigator used content, face and intrinsic validities.

Content Validity

The type and nature of statements in the Extrovert-Introvert Inventory (E-I I) of upper primary teachers were validated by the panel of educationists, educational psychologists, psychologists and upper primary teachers. Their suggestions have been taken into account to enhance the contents and quality of the statements. Therefore, it can be said that Extrovert-Introvert Inventory (E-I I) of upper primary teachers developed by the researcher possesses content validity.

Face Validity

The investigator here assured that by the opinion and view of the panel of experts who are familiar with the subject content for assessing the situational stress of the upper primary teachers in Extrovert-Introvert Inventory (E-I I) of upper primary teachers do possess face validity.

Intrinsic Validity

The square root of the reliability values of the tool means its intrinsic validity. The obtained intrinsic validity of Extrovert-Introvert Inventory (E-I I) of upper primary teachers is high (0.926, 0.899 and 0.913) and possesses intrinsic validity.

4.2.4. Sampling Procedure for the Assessment of Situational Stress and Personality Patterns of Upper Primary Teachers

For the purpose of assessment of Situational Stress and Personality patterns of upper primary teachers for the experimentation of Remedial Program, the researcher adopted the following sampling procedures.

The area of the study for the assessment of situational stress and personality patterns of upper primary teachers was Thuraiyur Block of Tiruchirappalli district in TamilNadu. The Tiruchirappalli district consists of three educational districts Musiri, Lalgudi and Tiruchirappalli. For the purpose of the investigation, the researcher
selected the Musiri educational district out of three under purposive sampling. Further the investigator has chosen Thuraiyur Block in the Musiri educational district from the five blocks under the same purposive sampling technique.

In Thuraiyur Block, the researcher selected all the 200 upper primary teachers from all the 42 upper primary schools. Therefore 200 upper primary teachers in 42 upper primary schools of Thuraiyur Block of Musiri educational district in Tiruchirappalli district of TamilNadu were the respondent sample for the assessment of situational stress and personality patterns of upper primary teachers in the first phase.

4.2.5. Final Format of the Rating Scale on Situational Stress (RS-SS) and Extrovert and Introvert Inventory (E-II) of Upper Primary Teachers

The final format of the Rating Scale on Situational Stress (RS-SS) and Extrovert-Introvert Inventory (E-II) for upper primary teachers consist of three parts. In part I the personal and general information of the upper primary teachers were listed such as gender, age, community, educational qualification, subject, nature of job, monthly income, years of experience, school locality, nature of management, marital status, family status, occupation of spouse, educational qualifications of spouse, number of children, differently abled and suffering from any ailments. Before the general information a request by the researcher has been given to the respondents for explaining the purpose of study and seeking their valuable responses. In part II, 74 situational stress statements were given with five point scale such as strongly disagree, disagree, undecided, agree and strongly agree.

Followed by part II, in part III thirty personality patterns statements covering Extrovert (15 statements)-Introvert (15 statements) behaviour were given with 3 point scale such very much, to some extent and not at all.

The final format of the Rating Scale on Situational Stress (RS-SS) and Extrovert-Introvert Inventory (E-II) of Upper Primary Teachers was developed and used in the present research study is appended in appendix I.
4.2.6. Administrating of the Rating Scale on Situational Stress (RS-SS) and Extrovert and Introvert Inventory (E-I I) of Upper Primary Teachers

After selecting and conforming all the 200 upper primary teachers those who are working in Thuraiyur Block of Musiri educational district in Tiruchirappalli district as the sample of the present investigation in Phase I, the investigator has administered Rating Scale on Situational Stress (RS-SS) and Extrovert and Introvert Inventory (E-I I) of upper primary teachers for assessing situational stress and personality patterns. Before administrating Rating Scale on Situational Stress (RS-SS) and Extrovert and Introvert Inventory (E-I I) of upper primary teachers, the upper primary teachers were well explained about the purpose of the present research study. The researcher requested the upper primary teachers to go through each specific statement in Rating Scale on Situational Stress (RS-SS) and Extrovert and Introvert Inventory (E-I I) and respond properly.

Based on the assessment through Rating Scale on Situational Stress (RS-SS) the situational stress scores of upper primary teachers were calculated and classified as high, medium and low levels by using mean and ± SD.

Based on the assessment through Extrovert and Introvert Inventory (E-I I), the personality scores of upper primary teachers were calculated and classified as Extrovert, Introvert and Ambivert by using standardized scoring key developed by the investigator based on the previous researches by Examination of Personality Characteristics by Elmore and Ellett (1979), Prema (2007), Conklin (2003), Sarah Williams and Gnanadevan (2003). The classification procedure was well explained in scoring procedure heading.

Out of 200 upper primary teachers, 60 upper primary teachers who had high level of situational stress (Extrovert-26, Introvert-15 and Ambivert-19) were taken into Remedial Program experimentation for the reduction of situational stress.

4.3. Phase II: Development of Remedial Program to Upper Primary Teachers for the Reducement of Situational Stress

One of the major objectives of this investigation is to develop and experiment the Remedial Program to reduce situational stress for the upper primary teachers who had high level of situational stress.
4.3.1. Remedial Program for Reducing Situational Stress

Teaching profession is a noble job that requires specific behaviour in the classroom. Teachers need psychological and physical balance. Teachers experience a number of different pressures and stresses such as: taking work home, difficult students, difficult class, lack of administrative support, ongoing learning, teacher evaluation, social isolation, job uncertainty, integration of intelligence and technology, students and parents.

Vander Hek and Plomp (1996) stated that there are many occupational stress management programs available which are designed to prevent and cure the job stress. Programs show a considerable variation with respect to the type of interventions they promote and their underlying assumptions, as well as their duration. David (2010) found the effect of stress-distress, model and a meditational, or stress coping, model where postulated and tested with structural equation modeling procedures. The results indicated that mediation model with coping strategies mediating the effects of stressors on psychological distress. Van der Klink et al. (2001) examined quantitative meta-analysis sought to determine the effectiveness of occupational stress reducing interventions. They were included 48 experimental studies in the analysis. They finally distinguished four types of interventions such as cognitive behavioural intervention, relaxation techniques, multi model programes and organization focus interventions.

Melind Smith and Elen Jaffe (2010) suggested that the 4As for reducing occupational stress such as Avoid the stressor, Alter the stressor, Adapt to the stressor and Accept the stressor. They developed six strategies and some techniques for reducing stress reduction in the occupational settings: **Strategy # 1** – Avoid unnecessary stress- Learn how to say no, avoid the people who stress you out, take control of your environment, avoid hot button topics and pare down your to do list. **Strategy # 2** – Alter the situation-Express the feeling instead of bottling them up, we willing to compromise, be more assertive and manage time better. **Strategy # 3** – Adapt to the stressor-the reframe problem, look at the big picture, adjust the standard and focus on positive. **Strategy # 4** – Accept the things you can’t change – don’t try to control the uncontrollable, look for the upside, share your feeling and learn to forgive. **Strategy # 5** – Make time for relaxation and fun – healthy ways to relax and
recharge: walking, call a good friend, take a long bath, spend time in nature, play with pet, work in garden, listen to music, call up with good book, set aside relaxation time and learn the relaxation response. **Strategy # 6** – Adopt a healthy lifestyle – exercise, eat healthy, reduce caffeine and sugar, avoid alcohol, smoke and drugs and enough sleep.

**Gay Hendrics (2007)** suggested that dancing, conscious breathing, meditation, yoga, tai-chi, bioenergetics classes, holistic healing retreat and massage are the suitable stress reduction techniques in any occupational settings. **Sondra Ray (2008)** stated that continuing a regular practice of stress reduction techniques such as yoga, bioenergetics or meditation can help one get through busy times with one's sanity. Most people can spare at least 15-30 minutes per day to perform a short routine. **Web MD (2005)** viewed that the best way to manage stress is to learn healthy coping strategies. Stress relief techniques focusing on relaxing of mind and body. The ways for relaxing mind are: write about things that are bothering- let feelings out through talk, laugh, cry and express anger-do something for enjoyment and happiness such as hobby, gardening, crafting, writing, art, creative work, playing, caring pet and volunteer work- focus on the present-meditation and guided imagery. Ways to relaxing the body –breathing exercise, muscle relaxation, yoga, tai chi and qi gone.

**Lyndsay Swinton (2005)** suggested seven best stress reduction techniques such as acknowledge and avoid the stress, avoid sneezers, learn from the best, practice sociable acceptable heavy breathing, give stressy thought the red light, know your trigger point and hot spots and burn the candle at the one end. **Guided to stress management (2009)** listed slow deep breathing, laughter therapy, music, yoga, exercise and massage is the best two suitable methods for the reduction of situational stress. **Zig ziglar (1996)** applied cognitive restructuring modeling for the reduction of situational stress. Imagery, stability zone, meditation, performance planning, physical relaxation, building self confidence, boosting self esteem, beating self sabotage and anger management is some of the stragegies listed under cognitive restructure model.

**Martib Seligmen (1990)** identified regular healing practices, yoga, meditation, tai chi, conscious breathing, dancing, bioenergetics classes, holistic healing retreat, vocation and massage were the suitable stress reduction strategies. **American Journal of Public Health (2001)** suggested that deep breath and cognitive
Restructuring with guided imagery is the best suitable technique for stress reduction in occupational situation. **American Academy of Dermatology (2010)** identified deep breathing; progressive muscle relaxation and exercise, guided imagery, yoga, tai chi and massage therapy are applicable for the reduction of stress. **Price and Elsa (1989)** developed a remedial program for stress reduction particularly in the occupational settings. It includes cognitive restructure techniques, deep breathing exercise, muscle relaxation, cue-controlled relaxation and visual imagery. **t-gone.com (2008)** listed exercises, relaxation and meditation, time management, organizational skills and support system are the suitable strategies for reduction of stress. **Michael Jay (2008)** experimented with exercises, relaxation techniques, proper time management techniques and think positive strategy for stress reduction. **Bruna (2006)** viewed that learn to reframe, avoiding the negative environments and celebrating the strengths were more effective in reducing stress.

Considering the above all techniques strategies in the methodology of stress reduction in the occupational settings of the upper primary teachers, the investigator has planning to develop a remedial program for the reduction of situational stress in relation to personality patterns.

### 4.3.2. Development of Remedial Program for Reducing Situational Stress


The stages, modalities, conceptual formulations and mode of deliverance with certain techniques / surgeries of developed remedial program by the researcher in the present investigation are described hereunder.

The perception of four modalities as taken into consideration of the present experimentation with remedial program is implemented in four stages which are recognizable for the reductions of situational stress are:
- **Identification of Stress and Situational Stress Syndrome**
- **Cognitive Restructuring**
- **Cognitive Structuring**
- **Conformity of Positive Influences**

These four modalities are identified in remedial program for the stress reduction experimentation with the following conceptual formation.

1. **Identification of Stress and Situational Stress Syndrome**: Acknowledging and accepting the stress syndromes and stress situation in the teaching situation.

2. **Cognitive Restructuring**: Beating self sabotage, boosting self esteem, building self confidence, anger management, time management, bioenergetics, knowing limitations and reframing problems.

3. **Cognitive Structuring**: Performance planning, stress reduction practice and focusing on positive aspects.

4. **Conformity of Positive Influences**: Being aware of trigger points and hot spots, surviving to the fittest, learning to be patient, proactive in situations and willing to compromise.

The present remedial program for the reduction of situational stress of upper primary teachers recognizes the importance of mode of deliverances through certain activities / techniques such as self assessment, work sheet, rating scale and interview in stage-I. Introduction, discussion, group work, stress presentation and stress test. Imagery, guided imagery, physical relaxation techniques, exercise, meditation, breathing, conscious breathing, self assignment, identifying own strengths and weakness, plays, recreations, songs, acts, games, stress journal-diary, situational decision makings, reframe problems, exposure to real situations, task analysis, find solutions to own problems, time management, effectual scheduling and allocate jobs in stage-II. Structural equation modeling, laughter therapy, listening to music, adjust standards, pacing, away from / avoid worries, participate in hobbies, time for everyday, joint support group, avoid negative environments celebrate strengths, emotional well being, learn to reframe, manage or ignore cannot change attitude, focus outside self and consider the health benefits in stage-III and positive response, go outdoors, sense of humour, feedback, self evaluation, group evaluation, self stress and situational stress assessment in stage-IV.
With this remedial program for the reduction of situational stress of upper primary teachers is developed by the investigator for the present investigation. The developed remedial program for the reduction of situational of upper primary teachers further has been taken into field tryouts and validation for experimentation.

4.3.3. Validity of the Developed Remedial Program

Validity indicates how adequately the content of the test/experiment is sampling that domain which references are to be made (Arunachalam, 2004; Gopal, 2010; Vijayan, 2011 and Moorthy, 2011). The developed Remedial Program for the upper primary teachers to reduce situational stress possesses content and face validity.

Content Validity

Content validity show how adequate of the content of the Remedial Program for the upper primary teachers to reduce situational stress. A logical examination of content and presentation of the Remedial Program for upper primary teachers was assured by the panel of experts from education, psychology, educational psychology and clinical and social psychology. Their suggestions were incorporated to enhance the content and quality of Remedial Program for the upper primary teachers. The views of the panel of experts, the changes made in the content, coverage, format, implementing strategy etc in the developed remedial program by the investigator. Therefore the developed Remedial Program is said that the technique of Remedial Program for upper primary teachers to reduce situational stress used in this research investigation possesses content validity.

Face Validity

Face validity refers to the way the developed Remedial Program for upper primary teachers to reduce situational stress looks to the educationists, psychologists, educational administrators, teacher educators and upper primary teachers and the like. The researcher assumed that the developed Remedial Program for upper primary teachers to reduce situational stress used in the present investigation possesses face validity by the opinion of the said experts who are familiar with the development and use of Remedial Program of situational stress.
The developed and validated Remedial Program for upper primary teachers to reduce situational stress and enhance personality patterns of the present research study by the researcher is appended as *appendix II*.

The final validated methodologies and techniques with suitable strategies of the developed Remedial Program for reducing situational stress for upper primary teachers is presented diagrammatically hereunder.
## Developed Remedial Program for Situational Stress of Upper Primary Teachers

<table>
<thead>
<tr>
<th>Stages</th>
<th>Modalities</th>
<th>Objectives</th>
<th>Activities</th>
</tr>
</thead>
</table>
| **Stage I**<br>(2 weeks) | **Identification of Stress and Situational Stress** | • Acknowledging  
• Addressing  
• Accepting  
• Knowing Problems and Limitations | ➢ Introduction  
➢ Discussion  
➢ Group work  
➢ Stress presentation  
➢ Stress test |
| **Stage II**<br>(4 weeks) | **Cognitive Restructuring** | • Behaviour Modification  
• Beating Self Sabotage  
• Boosting Self Esteem  
• Building Self Confidence  
• Anger Management  
• Time Management  
• Reframing Problems | ➢ Imagery  
➢ Guided Imagery  
➢ Physical Relaxation Techniques - Exercise, Meditation, Breathing, etc  
➢ Conscious Breathing  
➢ Tasks and Time Constraints – Self Assignment  
➢ Acquit Self - Identifying Own Strengths and Weakness  
➢ Pro-active: Plays, Recreations, Songs, Acts, etc.  
➢ Team work - Games, Small Projects etc.  
➢ Stress journal - Diary  
➢ Express Feelings - Oral and Written  
➢ Willing to Compromise - Situational Decision Makings, Judgments, etc.  
➢ More Assertive - Organizing Works and Activities  
➢ Reframe problems - Oral and Written in Group  
➢ Connect with Others - Team and Group Works, Play, Recreational Activities  
➢ Guided imagery-see, hear, smell, feel and taste - Exposure to real situations  
➢ Task analysis - Find Solutions to own problems in Group and Individually  
➢ Time management  
➢ Effectual scheduling  
➢ Allocate jobs |
### Progressive Assessment

<table>
<thead>
<tr>
<th>Stage III (6 weeks)</th>
<th>Cognitive Structuring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Performance Planning</td>
</tr>
<tr>
<td></td>
<td>• Behaviour Modification</td>
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<tr>
<td></td>
<td>• Focus on Positive</td>
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<tr>
<td></td>
<td>• Constructive Thinking</td>
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<tr>
<td></td>
<td>• Stress Reduction Practice</td>
</tr>
<tr>
<td></td>
<td>➢ Structural equation modeling</td>
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<tr>
<td></td>
<td>➢ Slow deep breathing</td>
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<td></td>
<td>➢ Laughter therapy</td>
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<tr>
<td></td>
<td>➢ Listening to music</td>
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<td></td>
<td>➢ Exercise</td>
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<td></td>
<td>➢ Physical relaxation techniques</td>
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<tr>
<td></td>
<td>➢ Adjust standards</td>
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<tr>
<td></td>
<td>➢ Pacing</td>
</tr>
<tr>
<td></td>
<td>➢ Away from/Avoid worries</td>
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<tr>
<td></td>
<td>➢ Participate in hobbies</td>
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<td></td>
<td>➢ Time for everyday</td>
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<td></td>
<td>➢ Joint support group</td>
</tr>
<tr>
<td></td>
<td>➢ Avoid negative environments Celebrate strengths</td>
</tr>
<tr>
<td></td>
<td>➢ Spiritual and emotional well being</td>
</tr>
<tr>
<td></td>
<td>➢ Learn to reframe</td>
</tr>
<tr>
<td></td>
<td>➢ Manage or ignore cannot change attitude</td>
</tr>
<tr>
<td></td>
<td>➢ Focus outside self</td>
</tr>
<tr>
<td></td>
<td>➢ Consider the health benefits</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage IV (3 weeks)</th>
<th>Conformity of Positive Influences</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Aware of Trigger Points and Hot Spots</td>
</tr>
<tr>
<td></td>
<td>• Surviving to the Fittest</td>
</tr>
<tr>
<td></td>
<td>• Learning to be Patient</td>
</tr>
<tr>
<td></td>
<td>• Proactive in Situations and Willing to Compromise</td>
</tr>
<tr>
<td></td>
<td>➢ Positive response</td>
</tr>
<tr>
<td></td>
<td>➢ Go outdoors</td>
</tr>
<tr>
<td></td>
<td>➢ Sense of humour</td>
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<tr>
<td></td>
<td>➢ Feed Back</td>
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<td></td>
<td>➢ Self Evaluation</td>
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<tr>
<td></td>
<td>➢ Group Evaluation</td>
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<tr>
<td></td>
<td>➢ Self Stress and Situational Stress Assessment</td>
</tr>
</tbody>
</table>

#### Post Assessment

**Retention Stage Assessment (End of 19th Week)**
4.4. Phase III: Experimentation of the Developed Remedial Program for Upper Primary Teachers to Reduce Situational Stress

John W. Best (1977) expressed that the experimental group method finds its greatest utility in the laboratory; it has been effectively applied within non-laboratory settings such as the classroom, where significant factors or variables can be controlled to some degree. James and Sally (1984) quoted that a term for research that approximates the true experiment type is called Quasi-Experimental research. The purpose of the method is the same to determine cause and effect, but there is no randomization of subjects and control over the factors that might influence the results is not absolute. It can be used to determine the effect of curricular materials or teaching methods.

Further the recent research experimentations in educational psychology done by the researchers (Arunachalam, 2004; Gopal, 2010; Vijayan, 2011 and Moorthy, 2011) were also adopting Single Quasi Experimentation in the Indian context particularly in Tamil Nadu.

Keeping this in mind, the investigator has opted Single Quasi Experimentation for ensuring the effectiveness of the developed Remedial Program for the upper primary teachers to reduce situational stress.

In Phase III, the investigator administrated the developed Remedial Program as experimentation to reduce situational stress of upper primary teachers who possessed high level of situational stress.

The researcher administered the Rating Scale on Situational Stress (RS-SS) and Extrovert and Introvert Inventory (E-I I) to 200 upper primary teachers in phase I, out of which 60 upper primary teachers(Extrovert-26, Introvert-15 and Ambivert-19) have been identified for experimentation since they had high level of situational stress.

Out of 200 upper primary teachers, 60 (Extrovert-26, Introvert-15 and Ambivert-19) upper primary teachers who had high level of situational stress were taken into Remedial Program experimentation for the reducement of situational stress.

The investigator explained the procedure and method of usage of the developed Remedial Program experimentation to 60 selected upper primary teachers (Extrovert-26, Introvert-15 and Ambivert-19) who possessed high level of situational stress.
The investigator has experimented with the developed Remedial Program to the 60 selected upper primary teachers who possessed high level of situational stress (Extrovert-26, Introvert-15 and Ambivert-19) in a period of 15 weeks duration, consists of 30 sessions in 60 hours duration (2 sessions for a week: 2 hours per session) to complete the Remedial Program experimentation. The researcher acted as a facilitator during the Remedial Program experimentation of 30 sessions in 15 weeks.

Before Remedial Program experimentation to the selected 60 upper primary teachers (Extrovert-26, Introvert-15 and Ambivert-19), the scores of situational stress and personality patterns from the initial identification have been taken as pre identification scores of situational stress and personality patterns of upper primary teachers.

While implementing the Remedial Program experimentation a progressive identification of situational stress as done by the investigator at the end of the seventh week and before eighth week of the experimentation. After the completion of the experiment a post identification of situational stress and personality patterns was done by the investigator in the 16th week.

In addition to these after completion of 4 weeks duration of remedial program experimentation, a retention stage identification of situational stress was conducted by the researcher for ensuring the retention effect of the developed remedial program to 59 selected upper primary teachers.

The developed and validated Rating Scale on Situational Stress (RS-SS) of Upper Primary Teachers by the researcher has been used as pre, progressive, post and retention stages of identification of situational stress and Extrovert and Introvert Inventory (E-I I) of upper primary teachers by the researcher has been used as pre and post identification of personality patterns for the present research study and it was teacher educator made one.

4.5. Scoring Procedure

The Rating Scale on Situational Stress (RS-SS) for the identification of situational stress developed by the investigator consisted of 74 situational stress statements which were assigned a rating of 5 point scale such as strongly disagree, disagree, undecided, agree and strongly agree with a weightage score of 5, 4, 3, 2 and 1 respectively. The negative statement items (47) were scored reversely.
The Extrovert and Introvert Inventory (E-I I) used by the investigator consisted of 30 personality behaviour statements which were assigned a rating of very much, to some extent and not at all with a weightage score of 2,1,0 scores for extrovert statements and with a weightage scores of -1, -2, 0 for introvert statements respectively.

The norms for the test were determined on the basis of the differences found between the extraversion score and the introversion scores. The lowest difference between these two scores is +30 or -30 and the average is +15. The researcher has taken a score of -15 and below as the norm for introverts, and any score falling between -14 and +14 is the norm for ambiverts.

<table>
<thead>
<tr>
<th>Difference Score</th>
<th>15 and above</th>
<th>Extrovert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference Score</td>
<td>15 and below</td>
<td>Introvert</td>
</tr>
<tr>
<td>Difference</td>
<td>-14 to +14</td>
<td>Ambivert</td>
</tr>
</tbody>
</table>

In the inventory, the statements numbered 1, 3, 5, 7, 8, 10, 11, 13, 15, 17, 19, 22, 23, 28, and 30 are extraversion and all other statements stand for the characteristics of introversion.

4.6. Locale of the Study

Tiruchirappalli also called Tiruchi or Trichy is the city in the Indian State of Tamil Nadu of the administrative head quarters of Tiruchirappalli district situated at the distance of 325 Km south of Chennai and 402 Km north of Kanyakumari on the NH-45, it is located almost at the geographic centre of the state.

Tiruchirappalli district is located along the Cauvery River in TamilNadu. It is bounded in the North West by Namakkal district in the north east by Perambalur district in the east by Thanjavore district, in the south east by Pudhukkottai district, in the south east by Madhurai and Sivagangai district in the south west by Dindukkal district and in the west by Karur district.

The locale of the present investigation is Tiruchirappalli district. The Woraiyur, the ancient capital and a part of present day Tiruchirappalli was ruled by Cholas (A.D. 300-575). Later Mahendravarma pallava I ruled Tiruchirappalli (A.D 590-880). In A.D. 1225 it was ruled by the Hoysulas. Afterwards, it came under the rule of later Pandias till the advent of Mughal rule. The Nayaks, the Governors of
Vijayanagar empires ruled Tiruchirappalli till A.D. 1736 and it came to an end during the days of Queen Meenakshi. Finally the British brought Tiruchirappalli under their control. Soon after the Tiruchirappalli ceded to East India Company as per the agreement of the eve of kanatic war, Tiruchirappalli district was formed under the collectorship Mr. John (Junior) Wallece in 1801. The district was then under the hegemony of British for about 150 years till the independence.

The Tiruchirappalli district is situated between 10 – 11.30’ north altitude and between 77 – 45’ to 78 – 50’ east longitude. The area of the Tiruchirappalli district is 4,403.83 Sq.Km. The population of Tiruchirappalli district as per 2011 census is 2,713,858. The literacy rate is 79.62%. The temperature of the district falls between 40.2º to 15.0º c.

The Tiruchirappalli district has 3 revenue divisions namely Tiruchirappalli, Lalgudi and Musiri and 8 revenue taluks with 41 revenue firkas and 507 revenue villages. In addition to that it has one corporation, 3 municipalities, 14 panchayat unions, 17 town panchayats and 408 village panchayats have coming under this district.

In Tiruchirappalli district there are 2 universities, 22 arts and science colleges, one medical college, 12 engineering colleges, 20 teacher training colleges, one agricultural college, one law college and one special education college under higher education purview.

Under school education 1105 primary schools, 302 middle schools, 96 high schools, 126 higher secondary schools and 5 teacher training institutes are functioning under three educational districts namely Tiruchirappalli, Lalgudi and Musiri.

4.7. Sampling Procedure

For the purpose of the assessment of situational stress in relation with personality patterns of upper primary teachers and experimentation with the developed remedial programme for the identified upper primary teachers who had high situational stress with introvert personality and high situational stress with extrovert or ambivert personality, the investigator adopted the following sampling procedures in two stages.
Sampling - I

The area of the study for the assessment of situational stress and personality patterns of upper primary teachers was Thuraiyur Block of Tiruchirappalli district in TamilNadu. The Tiruchirappalli district consists of three educational districts Musiri, Lalgudi and Tiruchirappalli. For the purpose of the investigation, the researcher selected the Musiri educational district out of three under purposive sampling. Further investigator has chosen Thuraiyur Block in the Musiri educational district from the five blocks under the same purposive sampling technique. In Thuraiyur Block, the researcher selected all the 200 upper primary teachers from all the 42 upper primary schools. Therefore 200 upper primary teachers in 42 upper primary schools of Thuraiyur Block of Musiri educational district in Tiruchirappalli district of Tamilnadu were the respondent sample for the assessment of situational stress and personality patterns of upper primary teachers in the first phase.

Sampling - II

Out of 200 upper primary teachers who had high level of situational stress (Extrovert-26, Introvert-15 and Ambivert-19) were taken into Remedial Program experimentation for the reducement of situational stress. Finally out of 200 upper primary teachers 60(Extrovert-26, Introvert-15 and Ambivert-19) were constituted the sample for the phase-II and taken into Remedial Program experimentation.

4.8. Data Collection

Thus the data formulated for the present study have been collected in the following stages.

The Rating Scale on Situational Stress (RS-SS) and Extrovert and Introvert Inventory (E-I I) was administered to the sample of 200 upper primary teachers in Phrase – I. Thus the data are formulated for the present investigation in the first stage.

In Phase-III, the investigator implemented the developed remedial programme to the chosen 60 upper primary teachers (Extrovert-26, Introvert-15 and Ambivert-19) who had high situational stress. Before, during and after remedial programme experimentation with chosen 60 upper primary teachers, a pre, progressive, post and retention stages of assessment have been conducted by the investigator with Rating
Scale on Situational Stress (RS-SS). Before and after remedial programme experimentation with chosen 60 upper primary teachers, a pre and post assessment have been conducted by the investigator with Extrovert and Introvert Inventory (E-I I). Thus the data formulated for the present investigation are given in the next stage.

4.9. Statistical Techniques used in the Study

The data thus obtained were analyzed by using appropriate statistical techniques.

In descriptive analysis, the number, mean, percentage and standard deviation have been calculated.

t-test, F-test, Chi-square test, co-relational test and step by step multiple regression test have been applied in differential analysis.

The SPSS-12-0 has been applied to compute all calculation for this investigation.

The result and discussions are followed in the next chapter-V.