CHAPTER IV
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CHAPTER IV

METHODOLOGY

The objective of the present study is to test the impact of Secular Meditation on Emotional Intelligence and Mood States of secondary school students. This chapter aims to present all methodological aspects required for planning and designing a research.

Accordingly a methodological framework indicates only the broad captions that provide scope for further explanations is outlined as follows

- Methods adopted
- Participants
- Instruments employed
- Procedure adopted
- Statistical techniques employed

4.1 Methods adopted for the study

The topic selected for the study envisages the enhancement of emotional intelligence and regulation of mood states of secondary school students. The investigator, for this purpose, prepared a Secular Meditative Package which integrates different meditative practices like Meditation by dance, music, drawing and walking. Experimental method was found suitable for a study which expects to reveal the adequacy of Secular Meditation. It is recognised as the most appropriate method for drawing causal conclusions about instructional interventions. In the present study investigator has taken up Non-Equivalent Pretest-Posttest Control Group Design for the experiment. Before conducting the experiment, a survey was conducted to collect the reports of Guidance and Counselling from schools in order to assess the present status of students’ emotional conditions. The major approaches used for collecting data are listed below.

4.1.1 Quantitative approaches

The tools (i) Mood State Inventory and (ii) Emotional Intelligence Scale will be prepared in order to assess the two variables Mood State and Emotional Intelligence.
4.1.2 Qualitative approaches

- Analysing reports of Guidance and Counselling programs in secondary schools of Kottayam and Idukki districts.
- Survey of relaxation practices followed in different schools of Kottayam and Idukki districts.
- Focus group discussion in terms of selecting the visuals and audio for experimentation.

4.1.3 Design of the study

4.1.3.1 Pilot survey

The pilot survey will be conducted in various secondary schools of Kottayam and Idukki districts to collect the Guidance and Counselling reports from the schools for the purpose of evaluating the present status of students in their emotional conditions. The investigator analysed the details of 150 secondary school students in various schools of Idukki and Kottayam districts by using the Guidance and Counselling reports collected from those schools. The investigator also assessed the different types of practices given in addition to the academic activities in the same schools (practices like dance, music, drama and other relaxation activities). The survey was extended to observe and evaluate the relaxation practices presently followed in schools.

4.1.3.2 Experimental design

While finalizing the research design, the investigator has taken into account various factors viz. the purpose of investigation, the nature of variables to be studied and the conditions under which experiment has to be conducted. In this study the design selected was Quasi Experimental Design in which Pretest Posttest Non-Equivalent Group Design was selected for conducting the experiment. An experiment is essential to test the effectiveness of Secular Meditation which is a strategy that was not so far experimentally proved for its effectiveness in practising different modes of meditation. The design proposed by Best and Kahn (2008), was selected and modified to test the effectiveness of Secular Meditation on variables of Emotional Intelligence and Mood States. The modified design is presented in Figure 4.1.
The design is symbolically represented as

<table>
<thead>
<tr>
<th>Groups</th>
<th>Pretests</th>
<th>Post tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>O₁, O₃</td>
<td>O₂, O₄</td>
</tr>
<tr>
<td>C</td>
<td>O₅, O₇</td>
<td>O₆, O₈</td>
</tr>
</tbody>
</table>

E → Experimental group  X₁ → Experimental treatment
C → Control group      X₂ → Conventional practices
O₁, O₃, O₅, O₇ → Pretests   O₂, O₄, O₆, O₈ → Posttests

*Figure 4.1. Schematic representation of Pretest Posttest Non-Equivalent Group Design (modified).*

It is true that an experiment if done in equated groups would have been more acceptable and reliable. But if the experiment is with human beings, it would be cumbersome to constitute two equated groups by selecting the subjects matched for all variables except the experimental ones. Since the statistical techniques like ANCOVA helps to calculate the posttest mean scores adjusted for pretest scores, the experiment can be done in intact, if not in non-equivalent groups. So the investigator decided to select intact classroom groups for the experiment.

The group exposed to experimental treatment was the intervention group and the other group exposed to routine practices forms the control group. To compensate for the lack of equivalency between the two groups the investigator has applied the technique of Analysis of Covariance (ANCOVA). At first the pretest was administered among the selected groups and subsequently they were randomly assigned to the experimental procedure.

**4.2. Variables of the Study**

In this study independent and dependent variables play a vital role. In experimental studies the condition or the strategy that is varied is referred to as the independent variable and the effect of strategy is the dependent variable.
4.2.1 Independent Variables

In the present study two independent variables were selected. They are the
(i) Secular Meditation
(ii) Relaxation Practices.

- Secular Meditation Package which encompasses four different modules like
  a. Module 1-- Meditation by Dance,
  b. Module 2-- Meditation by Music
  c. Module 3-- Meditation by Drawing
  d. Module 4-- Meditation by Walking.

- Routine Relaxation Practices

4.2.2 Dependent variables

The problem of the study is how students’ Mood States and Emotional Intelligence can be regulated and made stable. In other words both variables referred to the problem are to be regulated. So they are identified as two dependent variables of the study. In the present study Mood States and Emotional Intelligence were selected as the dependent variables. The variables thus sorted out are presented in Table 4.1.

Table 4.1.

*Variables identified for the experiment*

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Secular Meditation</strong></td>
<td>1. Emotional Intelligence</td>
</tr>
<tr>
<td>1. Mediation by dance</td>
<td>2. Mood State</td>
</tr>
<tr>
<td>2. Mediation by music</td>
<td>a. Positive Mood State</td>
</tr>
<tr>
<td>3. Mediation by walking</td>
<td>b. Negative Mood State</td>
</tr>
<tr>
<td>4. Mediation by drawing</td>
<td></td>
</tr>
<tr>
<td><strong>Routine Relaxation Practices</strong></td>
<td></td>
</tr>
<tr>
<td>1. Sublimation</td>
<td></td>
</tr>
<tr>
<td>2. Story narrating</td>
<td></td>
</tr>
<tr>
<td>3. Playing…</td>
<td></td>
</tr>
</tbody>
</table>
4.3 Tools to be prepared for the study

In the present study there are several variables that have to be considered when the effectiveness of variables is dealt with. The strength of this research depends on the group of strategies already adopted in schools for regularising students’ Emotional Intelligence and Mood States. Before starting to find out the effectiveness of Secular Meditation package, a tool which is expected to bring in sufficient data that will help to identify the need and significance of new strategies for the enhancement of Emotional Intelligence and Mood States of students has to be constructed.

4.4 Research plan

The research plan of the study is schematically presented below
Methodology

Duration of experimentation
8 Weeks
Posttest on EI and MS
Analysis of data → Interpretation of data
Statistical procedures
ANOVA, ANCOVA, t-test

Figure 4.2. Flow chart showing Research Plan
EI- Emotional Intelligence
MS- Mood States

4.5 Description of tools and techniques

In the present study the investigator developed tools like Emotional Intelligence rating scale, Mood State Inventory and Secular Meditation Package.

4.5.1 Planning and preparation of the Secular Meditation Package

The investigator collected information from various schools of Idukki and Kottayam about the meditative practices arranged in those schools. By analysing the practices followed in schools, it was observed that relaxation practices were not conducted regularly for the entire students in each school. In almost all government and government aided institutions, no relaxation practices were included in their time table. In such schools some students take the initiative of practising drama, dance, music and the like with a view to participating in Youth Festivals. Based on the analysis of the existing practices, the investigator realized that a new practice of meditation i.e. Secular Meditation could be beneficial.

4.5.1.1 Preparation of the Secular Meditation Package

The existing strategies practised in schools serve for competition in youth festivals and the like. But the objective of the present study is to regulate students’ Emotional Intelligence and their Mood States, so as to enable them to concentrate on their learning. Most of the practices adopted in schools do not help achieve the objective of the study undertaken. These practices are either sectarian or time consuming. The investigator does not rule out the possibility of helping students for balanced Emotional Intelligence and relaxed Mood States. Thus Yoga has been adopted in educational institutions. Yoga needs hours of practice. A daily practice of 10 minutes is acceptable by authorities as well as society.

The investigator after much consultation with experts and the Guide selected the following forms of meditation which are considered secular and easy to practice in schools.

- Secular Meditation Package constitutes the following modules:
  a. Module 1-- Meditation by Dance,
  b. Module 2-- Meditation by Music
  c. Module 3-- Meditation by Drawing
  d. Module 4-- Meditation by Walking
The dance and music background of the investigator motivated her to incorporate these techniques in the meditative practice. Neuroscience studies on music and emotion show that activity in each and every limbic and paralimbic brain structures can be modulated by listening to music, in both musically trained and untrained individuals (Peretz & Zatorre, 2005). The results from music therapy studies indicate that small effects are seen after 3 to 10 sessions; medium effects are achieved after 10 to 24 sessions and large effects after 16 to 51 sessions (Gold, Solli, Krüger & Lie, 2009). According to Dossey, Keegan, Guzzetta & Kolkmeier, 1995, the results furthermore indicated that a single music therapy session was effective in reducing anxiety and promoting relaxation. Although 20 minutes is thought to be an adequate period of time to induce the relaxation response, empirical evidence suggested that single session music therapy can be clinically effective despite its limited duration (Silverman & Beech, 1984; Tudiver, Myers, Kurtz, Orr, Rowe, Jackson, & Bullock, 1992; Zhu, Stretch, Balabanis, Rosbrook, Sadler & Pierce, 1996; Listening to music enhances cognition and learning (Rauscher, Robinson & Jens, 1998, 1993).

Dance meditation is a unique integrated movement meditation system for self discovery, healing and evolution through the cultivation of embodied awareness and recentness. Walking, a readily available form of exercise is advocated by many health authorities as a beneficial activity that can be incorporated into everyday lifestyles (Ekkekakis, Hall, & VanLanduyt, 2000; Thayer, 1996, 2001). Walking meditation (WM) is an activity belonging to the Vipassana School of meditation and is a practice of Buddhism. It consists of pacing out a predetermined path, which is flat usually about 25 paces in length. The pace of each step is slightly slower than a normal walking pace but each step is more purposeful. Drawing is a popular and fundamental means of public expression throughout the human history. It is believed that drawing was used as a special form of communication before the invention of the written language demonstrated by the products of cave and rock paintings created by Homosapiens around 30,000 years ago (Trevert, 2012). In drawing and dance mandalas are given more importance. Mandalas are used during the Vedic period as symbolic representations of cosmos and when brought in to one’s own mind through meditation, they were said to enliven powerful energies (Schwig, 2005). A Mandala is a geometric design that starts with a dot. Mandala means “circle” in Sanskrit. Triangles, squares and circles are geometrical designs in which Triangles for
geometrical wisdom, squares for the 4 Directions and circles for deity perfection. This pattern can be seen in all the life around us: flowers, water, the sky, the universe. The design of a circle with a centre (the atom is a mandala) and the creation around it brings us to a realization of perfection in all natural creations. All these sets of information enabled the investigator to formulate a Secular Meditative Package which encompasses dance, music, drawing and walking.

Each technique in the Secular Meditation package was developed in five different phases as follows:

**4.5.1.2 Phases of the Practice of Secular Meditation Package**

The treatment involves five phases, they are-

**Orientation phase**

In order to bring the mental set up of the students to receive the new skill/strategy, the investigator used diverse situations using beautiful visuals like rainy day, blossoming of buds etc were shown to the participants to energise their mind. In the case of certain meditative strategies, visuals of different dance forms, music of different instruments, pictures of different objects etc; were also used for the same purpose mentioned earlier.

**Presentation phase**

In this phase, the investigator explains and demonstrates the particular strategy. It is helpful to convey the information both orally and visually. Visual presentation may help the participants as a reference in the early stages of learning different meditative techniques. In meditation by dance visuals of different dance forms are shown on each day of training. In meditation by drawing visuals of different pictures are shown for initial practice. In meditation by walking, different documentaries and videos showing the beauty of nature are shown to the students. In meditation by music the sound and photographs of different musical instruments are shown to the students to energise their mind. After this procedure, the investigator demonstrates the particular meditative technique to the prescribed time duration.

**Structured practice phase**

The trainer (the investigator) led the students through practice to give feedback to students’ actions to reinforce accurate actions and to correct errors. In this phase the trainees should ensure that students (participants) understand the particular training strategy. So that they can use it as a resource during the time they practice the strategy independently.
Guided practice phase

The trainer decides the particular type of movements or actions to be completed within the speculated time. Time duration is fixed in this phase. The trainer monitors the students’ actions and provides feedback when necessary.

Independent practice phase

Provide sufficient time for students to practise the different secular meditation techniques independently. Independent practice is allowed when students have achieved an accuracy level of 80-85% in performing each meditative technique. The independent practice ensures retention of each meditative technique. It is a sort of homework that students can practice on their own. The trainer/investigator’s role in this phase is to make sure that the independent practice work is reviewed, soon after the completion by analysing the information recorded in the timetable chart given to them. This helps to assess whether the students practise it regularly even if they were not guided. This also helps to provide corrective feedback for those who need it. The students were instructed to practise dance meditation, music meditation and walking meditation before lunch and drawing meditation before bed time.

The phases of practising Secular Meditation are diagrammatically presented below.

Figure 4.3. Flowchart showing phases of practising Secular Meditation
Different secular meditative techniques were practised by different practitioners under different meditative groups. The investigator made a thorough analysis of these different techniques and focuses the attention to those techniques which are not commonly practised and are of special interest to the investigator. The music and dance background motivated the investigator to choose these techniques for meditative practice along with meditation by drawing and meditation by walking. The music selected for meditation was initially administered to a sample of 35 M.Ed students of Mangalam College of Education at Ettumanoor. Different types of music like instrumental music, music with lyrics etc., were given each day for duration of 10 minutes. Finally music without lyrics was selected because if music with lyrics was given, students may focus their attention to analyse the meaning of the lyrics that will distort their mind. For meditation by dance different dance movements like fast, rhythmic, flowy, wavy and also different postures in different dance forms were selected for initial try out. Finally dance with flowy, rhythmic and wavy movements was selected for experimentation. For meditation by drawing and walking only, duration for practice was tested initially and types of drawing techniques were also tested for final selection to the experimental package.

During the time of implementation, the investigator adopted focus group discussion, observation, and the interview along with the practice in order to identify the strength and weakness of each technique.

The different phases through which Secular Meditative Package were given are detailed below:

4.5.1.3 The phases of Secular Meditation

Phase I

Orientation

Visuals of different musical instruments, dance forms, drawing patterns, nature related documentaries were shown to the experimental group each day in order to energise the mind.
Phase II

Presentation

Different secular meditative practices like meditation by drawing, meditation by music, meditation by dance, and meditation by walking were presented by the investigator in alternate weeks. In the case of meditation by dance and meditation by music, the investigator demonstrated the types of movements and played the type of music required in each technique to the same group in specific intervals.
Phase III

Structured Practice Phase

In structured practice phase the investigator demonstrated the way to practise different techniques of secular meditation like meditation by dance, music, drawing and walking. The errors observed were corrected while practising the techniques.
Phase IV

Guided Practice Phase

In guided practice phase time limit was fixed for practising each technique. Ten minutes were fixed for each technique. After practice, participants performed quiet meditation. Students sat comfortably and did breathing exercise. Then they took breath in and out evenly. In the Reflection stage individuals shared their personal experiences.
Phase V

Independent Practice Phase

Follow up: students were instructed to do different secular meditative techniques at home at comfortable time, for 10 minutes. They were asked to record the experience (what they felt) in the time table chart given to them. Schematic representation of phases of Secular Meditative Package is shown below.

*Figure 4.4. Schematic representation of phases of Secular Meditation Package*
The phases of experimentation based on different modules of Secular Meditation given independently are detailed below:

4.5.1.3.1 Meditation by Dance

Phase I
Orientation
Energising

Different dance forms and postures were introduced each day of the experimentation for preparing the mind.
Stretching exercises,

Phase II
Composure

Simple wavy and flowing movements using hands and legs were demonstrated for meditation.

Rejuvenation
Repeated and connected movements.

Phase III
Quiet meditation: Students sat comfortably and did breathing exercise. Then took a breath in and out evenly.

Phase IV
Reflection: Individuals shared their personal experience.

Phase V
Follow up: students were instructed to do meditation by dance before supper at home, for 10 minutes. They were asked to record the experience (what they felt) in the time table chart given to them.

Schematic representation of phases of Meditation by Dance
**Figure 4.5.** Schematic presentation of Meditation by Dance

### 4.5.1.3.2 Meditation by music

**Phase I: Identification**

Different musical instruments and the corresponding music were introduced each day of the experimentation for five minutes for preparing the mind of the participants.

**Phase II: Awareness**

Relaxation music was played for meditation. The participants were asked to identify even the subtle sounds in the music during the course of practice.
Phase III: Quiet meditation
Students sat comfortably and did breathing exercise. Then they took a breath in and out evenly.

Phase IV
Reflection: Individuals shared their personal experience about the effect of relaxation music played to them.

Phase V
Follow up: Students were instructed to do meditation by music at home before going to sleep, for 10 minutes. They were asked to record the experience (what they felt) in the time table chart given to them.

Schematic representation of phases of Meditation by Music

---

Figure 4.6. Schematic presentation of Meditation by Music
4.5.1.3.3 The phases of meditation by drawing is detailed below

Phase I
Orientation

Visuals of different drawings were shown to the experimental group for preparing the mind.

Phase II
Meditation by drawing: Students drew the picture based on Mandalas on the paper given to them.

Phase III
Quiet meditation: Students sat comfortably and did breathing exercise. Then they took a breath in and out evenly.

Phase IV
Reflection: Individuals shared their personal experience.

Phase V
Follow up: Students were instructed to do drawing meditation for 10 minutes at home before going to sleep. Recorded the experience (what they felt) in the time table chart given to them.

Schematic representation of phases of module: 1 Meditation by Drawing is given in Figure 4.7.
**Methodology**

**Figure 4.7. Schematic presentation of Meditation by Drawing**

**4.5.1.3.4 Meditation by walking**

**Phase I**

**Orientation**

Different nature related documentaries were shown each day of the experimentation for preparing the mind.

**Phase II**

- **Gentle breathing**: Before starting to walk, participants were asked to concentrate on the breath.
- **Walking**
  During walking, the leg movements were counted along with concentration on rhythm of breath for meditation (inspire and expire).

**Phase III**

**Quiet meditation**: Students sat comfortably and did breathing exercise. Then they took a breath in and out evenly.

**Phase IV**

**Reflection**: Individuals shared their personal experience.

**Phase V**

**Follow up**: students were instructed to do meditation by walking at any convenient time at school and home for 10 minutes. Recorded the experience (what they felt) in the time table chart given to them.

Schematic representation of phases of Meditation by Walking

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*Figure 4.8. Schematic presentation of Meditation by Walking*
4.5.1.4. Pilot Study of the Secular Meditation Package

All the techniques given in the package were tested for a small group of 50 students in Sree Vidyadhi Raja HSS at Ettumanoor. The investigator with the help of a trainer in meditation implemented the techniques in specific time intervals. The response of the participants was thoroughly analysed and made necessary changes in the package before final administration.

Focus group discussion

The response of students to the visuals and videos, different dance movements, selected music were analysed and shown in Table 4.2

Table 4.2.

Responses of focus group

<table>
<thead>
<tr>
<th>Meditation by dance</th>
<th>Meditation by music</th>
</tr>
</thead>
<tbody>
<tr>
<td>Videos</td>
<td>Yes</td>
</tr>
<tr>
<td>Classical dance forms</td>
<td>6</td>
</tr>
<tr>
<td>Sufi dance</td>
<td>3</td>
</tr>
<tr>
<td>Vigorous and fast dance</td>
<td>6</td>
</tr>
<tr>
<td>Mudras in dance and their interpretations</td>
<td>8</td>
</tr>
<tr>
<td>Aerobics</td>
<td>6</td>
</tr>
<tr>
<td>Nature related videos</td>
<td>9</td>
</tr>
</tbody>
</table>

By considering the suggestions and opinions of the participants the types of dance movements and types of music were selected for administration among the target sample. In drawing and walking, the visuals and documentaries required for the energizing phase were selected according to the suggestions and opinions of the focus groups.

4.5.2 Mood State Inventory

With the help of research supervisor the investigator prepared Mood State Inventory. This Inventory was prepared on the basis of concept of Mood States defined by Mc Nair (1971), Terry & Lane (2003) and Watson & Clerk (1985). They identified bipolar dimensions of mood states. In the present study both positive and negative mood states were considered for constructing the inventory.
4.5.2.1 Planning and Preparation of test items of Mood States Inventory

As a preliminary step, the item for the draft mood state inventory was prepared after a thorough review of relevant literature, different tools like test and inventory based on mood states. It has been observed that most of the tools are based on either positive or negative mood state. But in the present study mood state incorporates both positive and negative mood states. The investigator referred Profile of Mood States, (Mc Nair, 1971), Brunel Mood Scale (Terry and Lane, 2003) and PANAS scale (Watson and Clark, 1985) for preparing the present tool for secondary school students. The suggestions and opinion of experts in the field of psychology were also taken into consideration for preparing the tool.

4.5.2.2 Preparation and standardisation of Mood State Inventory

The investigator prepared sixty eight items for the initial draft of the inventory. The inventory constitutes both positive and negative mood states. Of the different mood states, three positive mood states like serene state, excited state relaxed state and negative mood states like aggression, anxiety and depression were selected for preparing the tool. Then it was subjected to evaluation for expert opinion. The investigator also analysed available tools, books, periodicals, internet resources and other descriptive materials for preparing the tool. The valuable remarks given by the experts helped the investigator to modify the ambiguous items. Then the total number of items was reduced to sixty five. Ten to twelve items were prepared under each mood state. The initial draft of the inventory with sixty five items was administered to 120 students of different secondary schools of Kottayam district. In the sixty five statements due representation was given to both positive and negative mood states. The investigator was very particular in fixing the time for completing the Mood States Inventory. The time limit for completing the initial draft of the Inventory was 15 minutes.

The distribution of items under positive and negative mood states is presented below:
Table 4.3.

*Distribution of Items under Positive and Negative Mood States*

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Mood States</th>
<th>Dimensions</th>
<th>Question Numbers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Positive Mood States</td>
<td>Serene state</td>
<td>2, 3, 6, 7, 9, 10, 12, 16, 35, 40</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relaxed state</td>
<td>15, 22, 24, 25, 26, 28, 29, 30, 46, 62, 65</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Excited state</td>
<td>1, 5, 11, 13, 14, 17, 18, 20, 21, 39, 59</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>Negative Mood States</td>
<td>Aggression</td>
<td>4, 8, 32, 33, 34, 36, 37, 38</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anxiety</td>
<td>41, 42, 43, 44, 45, 47, 48, 49, 51, 54, 55, 56</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Depression</td>
<td>19, 23, 27, 31, 50, 52, 53, 57, 58, 60, 61, 63, 64</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>65</td>
</tr>
</tbody>
</table>

The Mood State Inventory was administered to students along with the response sheet. There were five options for each statement. The students were instructed to choose one among the five options and enter a tick mark (✓) in the respective box.

The initial draft of the Mood State Inventory consists of 65 items, both positive and negative. Each item has five options and each option is ranked with a five point ranking scale. The five responses were never, sometimes, moderate, often and always with the scores 1, 2, 3, 4 and 5 respectively.

The maximum and minimum scores, which the student may score on the initial draft of Mood State Inventory, will be 325 and 65 respectively.

**4.5.2.3 Item Analysis**

The quality of each item was ascertained by analysing the important characteristics of the item namely the discriminating power. For this the frequency distribution of scores based upon the responses to all statements was considered. From the obtained 135 answer sheets, those with errors were not considered, then only 120 answer sheets were selected for item analysis. The total score of each student was computed. The inter item correlation was computed between the subtracted total score and individual item score for each item. Items with a correlation
value of 0.4 and above were treated as those with good discriminating power. The distribution is presented in table 4.4.

Table 4.4.

Details of Item Analysis of Mood State Inventory

<table>
<thead>
<tr>
<th>Serial no</th>
<th>Discriminating Power</th>
<th>Remarks</th>
<th>Serial no</th>
<th>Discriminating Power</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>q1</td>
<td>0.453</td>
<td>Accepted</td>
<td>q34</td>
<td>0.466</td>
<td>Accepted</td>
</tr>
<tr>
<td>q2</td>
<td>0.555</td>
<td>Accepted</td>
<td>q35</td>
<td>0.533</td>
<td>Accepted</td>
</tr>
<tr>
<td>q3</td>
<td>0.555</td>
<td>Accepted</td>
<td>q36</td>
<td>0.580</td>
<td>Accepted</td>
</tr>
<tr>
<td>q4</td>
<td>0.459</td>
<td>Accepted</td>
<td>q37</td>
<td>0.619</td>
<td>Accepted</td>
</tr>
<tr>
<td>q5</td>
<td>0.359</td>
<td>Rejected</td>
<td>q38</td>
<td>0.600</td>
<td>Accepted</td>
</tr>
<tr>
<td>q6</td>
<td>0.425</td>
<td>Accepted</td>
<td>q39</td>
<td>0.445</td>
<td>Accepted</td>
</tr>
<tr>
<td>q7</td>
<td>0.445</td>
<td>Accepted</td>
<td>q40</td>
<td>0.276</td>
<td>Rejected</td>
</tr>
<tr>
<td>q8</td>
<td>0.407</td>
<td>Accepted</td>
<td>q41</td>
<td>0.401</td>
<td>Accepted</td>
</tr>
<tr>
<td>q9</td>
<td>0.244</td>
<td>Rejected</td>
<td>q42</td>
<td>0.435</td>
<td>Accepted</td>
</tr>
<tr>
<td>q10</td>
<td>0.489</td>
<td>Accepted</td>
<td>q43</td>
<td>0.525</td>
<td>Accepted</td>
</tr>
<tr>
<td>q11</td>
<td>0.355</td>
<td>Rejected</td>
<td>q44</td>
<td>0.516</td>
<td>Accepted</td>
</tr>
<tr>
<td>q12</td>
<td>0.510</td>
<td>Accepted</td>
<td>q45</td>
<td>0.419</td>
<td>Accepted</td>
</tr>
<tr>
<td>q13</td>
<td>0.287</td>
<td>Rejected</td>
<td>q46</td>
<td>0.477</td>
<td>Accepted</td>
</tr>
<tr>
<td>q14</td>
<td>0.456</td>
<td>Accepted</td>
<td>q47</td>
<td>0.450</td>
<td>Accepted</td>
</tr>
<tr>
<td>q15</td>
<td>0.581</td>
<td>Accepted</td>
<td>q48</td>
<td>0.486</td>
<td>Accepted</td>
</tr>
<tr>
<td>q16</td>
<td>0.435</td>
<td>Accepted</td>
<td>q49</td>
<td>0.535</td>
<td>Accepted</td>
</tr>
<tr>
<td>q17</td>
<td>0.320</td>
<td>Rejected</td>
<td>q50</td>
<td>0.497</td>
<td>Accepted</td>
</tr>
<tr>
<td>q18</td>
<td>0.327</td>
<td>Rejected</td>
<td>q51</td>
<td>0.498</td>
<td>Accepted</td>
</tr>
<tr>
<td>q19</td>
<td>0.302</td>
<td>Rejected</td>
<td>q52</td>
<td>0.403</td>
<td>Accepted</td>
</tr>
<tr>
<td>q20</td>
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<td>Accepted</td>
<td>q53</td>
<td>0.494</td>
<td>Accepted</td>
</tr>
<tr>
<td>q21</td>
<td>0.339</td>
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<td>q54</td>
<td>0.324</td>
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</tr>
<tr>
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<td>Rejected</td>
<td>q55</td>
<td>0.465</td>
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</tr>
<tr>
<td>q23</td>
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<td>q56</td>
<td>0.291</td>
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</tr>
<tr>
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<td>q57</td>
<td>0.459</td>
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</tr>
<tr>
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<td>0.470</td>
<td>Accepted</td>
<td>q58</td>
<td>0.470</td>
<td>Accepted</td>
</tr>
<tr>
<td>q26</td>
<td>0.472</td>
<td>Accepted</td>
<td>q59</td>
<td>0.432</td>
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</tr>
<tr>
<td>q27</td>
<td>0.444</td>
<td>Accepted</td>
<td>q60</td>
<td>0.435</td>
<td>Accepted</td>
</tr>
<tr>
<td>q28</td>
<td>0.401</td>
<td>Accepted</td>
<td>q61</td>
<td>0.442</td>
<td>Accepted</td>
</tr>
<tr>
<td>q29</td>
<td>0.322</td>
<td>Rejected</td>
<td>q62</td>
<td>0.595</td>
<td>Accepted</td>
</tr>
<tr>
<td>q30</td>
<td>0.413</td>
<td>Accepted</td>
<td>q63</td>
<td>0.495</td>
<td>Accepted</td>
</tr>
<tr>
<td>q31</td>
<td>0.607</td>
<td>Accepted</td>
<td>q64</td>
<td>0.424</td>
<td>Accepted</td>
</tr>
<tr>
<td>q32</td>
<td>0.580</td>
<td>Accepted</td>
<td>q65</td>
<td>0.228</td>
<td>Rejected</td>
</tr>
<tr>
<td>q33</td>
<td>0.521</td>
<td>Accepted</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.5.2.4 Preparation of final draft of the Mood States Inventory

For the preparation of final draft of Mood State Inventory, the items having ‘r’ value equal to or above 0.3 were selected, as the ‘r’ value is a measure of the extent to which a given statement differentiates between the high and low groups. After computing the r value the best 50 items were selected. Hence the final form of the Mood State Inventory with 50 items of r value 0.4 and above were prepared. A copy of the final form of Mood State Inventory, Response Sheet, its Malayalam and English versions are given as Appendices D and E respectively.

The 50 items selected for the final draft were given due representation to the different dimensions of positive and negative mood state. The corresponding question numbers of the items selected in the Final Inventory are tabulated below.

Table 4.5.

Details of final Mood States Inventory

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Mood States</th>
<th>Dimensions</th>
<th>Question Number of items</th>
<th>Total No. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Positive mood state</td>
<td>Serene state</td>
<td>2,3,6,7,10,12,16,35</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relaxed state</td>
<td>15,25,26,28,30,46,62</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Excited state</td>
<td>59, 14, 20,39,1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Negative mood state</td>
<td>Aggression</td>
<td>4,8,32,33,34,36,37,38</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anxiety</td>
<td>41,42,43,44,45,47,48,49,51,55</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Depression</td>
<td>23,27,31,52,53,50,57,58,60,61,63,64</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td></td>
<td>50</td>
</tr>
</tbody>
</table>

4.5.2.5 Administration and Scoring of the final draft of the Inventory

The final draft of the mood state inventory consists of 50 items, items are both positive and negative items, each item has five options and each option is ranked with a five point ranking scale. The five responses were never, sometimes, moderate, often and always carry the scores of 1, 2, 3, 4 and 5 respectively. The maximum and minimum scores, which the student may score in the final draft of Mood State Inventory, will be 250 and 50 respectively. Some of the representative items given in the Inventory are shown below.
Mood State: Positive
Mood dimension: Relaxed state
I am energetic: a. Never   B. Sometimes   C. Moderate   D. Often   E. Always

Mood State: Negative
Mood dimension: Depression
I am helpless: a. Never   B. Sometimes   C. Moderate   D. Often   E. Always

4.5.2.6 Validity of the Mood State Inventory

The concurrent validity of the test was found out by correlating the test with an external criterion that is profile of mood state (Mc Nair, 1971). Both the tests were administered to a sample of 100 secondary school students and correlation was found out. The validity coefficient thus obtained was 0.86.

The content validity of the test was maintained by careful reference to the available literature in mood states as well as by consultation with experts.

The construct validity of the test was established by the process that the scores on emotional intelligence can be accounted for by the explanatory constructs of a sound theory. The degree of homogeneity of the test indicates how well the items will measure the traits. This internal consistency is an evidence of construct validity.

A copy of the final Mood State Inventory in English and its Malayalam version, and the scoring key are given in Appendix B and C respectively.

4.5.2.7 Reliability of the Mood State Inventory

In the present study, Test – Retest method was used to estimate the reliability. The Mood state inventory was administered twice with a time interval of four weeks on a sample of 100 secondary school students. The reliability coefficient was found to be 0.82. Thus the Mood State Inventory is a reliable instrument for the purpose of the present investigation.

4.5.3 Emotional Intelligence Rating Scale

With the help of the Research Supervisor, the investigator prepared an Emotional Intelligence Scale. This scale is prepared on the basis of concept of emotional Intelligence defined by Goleman (1995). He identified five dimensions of Emotional Intelligence with twenty five competencies.

4.5.3.1 Planning and preparation of test items in the Emotional Intelligence Scale

As a preliminary step, the items for the draft emotional intelligence scale were prepared after a thorough review of relevant literature, different tools like test and inventory based on emotional intelligence of individuals in different educational
levels. It was observed that most of the tools were developed for college students, so the investigator referred Emotional Intelligence inventory prepared by Immanuel and Sushama (2003) for preparing the present tool for secondary school students. The suggestions and opinion of experts in the field of psychology were also taken into consideration for preparing the tool.

4.5.3.2 Preparation and standardization of Emotional Intelligence Scale

The investigator prepared seventy five items for the initial draft of the scale. Then it was subjected to evaluation by experts. The investigator prepared Emotional Intelligence Scale on the basis of emotional intelligence inventory prepared by Immanuel and Sushama (2003) for preparing the initial draft. The investigator also analysed books, periodicals, internet resources and other descriptive materials for preparing the tool. The valuable remarks given by the experts helped the investigator to make the ambiguous items clear. Then the item number was reduced to sixty nine. The initial draft of the scale with sixty nine items was administered to 120 students of different secondary schools of Kottayam district for the purpose of standardization.

The Emotional Intelligence Scale was given to students along with the response sheet. For each statement there were five options. The students were instructed to choose one among the five options and put a tick mark (✓) in the respective box for each.

The emotional intelligence scale consists of 69 items, the items are both positive and negative, each item has five options and each option is ranked with a five point scale. The five responses are strongly agree, Agree, Undecided, Disagree and Strongly disagree. Among these items positive items were scored as 5, 4, 3, 2 and 1 respectively and negative items were scored as 1, 2, 3, 4 and 5 respectively. The maximum and minimum scores, which the student may score in the Emotional Intelligence Scale, will be 345 and 69 respectively. Of the sixty nine statements due representation was given to twenty five competencies listed under five dimensions of Emotional Intelligence.
<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Components of emotional intelligence</th>
<th>Question Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Self-Awareness</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Emotional self-awareness</td>
<td>2,4,15(-ve), 10 (+ve)</td>
</tr>
<tr>
<td></td>
<td>Accurate self-assessment</td>
<td>3, 17,18,47 (+ve)</td>
</tr>
<tr>
<td></td>
<td>Self confidence</td>
<td>(+ve)16,50,12(-ve)</td>
</tr>
<tr>
<td>2</td>
<td><strong>Self-Regulation</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Self-control</td>
<td>5,6, 21 (+ve) 22,23,(-ve)</td>
</tr>
<tr>
<td></td>
<td>Trustworthiness</td>
<td>37,20(+ve) 25(-ve)</td>
</tr>
<tr>
<td></td>
<td>Conscientiousness</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Adaptability</td>
<td>14,27</td>
</tr>
<tr>
<td>3</td>
<td><strong>Self-Motivation</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Achievement</td>
<td>7,11,13, 24,53 (-ve) 8, 49 (+ve)</td>
</tr>
<tr>
<td></td>
<td>Commitment</td>
<td>35,52 (+ve) 46 (-ve)</td>
</tr>
<tr>
<td></td>
<td>Initiative</td>
<td>61(+ve) 54, 55,59 (-ve)</td>
</tr>
<tr>
<td>4</td>
<td><strong>Empathy</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understanding of others</td>
<td>30,31,32,34 (+ve) 33,39 (-ve)</td>
</tr>
<tr>
<td></td>
<td>Developing others</td>
<td>29,41,56,64 (+ve)</td>
</tr>
<tr>
<td></td>
<td>Diversity</td>
<td>28,38</td>
</tr>
<tr>
<td></td>
<td>Service orientation</td>
<td>51</td>
</tr>
<tr>
<td>5</td>
<td><strong>Social Skills</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Influence</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Communication</td>
<td>60(-ve),68</td>
</tr>
<tr>
<td></td>
<td>Conflict Management</td>
<td>42(-ve),57</td>
</tr>
<tr>
<td></td>
<td>Leadership</td>
<td>19,45</td>
</tr>
<tr>
<td></td>
<td>Change catalyst</td>
<td>65,67,36</td>
</tr>
<tr>
<td></td>
<td>Building bond</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>Collaboration and co-operation</td>
<td>66,62</td>
</tr>
<tr>
<td></td>
<td>Team capability</td>
<td>58,69(-ve)</td>
</tr>
</tbody>
</table>
4.5.3.3 Item Analysis

It is the process of establishing the suitability of an item for inclusion in the final scale. The quality of each item was ascertained by analysing the important characteristics of the item namely the discriminating power. For this the frequency distribution of scores based upon the responses of students to all statements were considered. From the obtained 135 answer sheets, only 120 answer sheets were selected for item analysis. Based on the scores obtained, response sheets of the students were arranged in descending order from highest to the lowest. The responses of the top scoring 27% and the bottom scoring 27% were used for item analysis. According to Ebel (1996) “27 percent provides the best compromise between two desirable and inconsistent aims to make extreme groups as different as possible”. The scores obtained for each item in these extreme groups were used for calculating the discriminating power of each item. The discriminating power was obtained by calculating the ‘t’ value using the formula

\[
t = \frac{X_H - X_L}{\sqrt{\frac{\sum X_H - (X_H)^2 + \sum X_L - (X_L)^2}{N(N-1)}}}
\]

Where

- \(X_H\) - the mean score on a given statement for the high group.
- \(X_L\) - the mean score on the same statement for the low group
- \(X_H\) - the score for a given individual for a given statement in the high group.
- \(X_L\) - the score for a given individual for a given statement in the low group
- \(N\) - number of individuals in the criterion group

The value of t is a measure of extent to which a given statement differentiates between the high group and low group. The statements for which t value is greater than or equal to 1.75 is regarded as an item which possesses internal consistency and hence discriminating power (Edward, 1957). In the present study items with t value 1.96 and above were selected for developing the final draft of the tool. 27 statements with t value lower than 1.96 were rejected from the final draft of the scale. Details of item analysis are given in table 4.7.
Table 4.7.

*Details of item analysis of Emotional Intelligence Scale*

<table>
<thead>
<tr>
<th>Sl No</th>
<th>T</th>
<th>Remarks</th>
<th>Sl No.</th>
<th>T</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.96</td>
<td>Accepted</td>
<td>36</td>
<td>0.633</td>
<td>Rejected</td>
</tr>
<tr>
<td>2</td>
<td>3.597</td>
<td>Accepted</td>
<td>37</td>
<td>0.496</td>
<td>Rejected</td>
</tr>
<tr>
<td>3</td>
<td>4.63</td>
<td>Accepted</td>
<td>38</td>
<td>1.58</td>
<td>Rejected</td>
</tr>
<tr>
<td>4</td>
<td>2.46</td>
<td>Accepted</td>
<td>39</td>
<td>2.29</td>
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</tr>
<tr>
<td>5</td>
<td>0.266</td>
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<td>40</td>
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</tr>
<tr>
<td>6</td>
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<td>41</td>
<td>2.51</td>
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</tr>
<tr>
<td>7</td>
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<td>1.98</td>
<td>Accepted</td>
</tr>
<tr>
<td>8</td>
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<td>43</td>
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</tr>
<tr>
<td>9</td>
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<td>44</td>
<td>5.38</td>
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</tr>
<tr>
<td>10</td>
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<td>45</td>
<td>0.496</td>
<td>Rejected</td>
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<tr>
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<td>2.34</td>
<td>Accepted</td>
</tr>
<tr>
<td>12</td>
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<td>0.876</td>
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<tr>
<td>13</td>
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<td>Rejected</td>
<td>48</td>
<td>0.34</td>
<td>Rejected</td>
</tr>
<tr>
<td>14</td>
<td>0.114</td>
<td>Rejected</td>
<td>49</td>
<td>4.66</td>
<td>Accepted</td>
</tr>
<tr>
<td>15</td>
<td>2.43</td>
<td>Accepted</td>
<td>50</td>
<td>1.34</td>
<td>Rejected</td>
</tr>
<tr>
<td>16</td>
<td>2.02</td>
<td>Accepted</td>
<td>51</td>
<td>4.35</td>
<td>Accepted</td>
</tr>
<tr>
<td>17</td>
<td>0.726</td>
<td>Rejected</td>
<td>52</td>
<td>0.98</td>
<td>Rejected</td>
</tr>
<tr>
<td>18</td>
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<td>53</td>
<td>0.076</td>
<td>Rejected</td>
</tr>
<tr>
<td>19</td>
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<td>Rejected</td>
<td>54</td>
<td>1.54</td>
<td>Rejected</td>
</tr>
<tr>
<td>20</td>
<td>6.15</td>
<td>Accepted</td>
<td>55</td>
<td>1.27</td>
<td>Rejected</td>
</tr>
<tr>
<td>21</td>
<td>1.99</td>
<td>Accepted</td>
<td>56</td>
<td>2.64</td>
<td>Accepted</td>
</tr>
<tr>
<td>22</td>
<td>1.98</td>
<td>Accepted</td>
<td>57</td>
<td>1.98</td>
<td>Accepted</td>
</tr>
<tr>
<td>23</td>
<td>1.96</td>
<td>Accepted</td>
<td>58</td>
<td>4.1</td>
<td>Accepted</td>
</tr>
<tr>
<td>24</td>
<td>0.755</td>
<td>Rejected</td>
<td>59</td>
<td>0.308</td>
<td>Rejected</td>
</tr>
<tr>
<td>25</td>
<td>1.97</td>
<td>Accepted</td>
<td>60</td>
<td>2.24</td>
<td>Accepted</td>
</tr>
<tr>
<td>26</td>
<td>1.97</td>
<td>Accepted</td>
<td>61</td>
<td>2.17</td>
<td>Accepted</td>
</tr>
<tr>
<td>27</td>
<td>3.62</td>
<td>Accepted</td>
<td>62</td>
<td>2.42</td>
<td>Accepted</td>
</tr>
<tr>
<td>28</td>
<td>1.129</td>
<td>Rejected</td>
<td>63</td>
<td>3.53</td>
<td>Accepted</td>
</tr>
<tr>
<td>29</td>
<td>0.834</td>
<td>Rejected</td>
<td>64</td>
<td>2.51</td>
<td>Accepted</td>
</tr>
<tr>
<td>30</td>
<td>4.01</td>
<td>Accepted</td>
<td>65</td>
<td>1.96</td>
<td>Accepted</td>
</tr>
<tr>
<td>31</td>
<td>2.85</td>
<td>Accepted</td>
<td>66</td>
<td>3.48</td>
<td>Accepted</td>
</tr>
<tr>
<td>32</td>
<td>0.335</td>
<td>Rejected</td>
<td>67</td>
<td>2.45</td>
<td>Accepted</td>
</tr>
<tr>
<td>33</td>
<td>3.25</td>
<td>Accepted</td>
<td>68</td>
<td>3.35</td>
<td>Accepted</td>
</tr>
<tr>
<td>34</td>
<td>2.31</td>
<td>Accepted</td>
<td>69</td>
<td>3.49</td>
<td>Accepted</td>
</tr>
</tbody>
</table>
4.5.3.4 Preparation of Final draft of Emotional Intelligence Scale

For the preparation of final draft of emotional intelligence scale, the items having ‘t’ value equal or above 1.96 were selected, as the ‘t’ value is a measure of the extent to which a given statement differentiates between the high and low groups. After computing the t value the best 42 items were selected. Hence the final form of the emotional intelligence scale with 42 items was prepared. A copy of the final form of emotional intelligence scale, response sheet, its Malayalam and English versions are given as Appendices H and I respectively.

The distribution of statements in the final form of the emotional intelligence scale is given in table 4.6

Table 4.6

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Components</th>
<th>Question Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Self-awareness</td>
<td>1,2,3,4,15,16,18</td>
</tr>
<tr>
<td>2</td>
<td>Self-regulation</td>
<td>6,20, 21,22,23,25,26,27</td>
</tr>
<tr>
<td>3</td>
<td>Self-motivation</td>
<td>8,35,49, 46, 61</td>
</tr>
<tr>
<td>4</td>
<td>Empathy</td>
<td>30,31,33,34,39, 40,41,51,56,64</td>
</tr>
<tr>
<td>5</td>
<td>Social skills</td>
<td>42,44,57,58,60,62,63,65,66,67,68,69</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>42</td>
</tr>
</tbody>
</table>

4.5.3.5. Administration and Scoring of the scale

The Emotional Intelligence Scale was administered to students along with the response sheet. For each statement there were five options. The students were instructed to choose one among the five options and put a tick mark (✓) in the respective box for each.

The final draft of the Emotional Intelligence scale consists of 42 items, items are either positive or negative. Each item has five options and each option is ranked with a five point ranking scale. The five responses are Completely Agree, Partially Agree, Undecided, Disagree and Completely Disagree. Among these items positive items were scored as 5, 4, 3, 2 and 1 respectively and negative items were scored as 1, 2, 3, 4 and 5 respectively. The maximum and minimum scores, which the student may score on the final draft of emotional intelligence scale, will be 210 and 42 respectively.

Some of the representative items given in the test are shown below.
Component: Self-awareness
Sub Component: Emotional self-awareness
1. You can express your anger and worries through your gestures other than words
   a. Completely agree b. partially agree c. undecided d. disagree e. Completely disagree
Component: self-regulation
Sub Component: trustworthiness
2. Being honest in study related and personal responsibilities entrusted with you.
   a. Completely agree b. partially agree c. undecided d. disagree e. Completely disagree

4.5.3.6 Validity of the Emotional Intelligence Scale
The validity of the test was found out by correlating the test with an external criterion that is Emotional Intelligence Scale by Immanuel and Sushama, 2003. Both the tests were administered to a sample of 100 secondary school students and correlation was found out. The validity coefficient thus obtained was 0.86. This shows that the Emotional Intelligence Scale prepared by the investigator was valid.

The content validity of the test was maintained by careful reference to the available literature as well as by consultation with experts.

4.5.3.7 Reliability of the Emotional Intelligence Scale
In the present study, Test – Retest method was used to estimate the reliability. Emotional Intelligence Scale was administered twice within a time interval of four weeks for a sample of 100 secondary school students. The reliability coefficient was found to be 0.82. Thus the emotional intelligence scale was reasonably a valid and reliable instrument for the purpose of the present investigation.

4.6 Procedure Adopted for collection of data
4.6.1 Sample selected
The population of the study consisted of secondary school students belonging to State and CBSE schemes of the courses of Kerala state. In the present study sampling was done in two phases as the study was conducted by survey and experimental methods.

4.6.2 Sample selected for Pilot Survey
A sample of 150 high school students was selected from various schools of Kottayam and Idukki districts. It comprises both boys and girls. The sample distribution list is attached in appendix J.
4.6.3 Sample selected for the experiment

The sample for the experimental part of the study comprised 199 students, distributing thirty two each to experimental group and control group (Secular Meditative and Routine Relaxation Groups). For comparison the investigator selected four sub groups in order to assess the comparative effectiveness of different Secular Meditative Techniques (meditation by dance, music, walking and drawing). The rest of the sample of 135 participants was selected and 35, 35, 35 and 30 were assigned to four different subgroups in order to test the effectiveness of different modules of Secular Meditation separately on Emotional Intelligence and Mood States. Detailed distribution of the sample selected for the study is shown below:

![Flow chart of the Distribution of sample selected for the experimental groups and control group](image)

**Figure 4.9.** Flow chart of the Distribution of sample selected for the experimental groups and control group
4.6.3 Schools selected for the experimental study

The secondary school students of Mangalam CBSE School were selected as the sample for conducting the experiment i.e. secular meditation. For comparing the effectiveness of different modules of secular meditation like meditation by dance, music, drawing and walking, students from Sri Vidyadhiraja State School and Mangalam State school were also selected. All these groups were separately tested for their effectiveness on the two dependent variables like Mood States and Emotional Intelligence.

4.6.4 Data collected

Part A

4.6.4.1 Pilot Survey of the study

Reports of Guidance and Counseling from schools

The first phase of the study was intended to find out the existing emotional status and mood states of secondary school students.

The investigator conducted an initial survey to know about the Emotional status and Mood status of secondary school students in the present scenario. For this the investigator collected guidance and counseling reports from various schools of Kottayam and Idukki districts. The reports of 150 students were collected for the analysis. Based on the analysis of the report, the investigator categorised the problems of students as follows:

- Educational problems
- Family problems
- Social problems and
- Health problems

Table 4.9.

Different dimensions of problems of Emotional Intelligence and Mood States of students identified from guidance and counseling reports

<table>
<thead>
<tr>
<th>Serial No</th>
<th>Types of problems</th>
<th>Dimensions of the problems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Educational problems</td>
<td>Lack of concentration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tension of exams</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not obtaining high score</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fear of failure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Parental pressure for high –</td>
</tr>
</tbody>
</table>
Methodology

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academic achievement
Difficulty in understanding subjects
Unable to follow classes
Lack of teacher support in clarifying doubts
Lack of competency among teachers

**Health problems**
- Tiredness
- Ache
- Eye problems
- Skin problems

**Family problems**
- Gender discrimination
- Lack of attention from parents
- Arguments/quarrel with parents/siblings
- Financial crisis
- Quarrel between parents
- Divorced parents
- Other problems

**Social problems**
- Love affair
- Using drug
- Bringing in to class blue film visuals-through mobile
- Using pan masalas
- Member of a gang
- Fight with peer
- Difficult to talk freely with confidence
- Fear in facing the crowd
- Consuming alcohol
- Smoking

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**Part B**

4.6.4.2 Experiment conducted

The second phase of the study was aimed to develop a Secular Meditative Package which encompasses different modules like meditation by dance, music, drawing and meditation by walking for secondary school students. All these modules are devoid of religious aspects and were suitable to implement in any schools of Kerala. The package was tested for its effectiveness on Emotional Intelligence and
Mood States of Secondary School Students. The design proposed by Best and Kahn (2008), was selected and modified to test the effectiveness of Secular Meditation on variables of Emotional Intelligence and Mood States. The modified design is presented in Figure 4.1. The main objective of the experiment was to test the effectiveness of Secular Meditation in regularizing the Mood States and Emotional Intelligence of students at secondary level. The experiment was conducted in six intact groups. The Mood States Inventory and Emotional Intelligence Scale were administered to the experimental group, sub experimental groups and control group as pretests to assess the existing status of students in terms of their Mood States and Emotional Intelligence. After conducting the pretests, the experimental group practiced the Secular Meditation package consisting of all subgroup packages and control group followed the Routine Relaxation Practices. The four subgroups practiced each module of Secular Meditation Package like meditation by dance, music, drawing and walking. After treatment, posttests on Mood States and Emotional Intelligence were administered to assess the terminal behavior of the students in all the groups. The investigator scored all the response sheets using the scoring key. Pretest and posttest scores of Mood States and Emotional Intelligence were tabulated for the experimental group, four sub experimental groups and control group. These scores were consolidated for statistical analysis. Since the groups selected were un-equated, the statistical technique of Analysis of Co-variance was applied (ANCOVA) for testing the effectiveness of Secular Meditation Package and four modules of Secular Meditation on regularising Mood States and Emotional Intelligence of the students. The measures of central tendency and dispersion were also computed for determining the nature of scores collected.

The steps involved in the collection of data for this purpose are given below.

4.6.5 Administration of pre tests

The investigator in the present study made use of one experimental group, four subgroups and control group. Before starting the experiment, the investigator administered the following tools for pretest.

- Emotional Intelligence Scale
- Mood States Inventory

4.6.6 Learning by experimental and control groups

In the present study the investigator selected six intact groups namely Secular Meditation (for all the four forms of meditation), Meditation by Dance, Music,
Drawing and Walking and Routine Relaxation Practices. These groups comprise a sample of 32, 35, 35, 35, 30 and 32 students respectively. All the six groups were given pretests on Mood States and Emotional Intelligence. The duration of experimentation was eight weeks. The Secular Meditation Package encompasses four different techniques like Meditation by Dance, Drawing, Walking and Music. All these techniques were practised by the groups in specific intervals. The control group followed the Routine Relaxation Practices. The experimental and control groups were given equal attention during the course of the experiment. The control group followed sublimation, role playing and other routine activities practised in the school. The investigator was very particular about the duration of practice to be same by all the groups. This will help for unbiased comparison of all the groups which in turn lead to obtain a more reliable result.

4.6.7 Administration of posttests

After completing the experiment, the tests in Emotional Intelligence and Mood States were administered to all the six groups. As mood states are fluctuating elements, the investigator took repeated measurements of the same. The scores thus obtained were then analysed using statistical techniques and the comparison of the groups was done to ascertain the relative effectiveness of Secular Meditation and Routine Relaxation Practices on Emotional Intelligence and Mood States of secondary school students. Along with this comparison, the investigator also made an attempt to compare the relative effectiveness of different modules of Secular Meditation adopted in the study like Meditation by Dance, Music, Drawing and Walking on Emotional Intelligence and Mood States.

4.6.8 Statistical Techniques Used

The pretest and posttest scores of the experimental and control groups were consolidated for statistical analysis. The measures of central tendency and dispersion were computed for determining the nature of scores. Since the groups selected for experiment were intact non-equated, the statistical technique of ANCOVA was applied. The statistical techniques used in the presented study are listed below.

I. Descriptive statistics like mean, median, standard deviation, kurtosis and skewness of the selected variables.

II. Percentage Analysis.

III. Standard Error and Confidence interval of the sample statistics.

IV. Analysis of Variance.

V. Analysis of Co variance
References


