CHAPTER 3

PLAN AND PROCEDURE OF THE STUDY

3.1 Introduction

The term ‘Research’ is a “structured enquiry that utilizes acceptable scientific methodology to solve problems and create new knowledge that is generally applicable”. This methodology is commonly defined as the systematic way to provide the solution for all problems involved in the study (Rajasekar et al., 2006). This chapter gives a clear cut idea on what the investigator carried out the complete research study especially how the data was collected and what type of analysis applied to analyze the findings (Ranjit, 2005).

The plan is an overall scheme or programme of research. Fred N. Kerlinger described research design as “a plan structure and strategy of investigation confined so as to obtain answer to the research question and control variables” Hence, it is a planning stage of research which is usually made logically visualizing its practicability. It includes an outline of what the investigator will do from writing the hypothesis and the operational implications to the final analysis of the data (Karlinger, 2010). A well thought out plan of action in advance followed by a systematic execution brings out fruitful results.

In a research study, the investigator has to explain the design or the plan of the study, nature, technique, tools used in data collection and statistics applied in the investigation. In any scientific investigation the accuracy of results depends upon the accuracy and reliability of data. Thus, reliability and validity of tools used and the sampling method is required to be discussed. Finally, plan includes determining the technique of data analysis and drawing conclusion from it. This present study was thus undertaken using the following main steps:-

- Research design
- Methodology
- Population and sample
- Tools used
Chapter 3
Plan and Procedure of the Study

- Procedure of data collection
- Design of Yogic Practices
- Scoring Procedure
- Statistical Technique used

3.1.1 Research Design

According to the Oxford Dictionary of Sociology, “Research Design is the strategic plan for a research project or programme setting out the broad outlines and key features of the work to be undertaken, including the methods of data collection and analysis to be employed, and showing how the research strategy addresses the specific aims and objectives of its study”

In any research, the research design is considered as the conceptual structure and it reflects the blueprint of the collection, analysis and measurement of data (Kothari, 2007). As such this design provides the outline of what the investigator adopted from writing the hypothesis and its operational issues to the final analysis of data. Therefore, the research design has been described as a structure, plan and strategy of the research to find out tools to solve the issues and to reduce the variances. Further, Kothari (2007) says, “Hypothesis-testing research studies (generally termed as experimental studies) are those where the investigator tests the hypothesis of causal relationship between the variables. Those studies need procedure that would not only decrease the bias and also raise the reliability, but would allow drawing inferences about causality”.

Keeping in view the nature of the present study the experimental method was adopted. The present study adopted “Pre-test post-test equivalent group experimental research design” method to neutralise the variables and also identify the effectiveness of yoga practices among adolescent students.

3.1.2 Methodology

Research methods describe the various steps of the plan of attack to be adopted in solving the research problems such as the manner in which the problem is formulated, the definition of terms, the choice of subjects for investigation, the validation of data-
gathering tools, collection of data, analysis and interpretation of data and the process of inferences and generalizations. (Koul, 1997)

In this study the researcher used the experimental method. The experimental method is the most precise, planned, systematic and controlled observation.

**Experimental research is the description and analysis of what will be or what will occur, under careful controlled condition.**

*John w. Best*

It has following characteristics:

It develops the law and postulates the theories of education. It allows for precision and exactness in the findings and their analysis and treatment, through measurement.

Use of at least two groups on the conditions that can be compared, bias free estimation of true effect, manipulation of independent variable, measurement of dependent variable in quantifiable form and use of inferential statistics are the important features of experimental method.

It emphasizes objectivity and accuracy in the collection of data and treatment of it.

It establishes a systematic and logical association between manipulated factors and observed effect.

The Experimental method uses a systematic procedure called experimental design. Experimental design provides important guidelines to the researcher to carry out his research systematically. The researcher selected pre-test post-test experimental control group design.

The present study endeavors to analyze the effect of yoga practices in relation to emotional intelligence and academic stress among adolescent students of Green Field Public School, Vasundhara, Delhi.

The present study, utilising experimental method, aims to examine the efficacy of yoga practice in relation to emotional intelligence and academic stress of adolescent students of
Evergreen Public School. Initially, 160 secondary school students were selected through screening and then 112 adolescents were selected based on their scores on Emotional Intelligence and Academic Stress, they were arranged in two groups, i.e., experimental and the control group. In the experimental group, adolescents were exposed to Yoga Practices while in the control group adolescents were not exposed to Yoga Practices. Figure 1 shows the design of the whole study. Pre-test (Experimental group) designs are widely used in behavioural research, primarily for the purpose of comparing (Control) groups and/or measuring change resulting from experimental treatments. This design is considered as an experimental design (Dimitrov & Rumrill, 2003). The advantages of design being the random selection of participants to be in one group or the other, and the longitudinal nature of the study. As stated by Seers and Creitelton (2001), randomization and the use of a control group are essential features of this type of research design. Hence, in line with this study, the study adopted control group which is needed for comparison purposes. Further, the randomization is needed to ensure that the experimental and control are as similar as possible except for exposure to the intervention or treatment. The yoga practices were taken as independent variable, while Emotional Intelligence and academic stress are taken as dependent variable in the present study.

![Figure 3.1: Design of the Study](image)
The design would have the three operational stages;

Phase 1 - Pretest
Phase 2 - Experimental stage
Phase 3 - Post test

In this diagram

$X_1 =$ Experimental group

$X_2 =$ Control group.

$G_1 =$ Indicates experimental group who will practice yoga programme.

$G_2 =$ Control Group who will not practice yoga programme.

$R =$ Indicated that subjects of the group are randomly selected or assigned to each group

### 3.1.3 Population and Sample

A population is a group from which the sample has been collected and its data and properties are analyzed. In this study population was both boys and girl adolescent were selected from senior secondary school students studying in Evergreen Public school, Vasundhara, Delhi.

However, to study the whole population to arrive at standardised results would not be easible. The analysis of a large data may lead to a number of errors which would defeat the very purpose of the study. A sample is a smaller representation of a larger whole. The sample has the important objective of enabling the researcher to complete a quality research. It leads the investigator to study the problem in hand intensively. In this study, participants from both boys and girls adolescents were selected from Senior Secondary School Students, who were studying at Evergreen Public school, Vasundhara, Delhi. Thus, all the senior secondary school students, i.e., adolescents studying in this school during the academic session, 2012-13, constituted the population.

**Sampling is a process by which a relatively small no of individuals, object or events are selected and analysed in order to find out something about the entire population from which it is selected. (Kaul, 1984)**
A sample is the representative proportion of population. For the sample of the present study in the first phase out of this population, the 160 students who were considered for the study were further reduced and 112 students were selected based on the questionnaire which enabled the earmarking of such students who had lower emotional intelligence scores and higher academic stress scores. These 112 students constituted the sample for this study. These were then randomly divided into two groups by putting 56 students in experimental group and 56 students in the control group following the random sampling technique wherein every participant is having the chance for being selected. The experimental group is further divided into Boys (n=30) and girls adolescents (n=26). In the same manner control group is also further divided into boys adolescents (n=32) girls adolescent students (n=24). In this manner the investigator has tried to safeguard that the sample of the research study becomes a true representative of the population under study.

3.1.3.1 Size of the sample: Participant mix

The study used 160 students both boys (90) and girls (70) for screening test. Based on the score of Emotional Intelligence test and Academic Stress test, 112 samples were used for further investigation. In total, in the experimental group 30 boys and 26 girls were used; while in the control group 32 boys and 24 girls were used.

3.1.4 Tools to be used

In research particular instruments are used for collecting the information tool. Tool or instruments were used to collect evidences in order to test hypothesis tool selection is totally depend upon the type of data required.

There are two types of tools used for the present study (i) Emotional Intelligence Inventory and (ii) Academic Stress Scale and these tools were used before and after implementing yoga Practice. Before implementing the yoga practices 160 adolescent students were administered these Identification Tools:

2. Bisht Battery of Stress Scale (2005)
3.1.4.1 Development of the tools:

Description of Emotional Intelligence Inventory

Emotional Intelligence inventory was developed and standardised by S. K. Mangal and Shubhra Mangal (2004). It was designed for the senior secondary school students in the age group of 16 years and above in respect of four aspects of emotional intelligence, namely, intra-personal awareness (Knowing about one’s emotions), inter-personal awareness (knowing about others emotions), intra-personal management (managing one’s own emotions) and inter-personal management (managing others emotions). It has 100 items, 25 each from the four areas, to be answered by ‘yes’ or ‘no’. Due care has been taken in the tool to make use of simple language and provide well-defined purpose full statements to the respondents for the assessment of their emotional intelligence.

Reliability of Mangal Emotional Intelligence Inventory

The reliability of this inventory was examined through three different methods namely, split-half method using Spearman-Brown prophecy formula, K-R formula (20) and test-retest method (after a period of four weeks). The reliability coefficients derived through these tests are given in the table No 5.

<table>
<thead>
<tr>
<th>Methods Used</th>
<th>N</th>
<th>Reliability Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Split half</td>
<td>600</td>
<td>.89</td>
</tr>
<tr>
<td>K-R formula (20)</td>
<td>600</td>
<td>0.90</td>
</tr>
<tr>
<td>Test-retest</td>
<td>200</td>
<td>0.92</td>
</tr>
</tbody>
</table>

Table 3.1: Reliability of Emotional Intelligence Inventory

Validity of Mangal Emotional Intelligence Inventory

The validity of the emotional intelligence inventory has been established by adopting two different approaches: factorial and criteria related.

Factorial Approach: For adopting factorial approach inter-correlations among the four areas of the inventory were calculated. The derived correctional matrix is presented in the table No 6.
Table 3.2: Correlation Matrix of The Four Areas of The Emotional Intelligence Inventory 
(N = 600: 300 males and 300 females)

<table>
<thead>
<tr>
<th></th>
<th>Intra Personal Awareness</th>
<th>Inter Personal Awareness</th>
<th>Intra Personal Management</th>
<th>Inter Personal Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intra Personal Awareness</td>
<td>-</td>
<td>.716</td>
<td>.501</td>
<td>.437</td>
</tr>
<tr>
<td>Inter Personal Awareness</td>
<td>.716</td>
<td>-</td>
<td>.452</td>
<td>.480</td>
</tr>
<tr>
<td>Intra Personal Management</td>
<td>.501</td>
<td>.452</td>
<td>-</td>
<td>.476</td>
</tr>
<tr>
<td>Inter Personal Management</td>
<td>.437</td>
<td>.480</td>
<td>.476</td>
<td>-</td>
</tr>
</tbody>
</table>

Table no 6 reveals that correlations among four areas of inventory vary from .437 to .716 (after testing these correlations at the .01 level – 2 tailed, it was found that all were significant). Thurston’s centroid method of factor analysis was employed and after the extraction of second centroid factor from the first residual matrix, it was amply proved that the four areas of emotional intelligence inventory are quite inter-dependent and interrelated among themselves.

**Criterion related approach:** Two different external measures used for criterion related approach were (a) Adjustment Inventory for college students developed by A. K. P. Sinha and R. P. Singh and (b) Emotional Maturity Scale developed by Yasvir Singh and Mahesh Bhargava. In both these measures the lower scores tend to represent favorable result i.e. good adjustment and higher level of emotional maturity while in the case of emotional intelligence inventory it goes in the opposite direction i.e. providing lower level of emotional intelligence.

The validity coefficients (the Product Moment Correlation coefficients obtained between total scores on Emotional Intelligence Inventory and Adjustment Inventory as well as Emotional Maturity Scale) obtained through these two measures has been given in table No 7.
### Table 3.3: Validity of Emotional Intelligence Inventory

<table>
<thead>
<tr>
<th>Measured Used</th>
<th>Validity Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustment inventory for college students (N=400)</td>
<td>-0.662</td>
</tr>
<tr>
<td>Emotional maturity scale (N= 400)</td>
<td>-0.613</td>
</tr>
</tbody>
</table>

### Description of Academic Stress Scale

The Academic Stress scale was developed by Bisht (2005). The scale was designed to measure the Battery of stress scale, which can be given in the age group of 13-17 years old. Overall, the scale measuring 13 dimensions in which one of the Academic Stress scale consist of 80-items with response category ranges from ‘Always’ to ‘Never’. The scale measures four independent components namely: (i) Academic Frustration (ii) Academic Conflict (iii) Academic Pressure and (iv) Academic Anxiety.

### Reliability

Reliability of the scale of battery was calculated in three ways

i. Dependability, i.e. short term test-retest correlation

ii. Stability, i.e. retest after a long interval

iii. Internal consistency i.e. split half correlation between total scores and scores on each of the component.

### Table 3.4:  Dependability, Stability and Internal Consistency (Split-half) Coefficients. N=243

<table>
<thead>
<tr>
<th>Scale</th>
<th>Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dependability</td>
</tr>
<tr>
<td>SAS</td>
<td>.87</td>
</tr>
</tbody>
</table>
Table 3.5: Internal consistency coefficients (correlation between total and component scores)

<table>
<thead>
<tr>
<th>Scales</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frustration</td>
</tr>
<tr>
<td>SAS</td>
<td>.37</td>
</tr>
</tbody>
</table>

N=243

Significance at .05 level.

Validity- The scales appear to be having content validity and item validity. The method of scaling items supports this supposition. In addition construct validity (discriminability) was estimated in a two-fold fashion.

The corresponding grouping of high average and low stress in terms of percentile for interpretation is-

High stress - P_{70} or above
Average stress - P_{60} to P_{31}
Low stress - P_{30} or below

Table 3.6: Percentile on the scale of the stress battery

<table>
<thead>
<tr>
<th>Scale</th>
<th>P_{10}</th>
<th>P_{20}</th>
<th>P_{30}</th>
<th>P_{40}</th>
<th>P_{50}</th>
<th>P_{60}</th>
<th>P_{70}</th>
<th>P_{80}</th>
<th>P_{90}</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAS</td>
<td>58.34</td>
<td>63.00</td>
<td>79.82</td>
<td>91.01</td>
<td>99.33</td>
<td>129.00</td>
<td>134.32</td>
<td>175.00</td>
<td>210.22</td>
</tr>
</tbody>
</table>

3.5 PILOT STUDY

At the final stage of the explanatory research methodology a pilot study was executed. The questionnaire has to be evaluated by means of pilot study before it is implemented among the population (Saunders, 2003). The main reason for the pilot study is to provide assurance that respondents do not face any consequences due to the questionnaire methodology. The questionnaire, before implementing for the data collection process, can be improved or developed with results obtained from the pilot study. Pilot study also provides the validity for the questionnaire implemented (Saunders, 2003)
The pilot study of the questionnaire was conducted. In order to complete a pilot study for a questionnaire, minimum of ten people are required (Fink, 2003). Over the following issues the participants were questioned:

- Clarity of the questions (Fink, 2003)
- Relevance of the questions (Fink, 2003)
- Overall layout of the entire questionnaire (Bell, 2005)
- Length of time taken to complete the questionnaire (Bell, 2005)

The questionnaire was then altered by the researcher by means of the feedback obtained at the end of the research methodology by the participants but the questions framed were not changed. There were change with respect to the length of the questionnaire like altering the font size and line spacing.

3.6 VALIDITY OF RESEARCH

The research validity is entirely based on the verifiability feature of the results obtained from the research (Saunders, 2003). Reliability and validity are the significant indicators related to the quality of a measuring instrument. The method was instrument creation and its validation, where emphasis was on minimizing error in the methods of measurement. Reliability assesses the stability measures, internal consistency, and reliability of instrument scores. Validity is about the result interpretation of a test, which relies on the specific application of the intended test is to serve. (Kimberlin & Winterstein, 2008).

3.7 ETHICAL APPROACHES

The research design has its impacts over various aspects of the research process like data collection, data analysis and data publication (Burton, 2000). Hence, the ethical inference was considered in every stages of the research process by the researcher. Every participant of the research process is ensured with their privacy and secrecy. Volunteer participants of the research are treated with confidentiality. The participant’s personal information and details like name, address, phone number, or email are gathered in the research. The research process was designed and carried out in such a manner that the participants had no doubt over their privacy and anonymity. Saunders (2003) identified the following rights of the participants from the research process:
• Participants were not compelled for the survey.
• Set the time of conversation according to the participants comfort.
• The factors influencing the participation in the research process are to be determined.
• To deserve the right to answer.
• Not involving certain questions due to which participants may feel uncomfortable.
• Avoiding overtime survey or interview process.
• The factors affecting the religious or cultural sentiments are not to be implemented.

The researcher makes use of the rights of participants in the existing research as defined by Saunders (2003).

3.8 DIGNITY
In the research process the participants were treated with corresponding respect and dignity. There are certain situations where the participants found themselves to be the subject for the study and compelled to answer the questions. The participants were hence assured that the research process includes only the voluntary participation and their participation was not compelled. The research dealt with and clarified the questions raised by the volunteers (Burton, 2000).

3.9 ETHNICITY
The research has its concern over not to disturb the emotional feelings of the participants. The questionnaire was built to have a neutral nature. The researcher also has also taken steps to not consider any individual, a group, or particular organizational participants for the survey or any other research process (Burton, 2000).

3.10 INFORMED CONSENT
The informed approval approach was also carefully followed. By conveying to the participants the complete information regarding the purpose and inference of the research enables the researcher to validate the instruments and tools implemented in the research. The participant’s approval obtained at the initial stage of the research was due to the Saunders (2003) study of participant consent model.
Table 3.7: Participant Consent Model

<table>
<thead>
<tr>
<th>Lack of consent</th>
<th>Implied consent</th>
<th>Informed consent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants lacks knowledge</td>
<td>Participant does not fully understand their rights</td>
<td>The consent of the participant was provided freely. It was based on full information</td>
</tr>
<tr>
<td>Researcher used deception to collect the available data</td>
<td>Researcher implies consent about use of data. This is obtained by access to or return of questionnaire.</td>
<td>provided about the rights of the participants and complete disclosure on how the data would be used and for what purpose.</td>
</tr>
</tbody>
</table>

Source: Saunders et al. (2003)

3.11 PROCEDURE OF DATA COLLECTION

Permission to carry out the present research proposal was obtained from the school authority. The first investigator contacted in-charge of the school, explained the objective of the research study and obtained permission for the study. After obtaining the requisite permission, the investigator visited the school two days before the task of data collection. The investigator visited Evergreen Public School, Vasundhara, Delhi to ensure better response, co-operation, personal contact and genuine interest. During this visit, the student participants’ were provided a detailed description of the study and of yoga practice. Requirements of the study were clearly stated, methods of data collection were described, and any questions posed by the participants were well answered. The participants were also briefed about the preparations to be made by them before they came for the yoga. They were particularly asked to wear suitable clothes and eat light food before coming for yoga practice.

On the first day, the investigator reached the school a little before the scheduled time and explained the procedure to fill the questionnaires to the participants. During the administration of these tests the investigator explained the difficult words/difficulties and encouraged the students to convey their feelings at that time. The participants were discouraged from giving generalized answers.

From the next day onwards, the investigator applied yoga practices on the 56 students of the experimental group. No yogic practice was applied to the control group. The yoga practices were selected in consultation with the yoga experts of Bhartiya Yoga Sansthan, Delhi. Yoga experts from this Sansthan administered the selected yoga practices to the
experimental group. Participation in the experimental study was not voluntary; it was based on the scores obtained in the tools administered. Yoga practices were conducted daily for eight weeks except Sundays. Yoga practices were carried out for 60 minutes every day.

On the completion of the yoga intervention programme the investigator carried out the post test for academic stress and emotional intelligence on the control and experimental group. Thereafter, the investigator collected the filled in questionnaire and thanked the school authorities and participants for their kind cooperation.

3.12 SCORING PROCEDURE

Scoring Procedure for Emotional Intelligence Inventory

The scoring procedure of this inventory has been done with the help of stencil. The mode of response to each of the item of the inventory is in the form of a forced choice i.e. either yes or no, indicating complete agreement or disagreement with the proposed statement respectively. In the present emotional intelligence inventory the items having the response ‘yes’ and ‘no’ are for the lack of emotional intelligence. Similarly, the items having ‘no’ response provides clue for the presence of emotional intelligence and ‘yes’ for its absence.

For scoring, one mark is to be provided for the response indicating presence of emotional intelligence and zero for the absence of emotional intelligence. The list of the responses of the terms indicative of the presence or absence of emotional intelligence is provided here in table No. 10.

Table 3.8: Scoring Scheme of Emotional Intelligence Inventory

<table>
<thead>
<tr>
<th>Sr. No. of the items (where ‘yes’ response shows presence of intelligence)</th>
<th>Mode of Response</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>6, 18, 19, 20, 23 to 25, 27 to 29, 31, 41 to 44, 51 to 56, 58 to 68, 70, 71, 73 to 76, 79 to 82, 84, 88 to 90, 96, 99</td>
<td>‘Yes’</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>‘No’</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sr. No. of the items (where ‘no’ response shows presence of intelligence)</th>
<th>Mode of Response</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 5, 7 to 17, 21, 22, 26, 30, 32 to 40, 45 to 50, 57, 69, 72, 77, 78, 83, 85 to 87, 91 to 95, 97, 98, 100</td>
<td>‘No’</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>‘Yes’</td>
<td>0</td>
</tr>
</tbody>
</table>
3.13 SCORING PROCEDURE

**Scoring Procedure of Academic Stress Inventory**

The scoring method is as follows: 4 mark for ‘Always’, 3 mark for ‘Often’, 2 mark for ‘Sometimes’, 1 mark for ‘Rarely’ and 0 mark for ‘Never’. The total scores in each of the component describe three levels of stress namely: High stress, Average stress and Low stress.

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Components</th>
<th>Item Numbers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Academic Frustration</td>
<td>2,5,7,15,18,20,22,25,33,39,44,45,46,50,52,55,56,57,62,63,67,68,69,72,75,77</td>
<td>26</td>
</tr>
<tr>
<td>2</td>
<td>Academic Conflict</td>
<td>8,11,16,21,24,28,37,41,42,43,47,54,59,71,79</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
<td>Academic Pressure</td>
<td>1,3,4,6,10,14,23,26,29,31,32,34,35,38,53,58,60,61,64,70,73,74,76,78</td>
<td>24</td>
</tr>
<tr>
<td>4</td>
<td>Academic Anxiety</td>
<td>9,12,13,17,19,27,30,36,40,48,49,51,55,66,80</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
<th>Total</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too much</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 3.9: Distribution of Items of Sas**

**Variables In The Study**

In the present study Yoga practices is an independent variable. The emotional Intelligence and Academic stress of secondary school students are the dependent variables of the study.
3.14 MAIN STUDY: PARTICIPANTS (EXPERIMENTAL & CONTROL GROUP)
In this study, participants of both boys and girls adolescent students belonging to Evergreen Public School, Vasundharaat New Delhi. Their age ranges between 16-18 years. The total sample consists of 112 students divided into two groups 56 students in experimental group and 56 students in the control group. Each group having both boys and girls.

![Diagram](image)

**Figure 3.2**: Diagrammatic Presentation of the Study

The yoga practice classes focused on yoga with pranayama (breathing techniques), asanas (postures) and Dhyana and discussion session, all of which consistent with the way that
yoga is defined for the purposes of this study. The control group participants were not exposed to yoga practices. During the course of the study, both groups were not asked to participate in any other yoga classes during the intervention. The participants were not excluded on the basis of current psychological state, activity levels, religious beliefs, body composition, ethnicity or gender. The above data was gathered by using demographic details in the inventory and scales.

3.15 DESIGN OF YOGA PRACTICES

The Intervention technique namely yoga practices have been implemented in the present study. In this technique the main emphasis is on Asanas, Pranayama and Dhyana. The intervention of yoga practices was given to the experimental group for 60 minutes per day for a period of 8 weeks (2 months). The details of the yoga practices as follows:

Table 3.10: Details of the Yoga Practices

<table>
<thead>
<tr>
<th>S. N</th>
<th>Description of Activity/exercise</th>
<th>Time taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Roll call and prayer</td>
<td>4 min.</td>
</tr>
<tr>
<td>2</td>
<td>Warm-up exercise</td>
<td>3 min.</td>
</tr>
<tr>
<td>3</td>
<td>ASANA</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>Sukhasana</td>
<td>2 min</td>
</tr>
<tr>
<td>(ii)</td>
<td>Padmasana</td>
<td>2 min</td>
</tr>
<tr>
<td>(iii)</td>
<td>talasana</td>
<td>2 min</td>
</tr>
<tr>
<td>(iv)</td>
<td>konasana</td>
<td>2 min</td>
</tr>
<tr>
<td>(v)</td>
<td>triconasana</td>
<td>2 min</td>
</tr>
<tr>
<td>(vi)</td>
<td>yogmudra</td>
<td>2 min</td>
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<tr>
<td>(vii)</td>
<td>paschimotanasana</td>
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<td>(viii)</td>
<td>Vajrasana</td>
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<td>(ix)</td>
<td>ustrasana</td>
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<tr>
<td>(x)</td>
<td>pawanmuktasana</td>
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Chapter 3  
Plan and Procedure of the Study

<table>
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<tr>
<th>S. N</th>
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<th>Time taken</th>
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<td>bhujangasana</td>
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<td>shalabhasana</td>
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<td>savasana</td>
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<td>(ii) Kapalbhati</td>
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<td>(iii) Bhranri</td>
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<td>Meditation</td>
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<td>7</td>
<td>Prayer</td>
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<td>8</td>
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**Description of yoga practices**

The yogic practices were scheduled for a period of 8 weeks the approximate time for the schedule programme was about an hour each day. The following order conveys the sequence of events that were taken up during the practice period:

**Prayer and roll call**

The prayer section included the chanting of the word Omkar "OM" three times each day followed by Gayatri Mantra.

**PRAYER**

ॐ पूर्णमदं पूर्णाति पूर्णमुदच्येत  पूर्णस्य पूर्णमादि पूर्णमेवावश्यते

Om, All that is invisible is verity, the infinite Brahma. All that is visible is also the infinite brahma. The whole Universe has come out of the infinite Brahma, and whatever is left is still that infinite Brahma.
WARM UP EXERCISE

ASANAS

After warm up exercise the session was followed by Asanas. The following Asanas were used in the yogic practices.

Sukhasana

This is an easy, comfortable posture for meditation and one can sit for long duration in this Asana.

Technique

In this Asana one has to sit cross legged ensure that the bone of the ankle does not touch the floor. The neck and spine column should be erect. Keep the body tension free. Place both hands on knees in gyan mudra and relax shoulders and elbows. Close eyes and observe normal breathing.

Benefits

- Physical and mental stability
- Calm nerves relieves the stiffness of knees and joints
- The body does not get tired and mind remains restful.
- Entire body is kept in equilibrium
- Enables one to sit for long periods.
- It regulates the process of inhalation and exhalation.

Padmasana

Padmasana is one of the meditative postures. padma in Sanskrit means a lotus.this pose is called padmasana because it is imitation of the lotus. The two feet placed on the opposite thighs represents the lotus leaves and two hand arranged one above the other stand for the blooming lotus.

Technique

In this asana one has to stretch both the legs forward. Place right foot on top of the left thigh, soles up. Place left foot on top of the right thigh soles up. Keep the body erect and place the left hand on the right heel palm up and the right hand on the left hand,
palm up, or alternatively the hands can be kept on knees in gyan mudra. In this posture the tip of the index finger touching the thumb makes a circle which is called **gyan mudra.** Close eyes and observe normal breathing.

**Benefits**

- Calm nerves, relieves the stiffness of knees and joints.
- Helps cure laziness and distraction.
- Helps in curing constipation, asthma, cough etc.
- Helps strengthen the limbs above the waist.
- By sitting in padmasana blood circulation in the feet improves
- Nervous system is strengthened.
- Entire body is kept in equilibrium.
- Physical and mental stability.
- It helps to cure sciatica and other cumatic pains of the legs and feet.
- Improve digestion power of the body.
- It improves the concentration power and helps in the process of meditation.

**Talasan**

First secure the correct standing pose: Keep the feet either together or apart keep the hands at their respective sides, the chest thrown well forward, the neck straight, the abdomen in normal contour, and chin drawn in. As you raise one arm forward alternative use being preferred each exercise for an upward stretch slowly start inhaling in such a way as to enable you to complete a full breath by the time the arm reaches a vertical position synchronizing simultaneously with the rising on the toes. Now complete the upward stretch of the arm complete with a deep breath. Now rise fully on tip toes and retaining the breath, stretch your body upward to the maximum height and maintain this pose for 4 seconds. After this brief standstill gradually reverse the whole movement. Slowly exhaling as the arm (kept straight) returns to the normal position through a backward and downward circuit, remember to lower the heels simultaneously and assume the original position. For the next exercise use the other arms and repeat alternatively after a short interval of a few second.
Benefits

- The asana stretches entire body.

- It helps in the expansion of lungs, develops respiratory muscles, improves capacity of lungs and aids blood circulation.

- This asana is found to increase height up to a certain age due to traction in 206 bones.

- It improves neuro-muscular coordination.

- It energies the heart, activates the lungs and make shoulder strong.

- Coordination of muscular activity is brought about by practice of this asana.

Konasana

Stand straight with feet 2 inches apart and parallel. Raise the left arms above the head touching the ear while inhaling for 2 seconds bend sideways to the right, arm and head parallel to the ground. Retain the breath for 4 seconds while maintaining the pose. While exhaling for 2 seconds return to the starting position. Repeat on the other side.

Benefits

- The skeleton-system becomes strong and it also makes ankle knees and thigh very strong and elastic.

- The awareness and concentration will improve.

- All deformities related to spine (because of sitting for long hours or due to heavy bags among adolescents) get corrected.

- Activates all abdominal muscles and helps in reducing extra fat.

Triconasana

First stand by keeping legs apart and inhale completely by raising them up in complete horizontal position, then by exhaling, bend the trunk to the right and try to touch the ankle with right hand behind the right foot. By turning face upwards the arm should form a vertical line with the face. After maintaining this posture for few seconds repeat the same towards left. Likewise repeat it several times.
Benefits

- Asana gives very good lateral movements to the spine. It makes the ankles, knees, and thighs very strong and elastic and deformities of the spine, related to posture (because of long sitting hours in the classrooms or due to heavy school bags) are set right.
- Tones up muscle in the legs, hips, and back. The bones below the knees become so strong that it is unlikely that one will ever fracture a bone or have a sprain.
- Activates all muscles in the abdominal region and to reduce extra fat.
- This asana helps in enhancing concentration power of a person.

Yog Mudra

In this asana one has to sit in sukhasana and hold the wrist of one hand with the other at the back shoulder and elbow should be relaxed. Breathe in deeply for 3 seconds drawing your shoulder at the back as you do this. After that exhalation of 3 seconds, twist the upper body to one side and bend down and touch your forehead on the knee, gently drop the shoulders and remain in this position for 3 seconds. Inhale slowly and comeup in 3 seconds. Draw the shoulders at the back and then with an exhalation of 3 seconds twist the body to the other side and bend and touch the forehead on the other knee. Drop the shoulders and retain this position for 6 seconds. Then with an inhalation of 3 seconds return to original position. Bend down in the same manner as explained above but this time instead of touching the forehead to the knee touch it to the ground hold again for 6 seconds and return to original position with an inhalation of 3 seconds.

Benefits

- In this asana the lateral stretching of almost all the posterior muscles of the trunk and neck contribute to improve muscular tone and better circulation of the spinal column.
- This asana is remedy for constipation and stimulates the elimination of toxic wastes from the colon.
- It strengthens abdominal muscles.
- This asana helps in attaining strength, steadiness, relaxation and higher awareness.
- It improves concentration.
**Paschimotanasana**

(Posterior stretching pose)

One has to sit on the floor with fully stretched legs in front of him inhale for 3 seconds. While exhaling 3 seconds bend forward and try to touch the toes while not bending the knees. Maintain the pose and retain breath for 6 seconds. While inhaling for 3 seconds, return to the starting position.

**Benefits**

- When we bend backward there is relaxation for the body and it also generates the feeling of humility.
- Very good for spinal column
- Regenerates kidneys and digestive organs.
- Generates positive feelings.
- Develops sense of responsibility and duty towards others.
- Improves concentration.
- The act of bending forward is an act of submission and induces parasympathetic responses like relaxation 'let go' suppliance.
- This asana is remedy for constipation
- It helps to tone up the nervous system
- Excellent for digestion.

**Vajrasana**

Kneel on the floor keeping your back straight and shoulders relaxed. Then keep the knees together, heels apart with the toes touching each other rest your buttocks between your heels place the palms on the respective knees. Close your eyes and sit in this posture.

**Benefits**

- Excellent pose for attaining stability of the mind.
- By performing vajrasana digestive system is toned up, it also strengthens up spine neck and ankles.
• Cures rheumatic pain
• Improves digestion.
• Makes neck and waist flexible.
• It gives relief from physical and mental exhaustion and also helps control temper.
• Since the neck and back bone remain straight in this asana, the body is relaxed and it provides rest to all organs of the body.

**Ustrasan**
In this posture assume, sitting posture as in kneeling. Fix the arms from behind keeping the palms on the ground. While breathing in slowly lift the pelvis. Finally bring your body in the position of arch throwing head backward. Remain in this position for 3 seconds. Come back to normal position while breathing out.

**Benefits**
• Strengthen abdominal muscles.
• Improve flexibility of the spine.
• This asana improves concentration power of a person.
• Improves confidence and coping behaviour and reduces anxiety.

**Pawanmukatasana**
Lie flat on the back. While exhaling for 2 seconds lift both the legs straight, 6 inches above the ground. Bend the legs to the chest close to the abdomen. Interlock the fingers around the knees. Suspend the breath for 4 seconds while holding the position. Stay in this position for a few moments after that start exhaling, lift the head and try to touch the nose with bent knees. Inhale and bring the head back in normal position.

**Benefits**
• When knees are pressed against the abdomen ascending colon, descending colon, transverse colon and naval are affected.
• Benefits digestive system.
• This Asana prevents the extra accumulation of fat in the abdomen.

• Liver and spleen are positively affected.

**Halasana**

The root meaning of the posture in Sanskrit is plough. It can be metaphorically compared to earth and mind i.e., as the earth has to be ploughed every year to keep it loose and aired so also the mind has to be ploughed over and over to keep it open and receptive.

In this asana the posture of the body looks like a plough and hence the name halasana.

Lies flat on the back stretch the arms straight and bring the toes and heels together. The palm will face towards the ground keep the arm by the sides along with the body while inhaling for 3 seconds raise both the legs together till they are brought to a right angle with the body. While exhaling for 3 seconds raise the hips, support the hands and lower the legs towards and beyond the head on the floor. Keep the legs together and the knees straight. After reaching the floor point the toes outwards and try to side further away from the head. Body weight should be on the shoulder. Suspend breath for 6 seconds while maintaining the pose. While inhaling for 3 seconds gently bring the legs back to the starting position. While lowering the legs head should not rise up. Rest immediately in shavasana for 3 minutes.

**Benefits**

• The main emphasis of this asana is on the spine which is stretched to the maximum capacity. Even spine is stretched up to three inches more than its length so it becomes more flexible and healthy. This asana helps in supplying adequate quantum of blood strengthening the spinal column.

• All the glands get contracted while performing this asana and when we return to the original position they get expanded and these glands get a fresh supply of oxygenated blood.

• By stretching the spinal cord all the nerves connected with the spine and the muscles are stimulated in such a manner that one is absolutely relieved of fatigue and exhaustion as a result body gets relaxed.
Revitalizes muscles and nerves of the neck.

In the process of pressing and expanding lungs get fresh oxygen supply and release maximum Carbon di oxide.

This asana strengthens hands and shoulders.

Prevents fat deposition on stomach, hip and waist.

**Bhujanagasana (Cobra Pose)**

*Like a snake, the spine would be moved from end to end; when the head moves the movement is transmitted*

B. K. S. Iyengar

This asana is called bhujang asana as the posture resembles a cobra.

Lie down on the abdomen. Bring the heels and toes together and stretch them to the maximum outwards. Place palms on the floor by the side of the chest (close to the body). The gap between the palms should be equal to the gap between the shoulders, forehead resting the ground. While inhaling for 3 seconds slowly lift the head and shoulder backwards without much pressure on the palms and look upward. In this position chest and abdomen should be raised up to the naval.

Retain breath for 3 seconds return to starting position. Lie down in makrasana for one minute and relax. The most important point to be kept in mind here is that while attaining the final position the breath should be inhaled completely and while practicing this asana there should be no gap between the heels and the toes should remain stretched.

**Benefits**

- Body becomes flexible.
- It corrects minor deformities in the cervical, thoracic and lumber region of the spine.
- It makes back bone flexible and imparts strength to the root nerves and tones up nervous system.
- It regulates the function of the adrenal glands and thereby promotes emotional poise.
• It cures tonsillitis and other ailments of the throat.
• It refreshes the brain.
• Psychologically, the cobra pose increases ones strength to overcome the obstacle.

**PRECAUTION**

While doing the asana minimum weight should be put on palms and maximum weight on the pelvic region.

**Shalabhasana (Locust Pose)**

Shalabh means a locust in Sanskrit. The final position of this asana resembles a locust when it lowers it head and raises its tail.

Lie flat on the abdomen keep both palms under the thigh in such a way that the palm should stick to the thighs and palm should be facing upward. Legs fully stretched and the toes pointing outwards. Rest the chin on the ground while exhaling for 2 seconds lift the legs from behind upward, keeping the knee straight. Maintain the pose for 4 seconds while suspending the breath. While inhaling for 2 seconds return to the starting position.

**Benefits**

• Beneficial for digestive organs. Cures most persistent constipation

• Lower extremity is the most inflexible part of spinal column. This asana make this past flexible resilient and strong. It removes all the ailment of the back bone i.e. cervical spondaic, slip-disk and backache etc. By raising the abdomen to the maximum, the energy situated in the lower part of the body starts flowing upward into the brain and consequently it imparts great strength to the part. Lower abdomen is strengthened and ankle, calves and thigh are toned up. It gives strength to lungs and heart.

• Cleanses and regenerates kidneys.

• Improves concentration power.
Dhanurasana

In this asana body posture resembles that of a bow. Lie flat on the abdomen with the legs fully stretch out and arms resting at their respective sides. Bend the legs at the knee joints upwards from behind and fold them. Grasp the ankles while keeping the arm stretched at full length. While inhaling for 3 seconds raise the head and neck upwards, simultaneously pull at the ankles and raise the legs upward keeping the knees together at all times. While retaining the breath maintain the pose for 6 seconds. While exhaling for 3 seconds return to the starting position rest in makrasana.

Benefits

- This asana strengthen the muscles abdomen, thigh and buttocks.
- It makes body and spine flexible by stretching bones and muscles together.
- It improves the elasticity of the waist and prevents formation of fat around hip and stomach.
- Stimulates endocrine glands.
- Dhanurasana improves digestion prevents intestinal weakness and ailment of kidney and liver.
- It tones up nervous system and stimulates glandular, nervous and muscular systems.

Shavasana

The pose is called savasana because it requires complete relaxation of the muscles as in the case of a dead person, whose position the yogic student is to imitate in the practice of this posture.

The technique

The technique of savasana is simple to understand but somewhat difficult practically. In this asana one has to lie on his back and fully relax his muscles even in the relaxation position muscles remain slightly contracted. So, even this slight contraction is to be avoided in this asana. This requires an effort of will and concentration.
Student has to take one part of the body and thoroughly relax the muscles. Then he concentrate on that part of the body and imagine at every muscle tissue in that part is further relaxing. Constant practice of this procedure will enable the student to bring about full relaxation of different muscles. The eyes are to be kept close. Complete relaxation of whole frame is the final aim of the shavasana. Breathing should be allowed to have its own way.

**Benefits**
- Rhythmic breathing.
- Muscles work more efficiently because of their relaxation.
- Venous blood circulation is promoted throughout the body and thus fatigue is relieved.
- The whole nervous system is toned up and mental energy is considerably increased.

It relieves the tension of the body and mind.

Natural harmony between body and mind is established.

Heart disease, insomnia, nervous debility, mental imbalance, lack of memory and many other psychological ailments are alleviated by this asana.

**Laughter**

Man today is so much occupied with worldly activities and affected by strain and stresses of life that he has hardly any time left for laughter without inhabitations. Laughter is a natural activity. It has a miraculous effect on all the system of our body ultimate good lies in realizing that happiness is the perennial source of ananda which flows automatically and naturally within and happiness emanates from continuous laughter and is attained by practice. Practice of daily laughter reveals that physical laughter is slowly and gradually being converted into inner happiness.

Laughter is very effective in one’s life and that it restores our gross and subtle body to a natural position and thereby tones up their functional capacity.

(Sharma and Suman 1999, p. 120-122)
Simhasana (The lion posture)

**Technique**

Facing the sun, sit in padmasana stretch the hand forward bring the palms closer to each other with finger placed on the ground. The body should rest on the knees keep the throat and chest stretched outward now open the mouth and stretch the tongue out as much as possible. While inhaling start roaring like a lion the roar should be so long as to influence the throat, chest and abdomen. Roar should be repeated three times. Return to the original position and massage likely on the middle nadi of the throat.

(Sharma & Suman 1999, p. 109)

**Benefit**

- It cures the ailments of tonsils, and throat.
- By practicing this asana eyes, ears, nose, lungs and food pipe remain healthy.
- It alleviates anger, aggression, frustration and other negative feeling.

**PRANAYAMA**

Pranayama means a pause in the movement of breath. In Sanskrit prana means breath and ayama means a pause. Inhalation and exhalation takes place at a regulated speed. Regulation of inhalation, pause and exhalation constitute pranayama. Pranayama removes the morbid matter from the body and makes it healthy and strong. Through control of breath, one can have control over life-currents.

While doing the pranayama the whole body is irrigated with energy. The nerves are soothed, the brain is calmed and the hardness and rigidity of the lungs are loosened. (Iyengar, 2005)

In this study the investigator selected three pranayamas which were part of the yoga module. Pranayamas were performed in sukasana.

**Anulom vilom pranayam**

**Technique**

Sit erect in sukasana close the right nostril with right thumb and slowly inhale through the left nostril. Close the left nostril with the last two fingers remove the
thumb from right nostril and slowly exhale through the right nostril after the complete exhalation again inhale slowly through the right nostril close the right nostril with the right thumb remove the finger from the left nostril and slowly exhale through the left. Repeat the process several times comfortably. In this practice the ratio between inhalation–retention and exhalation should be 1:2:1.

**Benefits**
- Helps to boost respiratory system.
- Peaceful.
- Concentration, patient.

**Kapalbhati**

Kapalbhati Pranayama is a technique of pranayama that purifies the intellect. The word Kapalbhati is a compound consisting of two members kapala and bhati. In Sanskrit kapala means the skull and Bhati is derived from a Sanskrit root meaning to shine. Hence, kapalbhati means an exercise that makes the skull shining.

**Technique**

Sit in sukhasana place the hands comfortably on the knees close the eyes gently keep the spine and chest erect first inhale completely through the nostrils. Now make a short and sudden expulsion of breath through the nostril with force and repeat it a number of times in quick succession. Suddenly and forcibly exhale, making a contraction at the naval. Finally lower the chest, release the asana.

Broadly speaking kapalbhati is a breathing exercise of the abdominal or diaphragmatic type in which sudden expulsions of breath follows one another and in quick successions and which is characterized by the absence of any pause in the movement of breath. So long as the exercise continues this exercise consists of rechaka and puraka only. Rechaka is the principal part of practice, puraka being only supplementary.

In the rechaka of Kapalbhati the front abdominal muscles are suddenly and vigorously contracted giving an inward push to the abdominal viscera which in their turn move
upward pushing up the relaxing diaphragm that received in to the thorax expelling a volume of air from the lungs. In puraka one has simply to withdraw his control on these muscles and they will relax themselves. Relaxation of muscle is a passive act so when the abdominal muscles are let go at the end of Rechaka, they will voluntarily relax. At the end of Rechaka the diaphragm stands relaxed but ready for another contraction.

Benefits

It improves concentration power of the students.

This asana helps in improving memory and decision making skills.

It purifies the nostrils and the respiratory system.

It flushes out the accumulated impure residual air in the lungs, which cannot be flushed out by exhalation. By this practice completely fresh supply of air reaches into the lungs. Due to a large absorption of oxygen, it makes the blood purer and stimulates the normal circulation of blood in the body.

The agitated mind becomes calm and expansive with regular practice.

Bhramari Pranayama

The word bhramari is the feminine form of Bhramar which is an adjective derived from Bhramari meaning a bee in this pranayama the buzzing sound of a bee (Bhramar) is produced while doing rechaka. Hence named as Bhramari Pranayama

Though its techniques are very simple, it is a very effective type of pranayama as it helps us to ascend to the advanced state of meditation.

Technique:

Sit in sukhhasana or any other convenient asana. Keep the neck and spine straight close the eyes gently and close both the ears with the thumbs. Put the first two fingers on the eyes and last two fingers on the lips. Inhales slowly through the nostril and fill the lungs with air. Now exhale slowly through the nostril producing buzzing sound of a Bhramar. This is one round. Gradually increase the rounds. In the last round remove thumbs and ears before inhaling.
Benefits

- By exhaling through the nostrils and making the sound of a bee, all the veins and tissues of the brain are stimulated.
- Ailment such as insomnia and epilepsy, connected with brain disorder are cured.
- Blood and bone marrows are purified.
- Breath becomes steady and subtle.
- Power of concentration of mind is accelerated.

MEDITATION

Dhyana is a simple and significant practice of yoga.

Dhyana means the detachment of sense organs from outward objects after having achieved the stability of our body.

Techniques of meditation

Sit in a comfortable pose. Keep the trunk and head erect. Close the eyes. Inhale deeply, breath in and breath out with a feeling and continue watching the incoming and outgoing breath intensely, concentrate on middle of the eyebrows and eyes should be closed. Practice should be started slowly, progress gradually and stop at the point of discomfort. Even a short practice of meditation in daily routine brings immense benefits on the physical and psychological levels.

Prayer

Discussion

After performing yoga practices, discussion and guidance is very important part, to get an intervention. It is important to discuss about yoga practices and difficulties that were arising by performing those practices. It also helped the instructor to make the student understand about wrong postures during the execution of yogic practices so that the student can correct their posture.

To make programme more beneficial it also helped the student to satisfy their queries related to yoga practices.
To motivate them to perform yogic practices appropriately for maximum benefit.

With the help of discussion many personal problems, health related problem could be sorted out.

**Precaution**

- Asanas which involves greater stretch to portions of body are not recommended if any person suffering from peptic ulcer, hyper thyroid or sensitive cases of endocrine gland disorders.
- When bending the body backwards it is to be made sure not to make any violent jerks, as this may cause injury to the muscles.
- There should not be more than normal pressure on the back, arms and the ankle.
- Excessive strenuous breathing is to be avoided by those suffering from chronic nasal problem.
- Do not force the spine and allow it to move comfortably, otherwise nearby muscles might get injured and pain may last for few weeks.
- The yogic practice needs to done under the guidance of expert trainer.
- The practitioners should avoid heavy meals.
- Sound sleep is a must for effectiveness of yoga.
- Yoga practice should be performed empty stomach so it was instructed to not to take breakfast before yoga practices and take only liquids. That is lemon and honey water, fruit juices or plain water just one hour before yoga practice.

**Administration of the Test**

For the administration of these tests on the adolescent students the investigators gave the instructions as according to the manual. These instructions were

i. No time limit for the completion of the tests.
ii. Before administrating the scale it was verbally emphasized that response should be checked for the same and such responses will be kept confidential.
iii. Every statement should be answered.
iv. The scale is self-administrating.
3.16 PRE-INTERVENTION
During the pre-intervention, the adolescent students of experimental and control
group were administered both the Emotional Intelligence Inventory and Academic
stress scale and their scores were noted.

3.17 POST-INTERVENTION
Those students who underwent the yoga practices (experimental group) and control
group of students (not exposed to yoga practices) were administered both the
Emotional Intelligence Inventory and Academic stress scale and their scores were
noted for further statistical analysis.

3.18 DATA ANALYSES
Statistics is a mathematical technique or process of gathering, describing, organizing,
analyzing and interpreting numerical data. The statistical techniques are used to give
meaningful and considerable picture of whole data so that it could be easily
comprehended. It was employed to test the hypotheses of the study. For the present study,
the following statistical techniques were used for the analysis and interpretation of data:
such as Mean, SD and CR value have been employed for finding the significance of
difference among mean scores. Reliability analysis and Correlation analysis was
conducted for determining whether there is any linear relationship among the components
of Emotional Intelligence and Academic Stress. Independent sample ‘t’ - test has been
applied to testing the proposed hypotheses mentioned in this study yet the final selection
of the statistical technique depends upon the nature of data. So, appropriate statistical
techniques are used by keeping in view the hypotheses.

3.19 SUMMARY
The chapter discusses about the research method and rationale implemented, for selecting
various features that are related to the research. This also includes the selection of
appropriate research design, data collection techniques and statistical methods and tests that
are implemented for the data analysis. The primary and secondary data sources are used in
the research. The most important data collecting approach implemented in the research
process is the pre and post effect design where the effect of yoga practices is evaluated
using structured questionnaire method in order to support and confirm the quantitative
findings. SPSS version 20.0 was implemented for the data analysis process so that the
quantitative data are analyzed and presented and also executes both descriptive and
inferential statistics. Also, percentage analysis was employed in the research process for analyzing data and examining the hypotheses.

**Statistical techniques used**

Statistics is a scientific method for collection, tabulation, presentation analyzing and interpretation of numerical data. Statistical techniques are used for drawing general conclusions and inferences or making predictions on the basis of particulars, facts and evidences without bias and related to a pre-determined purpose. In this study, the following statistical techniques were used for analysis and interpretation of data:

- **Range**: The range was used to describe the difference between the minimum and maximum scores among adolescent students to evaluate the effect of yoga practices.

- **Mean**: The mean value was calculated to describe the status of emotional intelligence and academic stress of adolescent students before and after yoga intervention.

- **Standard deviation**: The Standard deviation was used to know more reliable measure of variability in all components of emotional intelligence and academic stress of adolescent students.

- **Correlation**: Pearson correlation was used to describe magnitude and direction of relation among components of emotional intelligence (intrapersonal awareness, intrapersonal management, interpersonal awareness, interpersonal management) and academic stress (academic anxiety, academic pressure, academic conflict, academic frustration).

- **t-test**: The t-test was used to determine the significance of the difference between the means of experimental and control group before and after yoga practices among adolescent students.