CHAPTER – III

METHOD AND PROCEDURE

To evaluate the effects of mental simulation training on the selected socio-psychological variables, the methods and procedure that were adopted and followed have been mentioned in this chapter. The design of the study, the procedure used for the selection of subjects, selection of variables, selection of tests, description of tests, administration of tests, collection of data, training design of the study, training schedule for experiment and control groups and statistical design used for analyzing the data have been described in this part of the thesis.

DESIGN OF THE STUDY

The present study was an experimental type of study, undertaken with the objective to find out the effects of specifically designed mental simulation training programme on the selected socio-psychological variables as well as on the selected three basketball skills among school level basketball players who had been classified into experiment and control groups for the purpose of this study.

SELECTION OF SUBJECTS

The sample consisted of a total number of 100 boys and girls in the age group of 15 to 19 studying in 9th to 12th grades of Senior Secondary Schools at Dehradoon in the State of Uttranchal Pradesh. The sample was divided into two parallel groups i.e. experiment and control groups by using simple random sampling technique. The experiment group comprised the control group comprised 50
basketball playing boys and girls who were subjected to the mental simulation training and the control group comprised 50 those basketball playing boys and girls who were not be subjected to any mental simulation training, but had continued with their routine training and practice schedule. There were equal number of subjects from both the genders. The descriptive break up of the sample has been depicted below:

Total Sample = 100

Experiment Group = 50  Control Group = 50


**SELECTION OF VARIABLES**

The following variables had been selected to study the effects of mental simulation training:

*Dependent Variables:*

1. Emotional Intelligence.
2. Self-Esteem.
3. Performance in three selected basketball skills i.e. single hand set shot, jump shot, and lay up shot.

*Independent Variable:*

*Overall Mental Simulation Abilities:* It was considered desirable to evaluate these abilities among the subjects and then to study the effects of experimental training thereupon as well.
**SELECTION OF TESTS**

The following tests were used to collect pre-test and post-test data:

1) To measure emotional intelligence, Seven Fold Emotional Intelligence Scale constructed by Khera, Ahuja and Sarabjeet (2002) was administered.

2) To measure self-esteem, Self-Esteem Inventory constructed by Thakur and Prashad (1998) was used.

3) To evaluate the overall mental simulation abilities of the subjects, Mental Imagery Questionnaire developed by Rajamanickam (1999) was used.

4) To quantify performance on selected three basketball skills, simple performance evaluation chart was prepared.

**DESCRIPTION OF THE TESTS**

1. **SEVEN FOLD EMOTIONAL INTELLIGENCE SCALE (SFEIS)**

   The Seven Fold Emotional Intelligence Scale (Khera et al, 2002) administered to the subjects and it had questions pertaining to the following seven dimensions of emotional intelligence:-

   (i) Self-awareness and appraisal (SAA),
   (ii) Self-regulation and responsibility (SRR),
   (iii) Self-motivation (SM)
   (iv) Self-esteem and confidence (SEC),
   (v) Empathy and acceptance of others (EAO),
   (vi) Interpersonal relations (IPR), and
   (vii) Social Skills (SS).
Out of these seven dimensions of emotional intelligence, the four i.e. SAA, SRR, SM and SEC related to self whereas EAO, IPR and SS related to the others. The scale, however, was presented as a whole in the form of a single self-report questionnaire.

Reliability

The reliability of the scale had been computed through two methods i.e. split-half method and test-retest method. For split-half method the test was divided into two equivalent ‘halves’ and correlation was found for these ‘halves’. The reliability coefficient was determined by adopting odd – even procedure i.e. all odd-numbered items (like 1, 3, 5, 7, 9 etc.) constituted one part and all even-numbered items (like 2, 4, 6, 8, 10 etc.) constituted the other part of the test. Product movement (PM) correlation was computed to obtain the reliability of the half-test. On the basis of this half-test reliability, reliability for the whole test was estimated by using Spearman Brown prophecy formula. The self-correlation of the SFEIS was found to be .95, significant at .01 level. In the test-retest method the same test was administered to the same subjects twice after a gap of three weeks and the two sets of scores, when correlated, gave the value of the reliability coefficient, which was found to be .91, significant at .01 level.

Validity

The content validity had been computed through the item test correlation of each item in the second draft of the scale. The correlation coefficient were calculated for each item in all the seven dimensions with the total score the scale and with the total score of the respective dimensions. Results of the coefficient of correlation were found to have a value of more than .20, which was found to be satisfactory.
Method of Scoring

The scale provided five options i.e., always, mostly, sometimes, rarely and never, against each item. The subjects were asked to tick mark (✓) the appropriate option at the end of each statement, in the box provided for each option. Out of the total 63 items the scale contained 32 items which were positive statements and 31 items which were negative statements. The scoring was done in ascending and descending orders as provided in the test manual for the five options. It was also provided in the Manual that the scores can be interpreted in the following broad range of scores:-

<table>
<thead>
<tr>
<th>Scores</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>63 to 135</td>
<td>Low emotional intelligence</td>
</tr>
<tr>
<td>137 to 272</td>
<td>Average emotional intelligence</td>
</tr>
<tr>
<td>273 to 340</td>
<td>High emotional intelligence</td>
</tr>
</tbody>
</table>

2. SELF-ESTEEM INVENTORY

To measure the level of self-esteem of the subjects of the present study, the Self-Esteem Inventory (SEI) developed by Prasad and Thakur (1988) was administered to them. This test is a self-evaluation questionnaire and comprises two forms. In the first part of the Inventory the subjects responded to the items regarding as to what they think of themselves and in the second part of inventory, they responded to the items concerning as to what the people who know them think about them. The test consisted of 29 items in the first part which were relating to personally perceived self esteem and 30 items in the second part which were related to socially perceived self-esteem. Against every item options were given in seven point scale which ranged from ‘totally correct’, to ‘totally wrong’. Responses made by the subjects were awarded in such a way that for socially desirable
items they were given 7 to 1 scores for totally correct to totally wrong. For social undesirables, reverse pattern was followed.

Before administering the test, first of all the investigator instructed them as follows: Below are some statements in Part-I about how a person thinks about himself, and in Part-II the statements relate to your opinion as to how the other persons think about you. Read each statement carefully and decide your response out of one of the following seven options: totally correct, correct to a large extent, partially correct, uncertain, partially wrong, wrong to a large extent, totally wrong.

MENTAL IMAGERY QUESTIONNAIRE

Mental Imagery Questionnaire had been designed to assess the sensory experiences of the individuals. The mental imagery questionnaire consists of six sub-tests referring to six areas of sensory experiences. The areas of sensory experiences are (1) visual, (2) auditory, (3) gustatory, (4) olfactory, (5) tactual, and (6) organic. Each one is itself a test. On determining the reliability and validity of each test by the method of item discrimination analysis 15 items in each area which were highly reliable were selected. Thus on the whole (15x6) 90 items were retained on this basis and high discriminatory power of the statements. The rest of them were dropped. Therefore, the final form of each sensory areas has 15 items which constitute a sub-test. All the six areas have uniformly 15 items. In each test, all the 15 items are referring to an event of the experience which every one might have had in his / her life.

In this questionnaire each sub-test is treated as a separate test and each test is independent of other tests in this series. For example
in the case of visual area, the items of the sub-test are referring to only visual sensory experience and not even a single item differently designed. All the 15 items are pertaining to visual sensation.

Similarly, the other sub-test referring to the auditory area, is having the items pertaining to only auditory sensory experiences. So also the other sub-tests of the gustatory area, olfactory area, tactual area and bodily movements have items pertaining to only the respective area. Each sub-test measures only the respective quality in a person. Therefore all the sub-tests are determined with content validity method and all the six tests are highly valid.

In every item one phrase referring to some event or characteristics or quality, features of a person, name of some object and its nature and characteristics, type of experience one can have from an object is given. Each item is not a complete sentence. The participant is required to respond suitably for each item by making tick (✓) on anyone of the cells of six alternatives.

The participant on reading each item in a test should close his / her eyes for few seconds and search for such experience he / she had in his / her life and form an image or the mental picture of the past experience and judge it clearly and vividly. On the quality of the mental picture of the sensory experience the person must decide how far it is clear and should make out the range clarity of the image of the sensory experience.

Before administering the test, the investigator instructed the subjects as follows: Below are some statements about how a person has experience of his /her past. Imagine in your mind and decide if you have: very clear or vivid image, fairly clear image, just clear image,
some what clear image, dim image or no image. For your experience according to quality of your image, tick mark (√) the statement. There are no right or wrong answers. Do not spend too much time on any one statement. Remember to chose the response that represent the quality of which you image make in your mind.

**Method of Scoring**

In the mental imagery questionnaire, the weights for the responses are six, ranging from 5 to 0, i.e. 5, 4, 3, 2, 1 and 0. If the image is very clear and vivid the subjects get 5 points, and for fairly vivid, he gets 4, and so on. When the image is dim he / she is rated with 1 and for no image he / she is given 0. In this type of rating it cannot be expected that a person will have always very clear vivid image or fairly vivid image or always dim image or no image. For some object the person may have clear very vivid image and for some may have fairly vivid image, for some dim image and for some no image. Similarly the person who has no image of one object, may have clear and vivid image of another object or fairly vivid image. Therefore in this type tests and response categories a person however acute in his sensory perception will not have the chance of responding to all the 15 items of a test with a weight 5 or 4. Nor there can be a person, however weak in his sensory perception who will be always responding to all the 15 items of a test with a weight of 0 or 1. The reverse also is possible in some items. Therefore, the score of a person will never reach the highest point of 75 in case of the person who had very acute sensory perception in the past. Similarly the score of a person will not go as low as 0 level however a person’s sensory perception was weak in the past.
Table showing the range of scores and the norms

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Range of Scores</th>
<th>Degree of Mental Imagery</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>67.6 – 75.0</td>
<td>Very clear and vivid image</td>
<td>5</td>
</tr>
<tr>
<td>2.</td>
<td>52.6 – 67.5</td>
<td>Fairly vivid image</td>
<td>4</td>
</tr>
<tr>
<td>3.</td>
<td>37.6 – 52.5</td>
<td>Just clear image</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>22.6 – 37.5</td>
<td>Somewhat clear image</td>
<td>2</td>
</tr>
<tr>
<td>5.</td>
<td>7.6 – 22.5</td>
<td>Dim image</td>
<td>1</td>
</tr>
<tr>
<td>6.</td>
<td>0 – 7.5</td>
<td>No image</td>
<td>0</td>
</tr>
</tbody>
</table>

Reliability

The internal consistency procedure was adopted to spot out the inconsistent items in each sub-test. The item discrimination analysis was used to eliminate the inconsistent items. The individual scores in each test may range from the lowest 0 (30 x 0) to the highest 150 (30x5). The scores were arranged from highest to the lowest in the rank order. The top 25 percent of the scores were separated, leaving the middle 50 percent of the scores. This means the top 10 persons’ scores and the bottom 10 persons’ scores for all the 30 items were totalled for each item and the lower quartile scores were deducted from the upper quartile scores and divided by the \( N(10) \). The result of this calculation becomes the difference between the upper and lower quartile scores which is the discriminatory power of the statement. It was decided to select those items which had the discriminatory power of 2 and above and drop those which had less than 2. It is presumed that those items with the discriminatory power 2 and above may assess the quality in the person. In this case the item discrimination analysis yielded 15 items in each area. Though in certain areas there were more statements yielded the discriminatory power 2 and above,
only 15 in each area were selected on the basis of those statements which had the highest 15 discriminatory powers. Secondly, to have a uniformity of the statements in all the areas only 15 in each area were selected.

The item discrimination analysis of determining reliability has certain advantage. Tests of this type could be tested with discrimination analysis method as it helps the researcher to eliminate the inconsistent item in the test. This is more objectively done on the basis of the discriminatory power of the statement. This procedure ensures that the test is valid and also reliable.

Validity

The six sub-tests were validated with content validity since the content validity or the face validity is considered to be exclusively a logical type of validity for any type of instrument. The important point behind the logical argument of this validity is that the instrument is designed and developed pertaining to only one variable. The test measures only a particular quality or trait in a person and no other variable is included in this instrument. The authors of the test were fully satisfied with the items of the instrument that each item is referring to only a specific quality.

ADMINISTRATION OF TESTS

For the purpose of administering the tests and the collection of data at both the pre-experiment and post-experiment stages, the investigator had to seek permission and cooperation from various quarters. The investigator had approached the Principals of Doon School, Walham School and Joseph School, Dehradoon, Uttranchal
Pradesh and sought their prior permission for administering the tests and for imparting the specially designed mental simulation training. She had also contacted the concerned physical education teachers and coaches and had sought their cooperation. The time, date and venue for administration of tests were finalized in consultation with them. The tests were administered at a place where there were no distractions or minimum distractions. The instructions of the tests were read out and explained to the subjects and they were asked to clear their doubts, if any. The experimental training was imparted to the experiment group under supervision of the investigator at the time and venue selected keeping in view the academic schedule and daily routine of the subjects. The purpose of this study was explained to the subjects so as to elicit genuine response from them.

**COLLECTION OF DATA**

The initial data was obtained from both the groups i.e. experiment and control groups at the initial stage to determine their pre-experiment status on the selected socio-psychological variables as well as on the three selected basketball skills. The final data was obtained from the experiment group after completion of their 12 weeks of specially designed mental simulation training programme, and from the control group after their 12 weeks routine game training and usual practice schedule with regard to the selected socio-psychological variables as well as the selected basketball skills. The responses obtained through the selected questionnaires, inventories etc were awarded scored as per the instruction in the respective manuals and the obtained scores were tabulated for being subjected to statistical analysis.
TRAINING DESIGN OF THE STUDY

The subjects selected for this study were divided into four equivalent sub-groups: (i) boys experiment group, (ii) girls experiment group, (iii) boys control group, and (iv) girls control group. The subjects of the experiment and the control groups were given training instructions separately and exclusively. Both the experiment sub-groups were subjected to the specifically planned and designed mental simulation training of twelve weeks duration. This mental simulation training programme was developed and designed after referring to the works of Hall et al (1998), Roberts et al (1999), Vealey and Walter (1993), Gill (1995) and Kumar, Ramesh (2005).

Although while preparing and developing this programme care was taken to incorporate broad guidelines of the above mention research works, but still it was considered appropriate to conduct a pilot study to check the efficacy of the designed training programme. For this purpose twelve subjects were selected randomly to represent the two groups i.e. six from experiment group and six from control group. Further efforts were also made to have these subjects from the two genders in equal proportion. After determining initial status with regard to the socio–psychological variables and performance levels of the selected skill i.e. jump shot, the subjects of the two group were segregated. Subjects representing experiment group were given mental simulation training for three weeks whereas those from control group continued with their usual practice. After a period of three weeks, these subjects were again evaluated with regard to the socio-psychological variables and the selected skill. This preliminary study revealed that the subjects from experiment group were shown to have marginally benefited from the mental simulation programme when
they were compared with the subjects from control group. This preliminary study prompted the investigator to undertake the detailed study as per the determined experimental design.

Thereafter, the designed mental simulation training programme was followed for five days a week with one hour’s duration per day, for 12 weeks in the months of August, September and October, 2005. The investigator had tried to stick to the same timings separately for each group i.e. for boys the timings were from 6.00 a.m. to 7.00 a.m. in the morning and for girls the same were from 4.00 p.m. to 5.00 p.m. in the evening.

**PRELIMINARY PHASE**

Before initiating the specific training programme, the subjects of these groups were assembled for a preliminary meeting wherein the concerned physical education teachers of the school were also present. The investigator explained the detail of testing procedure and of the schedule and structure of the training programme. The objective of this meeting was not only to familiarize the subjects with broad concept of this study but also to prepare them mentally regarding the efforts they have to put in, and to make them ready for their wholehearted participation. At this stage it was considered appropriate to undertake the *evaluation of the initial status* of all the subjects with regard to the selected dependent and independent variables as well as regarding their performance level on the three selected basketball skills. For this purpose, the tests selected for this study were administered to all the groups and initial evaluation of the performance on the selected basketball skills was also done. After ensuring that no significant differences existed between all the groups, the same were directed to follow their respective training programmes. The detailed
information regarding the respective training programmes has been mentioned hereinafter.

Training Programme for Experiment Group

(i) **Orientation Session:** The purpose of this session was to make the subjects of the experiment group familiar with concept of mental simulation training and to mentally prepare them for the intended training. One day was devoted for this purpose. The meaning and concept of mental simulation were explained to the subjects. They were informed regarding the importance and utility of mental simulation regarding psychological preparation, for acquisition of the skill, refinement of the skill and performance enhancement. For creating their faith in the process of mental simulation training, they were given instances of various elite basketball players who regularly employed mental simulation training for boosting their efforts and performance. The subjects were told that simulated visualization process creates images of the skill in the mind wherein the subject sees and feels the pictures and images in his mind and through its regular practice these pictures and images leave long lasting imprints and impressions on the mind which then develop a type of “muscle memory” thereby strengthening the automatic response pattern through which perfect and flawless execution of the skill is facilitated.

(ii) **Basic Mental Simulation Training Session:** Just like the pre-season conditioning programme which is considered necessary for laying the foundation of strength and endurance, basic mental simulation practice is also considered essential for fine tuning the mental simulation abilities and imagery skills so that the subjects are able to develop vividness and controllability of the images. During this session, visual aids and audio aids were utilised. The video clipping,
PHOTOGRAPH NO. 2
PROCEEDING WITH BASIC SESSION OF MST
pictures, charts etc. which contained visual cues like elite basketball players in action, recordings of interesting matches, pictures of leading basketball players and famous sports complexes associated with the game, basketball court, the ball, the rings etc. were shown to the subjects. The auditory aids such as recorded tapes of interviews with elite basketball players highlighting the utility of mental simulation training, commentary regarding the basketball matches etc were also played. The subjects were directed to focus their attention on the important aspects and finer and specific points. Thereafter, the subjects were asked to close their eyes and recall and recreate those images and to hear those voices with as clarity as possible i.e. emphasizing on such finer points like the colour, shape, size of the pictures seen, the volume and pitch of the voices heard. The purpose of such exercises was to enhance their vividness. In the later part of this session, the subjects were introduced to controllability of these images i.e. to learn to manipulate these images, to move or shift these images as per the subject's own will. To achieve the controllability, the subjects were instructed to perform simple exercise such as to imagine the player they had seen in video clippings and to make him perform a skill by mentally simulating and controlling his movements to watch him talking to different persons, his reaction etc. Then to re-run such images in his mind and to stop and alter such images as per his own choice. Next, the subjects were instructed to think back and choose one of their best past performance and to recreate that situation in their mind. They were instructed to ‘see’ their successful performance, to ‘hear’ the sound of clapping, to re-experience the positive emotions that they had felt, and then to analyse as to which factors (such as concentration, confidence, optimal arousal etc) had made them perform so well. Further, the subjects were asked to move the images, alter their colour, shape and size, to alter the volume or
pitch of the auditory cues. This type of basic mental simulation session continued for the first two weeks so that the subjects were mentally ready and conditioned for the regular mental simulation training.

**(iii) Regular Mental Simulation Session:**

**a) Mental Simulation Training Relating to Selected Basketball Skills:** For this session, the investigator had selected three important skills of basketball i.e. single hand set shot, jump shot and lay up shot. Three weeks were devoted to each skill. First of all, the investigator had started with single hand set shot. In the start of this session, the subjects of the experiment group, both boys and girls, were shown video clippings regarding the first selected skill i.e. single hand set shot for about 7 minutes. These clippings / recordings contained the details of perfect execution of the selected skill by top class basketball players. The subjects were directed to focus and concentrate on all the steps / parts relating to the execution of this skill such as standing stance, crouching action, straightening action, releasing the ball and the follow through. For example, they were asked to notice as to how that player got to the same spot and in the same position every time. The subjects were specifically asked to notice (when shown in still or slow motion) that the player’s feet positioning was in same and consistent alignment each time when a shot is taken i.e. the right foot was slightly put forward as compared to the left foot. To begin the execution of the shot how he crouches down with his knees apart and facing the ring basket; the shooting hand behind the ball with the wrist cocked. While starting the shot how he straightens his legs and transfers his weight slightly forward, and when the ball is infront of him, how he spring up towards the basket, pumping his arms upwards so that it straightens the arms, lifting himself to his toes. After this how he uses his non-shooting hand to guide the ball and how he releases it by
PHOTOGRAPH NO. 3
DEMONSTRATION BY AN ELITE BASKETBALL PLAYER
flicking the wrist and fingers of his shooting hand. The subjects were
told to notice how he aims for the ball to loop quite high enough for a
smooth and continuous action. As to the shooting motion is carried out
with controlled tension and the eyes staying on the target, not on the
ball, until the ball goes through the net.

After the visual glimpses of the whole skill, the same was re-run
in slow motion, in parts and as well as in still frames so as to provide
minute details of each and every step of the selected skills to the
subjects. After providing the above mentioned visual experiences, the
subjects were asked to relax for 2-3 minutes through various
relaxation techniques because for effective visualization it was
necessary to achieve calm and relaxed state of mind. They were then
directed to recall and recreate the images of the visual aids provided
to them. They were asked to perform repetitive simulation practice of
the skill in their mind in the similar manner as they had seen and then
to visualize themselves simulating the performance of that skill in
same sequence and in similar perfect and flawless manner. This
mental exercise was repeated for about 7 minutes so as to retain
these images in their mind.

After devoting three weeks to the first skill i.e. single hand set
shot, next three weeks were devoted to the next skill i.e. jump shot.
For this type of skill, the subjects were shown video films regarding
execution of this skill with special emphasis on the standing stance,
holding the ball, crouching action, straightening the body, springing off
from the ground, movements of the hands and finally releasing the
ball.

After completion of three weeks training for the second skill, next
and the last skill i.e. lay up shot was taken up. This skill was also
allotted a period of three weeks and during this time the subjects were shown video clips of elite basketball players, and the subjects were directed to pay special attention to each minute action of this skill such as how the player commences his approach run, prepares for final steps leading to the jump for execution of the skill, to notice the movement of the hands holding the ball, how he jumps moving his hands upwards, then how he releases the ball towards the ring, his landing stance, and follow up action etc.

(b) Actual Skill Learning And Practice Session: After this mental simulation session, first of all the subjects were allowed sufficient time (about 5 to 7 minutes) to warm up to attain the state of physical readiness for facilitating the actual skill practice. During this session the subjects were directed to recollect and visualize the performance, to focus on the main steps and the sequence of the concerned skill. The subjects were then directed to actually perform the skill step wise firstly in parts and lateron as a whole, in the same manner and sequence as they had visualized during the regular mental simulation training session. The investigator had carefully observed the subjects while performing the skill, and flaws or mistakes, if any, were got corrected immediately so as to avoid incorrect learning of the skill. The purpose of this session was to review the performance and analyse how their present experience was different from the perfect one they had visualized and as to how the same could be rectified and learned perfectly. About 15 minutes were devoted to this practical skill learning session which was followed by practicing such skills in the game situations for about 10 minutes so as to achieve the mastery over the skill.
(c) Mental Simulation Session Relating to Psychological Aspects: After providing few minutes to the subjects for limbering down, the investigator initiated the session planned for boosting the selected psychological parameters i.e. emotional intelligence and self-esteem through mental simulation training and practice. For this session about 7 minutes were devoted every day. From time to time the subjects were directed to visualize those specific events where they had performed extraordinarily well and to recall and go through the emotional feelings that they had experienced at that time i.e. the feelings of self-satisfaction, feelings of self-competency feelings of elation etc. On some occasions, the subjects were asked to visualize those incidents when they had lost a prestigious game or had failed to secure a basket at a crucial moment, and then to recall how they had felt emotionally exhausted, disappointed and the ways and strategies they had thought and adopted to avoid such failures, how they had motivated themselves that they can still do it and that they can still achieve the desired goals. They were advised from time to time to recall and simulate those instances in game situations where they were angry and provoked but still managed to control themselves for successful performance, or the instances where they had adapted to the hostile environment such as agitated spectators or the overtly aggressive opponents. They were also made to visualize those instances wherein inspite of the surcharged environment and critical game situation they had driven themselves to give out their best performance for the success of the team, or the times when a team mate was emotionally upset due to his blunderous mistake which had cost the team that match and as to how they had helped him to come out of that emotional distress. Even sometimes they were asked to remember and visualize the time when an undeserved rebuke from the coach or an elder team mate had made them feel bad and how they
had managed to control their depressive feelings etc. The main purpose of the above mental simulation experience was to acquire emotional competency through self-realization i.e. attaining emotional maturity, which includes evaluating one’s emotions, identifying and expressing one’s feelings and balancing one’s state of body and mind.

With regard to their self-esteem, the subjects were made to recall, visualize and simulate those incidents which involved their own volition, self-awareness, self efficacy, self-confidence, etc. Further, they were taught to change their “I can’t do” attitude to the “I can do it” attitude, they were advised not to make negative statements in games and practices, to have faith in themselves and to always believe in giving out their 100% effort. They were asked to set-up small, achievable goals instead of a single distant goal because by achieving these attainable goals, the subjects attained a feeling of self-efficacy and were motivated to strive for the next goal. For this purpose they were assigned to small but different groups. The subjects were advised to always engage in positive self-talk i.e. reminding themselves of their great past performances, of skills and techniques that they had performed well and of a bright future ahead. They were further asked not to use negative self-talk or to label themselves as ‘losers’, ‘bad players’ etc. They were advised not to linger on the thought of any ‘bad’ play and were advised to analyze the mistakes committed and then to forget that bad play so that the same does not interfered with their further performance. The purpose of this type of mental simulation training was to enhance their self-worth, self-estimation and their performance by focusing on their strengths so that the same became their assets.
PHOTOGRAPH NO. 6
GIRLS PARTICIPATING IN INTERACTIVE SESSION
(d) **Interactive Session:** At the end of each day’s experimental training session, an interacting session of about 5 minutes was conducted. The subjects were encouraged to feel free to mention their difficulties, doubts or problems, if any, that they had faced during the training and then appropriate suggestions were given by the investigator to remove such difficulties and doubts and to solve such problems. The purpose of this session was that the subjects should have a feeling of satisfaction and accomplishment at the end of the day’s training as this motivated them to continue participating in this training programme whole heartedly.

**Schedule for Control Group**

The subjects belonging to this group were given instructions separately and all efforts were made to avoid their any interaction with the subjects of experiment group. The subjects of control group were not provided any kind of specifically planned psychological training and they were directed to continue with their general training in routine manner regularly for the whole eleven weeks.

**FINAL PHASE**

The last week i.e. 12th week was devoted to the friendly competition matches within the groups, competition matches between the groups i.e. experiment and control groups and for the collection of final data from all the subjects pertaining to the three selected dependent and independent variables as well as regarding the three selected basketball skills to find out the differences between and among the groups.
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Duration</th>
<th>Experiment Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Preliminary Phase:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(i) Collection of Initial data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(ii) Orientation Session</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(iii) Basic Mental Simulation Training</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(iv) Interactive session</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(v) Practice matches within the group</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vi) Competition matches with control group</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Final Phase:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(i) Collection of final data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(ii) Final simulation training ending to 1st week</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(iii) Practice matches to 3rd week</td>
</tr>
</tbody>
</table>

**Control Group**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Duration</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Preliminary Phase:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(i) Collection of Initial data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(ii) Routine basketball training &amp; practice session</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(iii) Practice matches within the group</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Final Phase:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(i) Practice matches to 3rd week</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(ii) Competition matches with control group</td>
</tr>
</tbody>
</table>

**Training Design and Schedule for Experiment and Control Groups**

- **Experiment Group**
  - Preliminary Phase:
    1. Collection of Initial data
    2. Orientation Session
    3. Basic Mental Simulation Training
    4. Interactive session
    5. Practice matches within the group
    6. Competition matches with control group
  - Final Phase:
    1. Collection of final data
    2. Final simulation training ending to 1st week
    3. Practice matches to 3rd week

- **Control Group**
  - Preliminary Phase:
    1. Collection of Initial data
    2. Routine basketball training & practice session
    3. Practice matches within the group
  - Final Phase:
    1. Practice matches to 3rd week
    2. Competition matches with control group
PHOTOGRAPH NO. 7

PICTORIAL DEPICTION OF THE THREE BASKETBALL SKILLS

JUMP SHOT

SINGLE HAND SET SHOT
EXECUTION OF LAY UP SHOT SKILL
STATISTICAL DESIGN

The data was analyzed statistically on computer keeping in view the objectives sought to be achieved through the present study. Oneway analysis of variance was employed to find out the pre-test status between the four groups i.e. control male, control female, experiment male and experiment female groups. This was further supplemented by descriptive values such as mean, SD and mean difference matrix to find out whether there existed any significant differences among these four groups at the initial stage. Further oneway ANOVA was employed to find out the post-test status of control and experiment groups on the selected variables. This was followed by mean, SD and t-ratio matrix to find out the direction of differences. For finding out the significance of gender differences within and among pre-test and post-test groups, oneway analysis of variance and Scheffe’s post hoc test were used. Additional descriptive values i.e. mean, SD and t-values were worked out to find out the significance of differences between the two dimensions of self-esteem i.e. personally perceived self-esteem and socially perceived self-esteem so as to obtain the results regarding overall self-esteem. Descriptives values such as mean, SD and t-values were got worked out with regard to pre-test and post-test status of control group and experiment groups, as well as regarding the three selected basketball skills. The level of significance was set of 0.05 for the purposes of this study.