

CHAPTER III
METHODOLOGY

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Methodology

This chapter deals with the methodology employed to achieve the objectives of the study mentioned in chapter one. The content below presents Research design, selection of the sample, variables and their definition, tools, steps involved in collection and analysis.

3.1.0 Sample

'In the social science, it is not possible to collect data from every respondent relevant to our study but only from some fractional part of the respondents. The process of selecting the fractional part is called sampling'.

One of the techniques for selecting the sample is the random selection technique in which each individual has a chance to be included in the sample.

The sample for the study was drawn for amongst the teacher trainees of R.I.E. Bhopal. Out of 82 students enrolled in Ist year of Teacher Training Programme, 44 female teacher trainees were randomly selected using a table of random numbers. This group of selected teacher trainees were further divided into 2 groups of 22 in each. Out of the two group, one group was identified as an experimental group to whom the experimental treatment that is yoga training (8 weeks) was given. The other group served as the control group who were following the regular routine and were not subjected to yoga practices.



Table 3.1.0 : Sample and its distribution

S. No.	Group	Female teacher trainees
1.	Experimental	22
2.	Control	22

3.2.0 Variables

According to Best, variables are the conditions or characteristics that the experiments manipulates controls of observes. The independent variables are the condition of characteristics that the experimenter manipulates in his or her attempt to ascertain their relationship to observed phenomenon. The dependent variables are the conditions or characteristics that appear disappear, or changes as the experimenter introduces, removes or changes independent variables (P-59-60).

Table- 3.2.0 : Variable of the study

S.No.	Independent Variable	Dependent Variables				
		Physical Parameters			Physiological Parameters	
1.	Yoga Training <ul style="list-style-type: none"> • Sukshma Kriya • Yogasana • Pranayama 	Cardio Vascular Endurance	Explosive Power	Flexibility	Heart Rate	Breath Holding Time

3.3.0 Experimental Design

The selection of a particular design depends upon such factors as the nature and purpose of the experiment. The type of the variables to be manipulated, the nature of the data, the facilities or the conditions for carrying out the experiment and the competence of the experimenter.

As this research was an experimental research, the researcher used 'Two groups, Randomized subjects, post test only Design' to find out the impact of 8 weeks of yoga training on physical and physiological parameters.

Researcher prepared a list of all the female teacher trainees and assigned numbers to them. and group are assigned randomly to the experimental or control conditions by flip of coin. Only the experimental group is exposed to the experimental treatment. At the end of the experiment, subjects of both the groups are measured on the dependent variable T_2 .

No pretest is used and the random assignment of the subject assures that any initial differences between the groups are attributable only to chance.

The subjects were drawn individually at random and assigned alternatively to the groups.

Table 3.3.0 : Two Groups, Randomized Subjects, Post-test-Only Design.

S.No.	Randomly Assigned group	Independent Variable	Post-test
1.	Experimental	8 weeks of Yoga Training	T_2
2.	Control		T_2

3.4.0 Tools

Tool is a device through which data is collected. It is always better to use standardized tools or instruments because the test makers establish their reliability and validity. In order to find a suitable standardized test various books were searched and suitable/appropriate tests were selected.

The tool used for the present study were-

Cardiovascular Endurance - Cooper's 8 min. Run-Walk test

Explosive power - Sargent's Vertical jump

Flexibility - The Kraus-weber Floor touch - Reach test

Breath holding time - Duration of withhold the Breath

Heart rate - Pulse Count.

3.5.0 Administration of test

1. Cooper's 8 minute Run Walk test

Purpose: To measure cardiovascular endurance

Facilities & Equipment: Track, stop watch, meter tape, chalk.

Procedure: First an elliptical track of 400 m. was measured with laps of 20 m. each marked as Lap 1, Lap 2, and so on. The subject were than instructed to begin their 8 min. run from the starting point. They were asked to continue running for as long as they could or else walk whenever they felt tired but never to stop. 15 sec. before the completion of 8 min. the subjects were signaled to hurry up and reach the end point of there nearest lap. After 8 min. the subject were signaled to stop.

Scoring: The score was the distance covered by the subject in meter in given 8 minutes.

Testing personnel: One trained tester was operating the stop watch and called out the times and one assistant was needed to record the scores.

2. **Vertical Jump**

Purpose: To measure explosive power

Facilities & Equipments: Smooth wall surface of at least 10 feet high from the floor and chalk powder, meter tape.

Procedure: The student was standing facing the wall the feet against the wall and flat on the floor with chalk powder in her hand. She reached up with the chalk and made a short horizontal mark on the wall. She next turned sideways to the wall, crouched and jumped vertically as high as possible. At the height of her jump she reached up and made a second mark with chalk powder. Three trials were permitted and the best jump was measured. The subject had to face the wall when she made the first mark and had to reach as high as possible. When she jumped she turned the hand with chalk to the wall. She made a leap out of a crouch and swung her arms freely. She tried to make the chalk mark at the highest part of her jump.

Scoring: The score was the distance to the nearest half inch between the top of the first reach mark and the top of the highest mark made on the jump.

3. **Kraus-Weber Floor-Touch And Reach Test**

Purpose: To test the flexibility

Designation: "Back and Hamstring" /BH

Position of Facilities & Equipment: Scale, flat wooden chair.

Position of Person being Tested: The subject stood erect in stocking or bare feet with hands at her sides.

Procedure : They put their feet together. Kept their knees straight, then leaned down slowly and saw how close they could come to touching the floor with finger tips. They stayed down as far as they could for a count of three. They did not bounce. Three trials were permitted and best performance was recorded. Care was taken that there was no bounding. The farthest point without bouncing and held for 3 counts was the marking point. The examiner held the knees of the subject being tested in order to prevent any bend.

Scoring : Touch was designated by Touch-list. Touch was only given by when the floor-touch was held for three counts. Less than touch was marked by the distance in inches between the floor and fingertips.

For Example: A subject unable to touch the floor by 2 inches could be marked "-2".

4. **Breath holding time test**

Purpose: To measure breath holding time.

Facility & Equipments: Chair, stop watch, pincher.

Procedure: The subject was instructed to lie down comfortably on the bed. She was allowed to relax. She was then asked to take some deep breaths. She was instructed to take a deep breath and then hold it for as long as possible. Stopwatch was started when she inhaled and stopped when she exhaled. Three trials were taken. The subject was asked to remain still and relaxed. The subject was precaution not to get conscious and not to exhale from mouth.

Scoring: The score was the time taken by the subject for holding the breath, using the stop watch.

5. Heart Rate test

Purpose : To count the pulse.

Facility and equipment - Stop watch.

Procedure - The subject was instructed to lie down on the bed comfortably. She was allowed to relax. The instructor then checked the pulse rate using the index, the middle and the ring finger and the time was calculated using a stop watch. Three trials were taken. The subject was asked to remain still and relaxed. She was cautioned not to get conscious.

Scoring - The score was the pulse rate counted.

3.6.0 Data Collection

The pre-test were administered on Tuesday & Wednesday. It was recorded and treatment was given up to 8 weeks.

Table 3.6.1 : Detailed schedule for conducting research project.

Subject	Venue	Pre-test	Treatment	Post-test
Female	R.I.E.	2 days	56 days	2 days
Teacher Trainees	Bhopal	1.1.07 to 2.1.07	3.1.07 to 27.2.07	28.2.07 to 1.3.07

3.7.0 Statistical techniques used

To understand the distribution of variables, basic statistics such as mean and standard deviation were calculated for all the variables involved in the study. The subgroups of the sample based on the treatment were compared. 't' value for control group and experimental group were calculated.