Chapter - 3

The Review of Related Literature

3.1 Introduction

Review of the related literature is an important precondition to actual planning and then implementation of any research work can be done. The survey of the literature is a crucial aspect of the planning of the study. So the investigator must knowledge of the work done in the past. A review of the related literature is an initial stage in setting a context for any research work.

According to McMillan and Schumacher (1989), a literature review is usually a critique of the status of knowledge on a carefully defined educational topic. The literature review enables a reader to gain further insights from the purpose and the results of a study.

According to Best and Khan (2010), a summary of the writings of recognized authorities and of previous research provides evidence that the researcher is familiar with what is already known and what is still unknown and untested. Because effective research is based on past knowledge, this step helps to eliminate the duplication of what has been done and provides useful hypotheses and helpful suggestions for significant investigation.

So the careful students of research should become familiar with the location and use of the sources of information related to the research. Investigator can’t remove the limitations remaining in previous researches, but can plan his work with care and keeping these limitations in mind.
Some information can be gained with the help of the review of researches. Like how work is done in this field? What is remained untouched? Which works have been done in respective field? Research method is proper or not etc. We can find answers to these questions. It is also useful for understanding the whole study and interpretation.

3.2 Importance of the Review

The researcher should study the related literature of the field in which he wants to study. Thus the researcher can get a way to proceed with the help of such literature. There are many benefits like that,

- The repetition of study is avoided by review of literature.
- Aim centered vision is gained to decide objectives of the study.
- Information of variables becomes available easily.
- The information of construction of tools, try out and implementation is gained.
- The researcher can know about population and sample selection.
- Research design can be planned within time slot.
- The direction for future researches in that field can be obtained.
- The vision for statistical analysis for the data can be formed.
- The concept of whole study is cleared.
- The guidance to write the research report can be gained.
- Guidance can be taken for researches.
• The researcher can evaluate his study from different angles like expense, labour etc.

3.3 Review of Previous Researches

The Review of previous researches was divided into three parts; the first part related to foreign researches the second part related to Indian researches and the third part related to researches in Gujarat state.

3.3.1 Foreign Researches

Foreign researches were study in the context of Reasoning Ability and Yoga, so it gives new viewpoints and can help the researcher to strengthen his work. The details about these researches are as under in sequence.

1. Title:

   *Educational Achievement of Elementary School Students from two Cultural Groups as Related to Reasoning Ability and Classroom Learning Environment*

   ▪ **Researcher** Marilyn A. Morrow
   ▪ **Year & Degree** 1979, M.Ed.
   ▪ **University/Institution** Department of Educational Psychology University of Saskatchewan, Canada.

   ▶ **Objectives**

   (1) To assess the relationship between thirteen independent variables and academic achievement of Indian and Non-Indian students to make comparisons between the two cultural groups.

   ▶ **Instruments**

   (1) Achievement test having five different subtests of basic skills for measurement of achievement.
(2) Raven’s progressive matrices for measurement of Reasoning Ability.

**Analysis**

A stepwise multiple regression programs were used to analyze the data.

**Variables**

Thirteen independent variables classified into three groups;
(1) Personal characteristic (Reasoning Ability),
(2) Classroom environment (satisfaction, friction, competitiveness, difficult and cohesiveness),
(3) Categorical variables (Sex, Grade, School, Cultural group and interaction between these variables).

**Sample**

The sample included 75 Indian and 95 non-Indian students in Grades 4, 6, and 8 in three schools, one federal school and two provincial (joint) schools.

**Findings**

(1) Reasoning Ability was related with achievement of the students.
(2) Classroom environment, Grade and school were effective variables on Indian students’ achievement.
(3) Average achievement of non-Indian students was significantly higher than the Indian students due to environment and language skills.
(4) Non Indian group obtained significantly higher mean achievement test scores than the Indian group.
(5) Reasoning Ability was a significant predictor of all achievement test scores for both Indian and non-Indian students.

(6) Classroom environment variable was a significant predictor of Achievement scores.

(7) School and Grade was a significant predictor of Indian students’ achievement.

(8) Sex was a significant predictor of non-Indian students’ achievement.

2. Title

*The Relationship of Yoga Instruction in an Inner-city School to Several Significant Outcome Variables, Including Academic Performance, Discipline, Attendance, and Students’ Attitudes about Themselves, Yoga and School*

- **Researcher**  
  Simeon S., Susan T., Laura P.

- **Year & Degree**  
  2003, Ph.D.

- **University/Place**  
  Los Angeles, CA 90032.

**Summary**

405 students, 18 core subject teachers and Yoga instructors in this Kindergarten-8 charter urban school were involved in the study. Academic performance, positive student attitudes about themselves, student physical fitness levels, and student behavior were all positively related to students’ participation levels in Yoga.

**Findings**

Yoga class participation appears to help students’ improve their attitudes toward themselves. Student agreement with self-esteem questions was significantly greater at the end of the year, with a
20% increase in students feeling good about themselves. This was statistically significant (t=.779, n=305, p<.001).

1. Yoga class participation helped improve students’ behavior. Findings show there exists significant negative correlations between student Yoga participation and bad behavior as measured by school discipline referrals for elementary students (r = -.463, p<.01) and for middle school students (r = -.367, p<.01). Thus, those students who had high participation rates in Yoga class had fewer referrals or discipline problems.

2. Yoga class participation helped improve students’ physical health. TAS (The Accelerated School) students are significantly more physically fit (23.4% more 5th graders on average were rated fit and 28.5% more 7th graders were rated physically fit) when compared to the school district mean levels of fitness. This is particularly significant given the major role Yoga plays in physical education at the school.

3. Yoga class participation helped students perform better in school academically. Grades (GPA’s) were correlated with Yoga participation (r = .399, p<.01). The correlation is particularly significant in that it suggest students tend to benefit academically by diligently practicing Yoga.

4. Yoga class participation did not appear to improve students’ attitudes toward school nor did it appear to be related to students’ attendance levels, which were already high at the school.
3. Title

*Profile of Mood States and Stress-related Biochemical Indices in Long-term Yoga Practitioners*

- **Researcher**: Kazufumi Yoshihara
- **Year & Degree**: 2011, Research Project

**Background**

Previous studies have shown the short-term or intermediate-term practice of Yoga to be useful for ameliorating several mental disorders and psychosomatic disorders. However, little is known about the long-term influences of Yoga on the mental state or stress-related biochemical indices. If Yoga training has a stress-reduction effect and also improves an individual’s mental states for a long time, long-term Yoga practitioners may have a better mental state and lower stress-related biochemical indices in comparison to non-experienced participants. This study simultaneously examined the differences in mental states and urinary stress-related biochemical indices between long-term Yoga practitioners and non-experienced participants.

**Methods**

The participants were 38 healthy females with more than 2 years of experience with Yoga (long-term Yoga group) and 37 age-matched healthy females who had not participated in Yoga (control group). Their mental states were assessed using the Profile of Mood States (POMS) questionnaire. The level of
cortisol, 8-hydroxydeoxyguanosine (8-OHdG) and biopyrrin in urine were used as stress-related biochemical indices.

**Results**

The average self-rated mental disturbance, tension-anxiety, anger-hostility, and fatigue scores of the long-term Yoga group were lower than those of the control group. There was a trend toward a higher vigor score in the long-term Yoga group than that in the control group. There were no significant differences in the scores for depression and confusion in the POMS between the two groups. The urine 8-OHdG concentration showed a trend toward being lower in the long-term Yoga group in comparison to the control group. There were no significant differences in the levels of urine biopyrrin or cortisol.

**Conclusions**

The present findings suggest that long-term Yoga training can reduce the scores related to mental health indicators such as self-rated anxiety, anger, and fatigue.

4. **Title**

*Effect of Yoga on Concentration and Memory in relation to Stress*

- **Researcher** Dr. Amit K., Neelam S.
- **Year & Degree** 2012, Ph.D.

**Background**

Concentration means wholeness unity, equilibrium. It is the focusing of attention upon a particular object. Memory is an
ability to recall or remember past events or previously learnt information or skills. The process of concentration of attention and a power of recalling (memory) are the major factors in learning. Improvement in concentration and memory has been reported in several yogic studies.

**Aims and Objectives**

The main objective of the study was to assess the effect of Yoga module on Concentration and Memory.

**Materials and Method**

The study started with 800 adolescent students; 159 high stress students and 142 low-stress students were selected on the basis of scores obtained through Stress Battery. Experimental group and control group were given pre-test to assess their concentration as well as short term memory. A Yoga module consisting of Yoga asanas, pranayama, meditation, prayer and a value orientation programme was administered on experimental group for 7 weeks. The experimental and control groups were post-tested for their performance in concentration and memory tests.

**Statistical Analysis**

To study an effect of Yoga and stress on the concentration and short term memory, 2 X 2 Factorial design (ANOVA) was employed on the adjusted gain scores of concentration as well as short term memory, wherein stress is a classificatory variable and studied at two levels, i.e. students with high stress and students with low stress. Yoga module has been taken as a treatment variable, was given to the experimental group.
Results

The results show that the students, who practiced Yoga module yielded higher concentration levels and exhibited better short term memory.

3.3.2 Indian Researches

Researcher has studied the Indian researches in the context of effect of Yoga on Memory. Total 5 Indian researches reviewed by researcher. The details about these researches are as under in sequence.

1. Title

*A Comparative Study of Three Different Yoga Modules on Logical Memory in School Children*

- **Researcher** Bharat K. P., Nagendra R. and Nagendra H.
- **Year & Degree** 2007, Ph.D.
- **University/Institution** SVYASA, Bangalore, India.

**Summary & Conclusion:** This stratified random allocation study on 366 children in age group 9 to 12 years, before intervention and after Yoga, 322 students participated in this study. 44 students due to their home sickness, they left the Yoga residential program. The data with normally distributed baseline variables and a non-significant difference in the mean values of the three groups showed a significant increase in logical memory in IQ, CV, PS groups. All three groups were well matched with a non-significant difference of the mean scores at baseline and the values were normally distributed. The group comparison showed, the group, which practiced the Yoga
module for IQ, was significantly better than PS group and girls. In a previous control, study on 108 children (10-17 years) who practiced Uni-nostril breathing along with IAYM there was a significant increase in special memory but not in non-Yoga control group. There was a non-significant change in verbal memory a left hemispheric task. Hence, the presentation study was undertaken to assess the effect of IAYM on logical Memory which is also a left hemispheric task. General module of IAYM had only shown a brand of important in verbal memory (a left hemispheric task). In earlier study, the needed to evoke a more specific module for improve IQ (left hemispheric function) was fact, 4 hence the IQ module was compared with other specific module for CV & PS. Thus, it appear that this Yoga module for IQ in more suitable for improving left hemispheric function of logical memory. The earliest report described relatively better verbal performance during both naturally occurring right nasal dominance and right forced Uni-nostril breathing by practitioners of kundalini Yoga. Earlier study, have not been able to observe increase verbal performance after forced to right nostril or Pranayama, type of right nostril breathing 12. The present study using a specific module for IQ that includes yogic right nostril breathing and assessment by Wecheler memory scale has shown significant improvement left hemispheric functions. Hence we may conclude that this intensive IQ module including right nostril breathing is more effective then earlier methods or the Wecheler logical memory scale may be a better measure of right
hemisphere function than verbal task. Several factors could conclude to the measuring in logical memory in all groups. Children were enthusiast which, they have been told, they had obtains during the course. This explains the positive effect of motivation on memory score in all three groups, the significantly higher score in IQ group in the same setting in a clear indication of its batter efficacy. Reduce anxiety can improve the performance on tasks requiring learning and memory and the anxiety reducing effect of Yoga practice, which is already known.

In the present study Wecheler memory scale story "A" and story "B" which is a standard measure of logical memory a function of left hemisphere was used. Although this test is designed for western population the Indian children who could carry out this test. As they could knowledge of English language and the names in these stories were start changed to Indian names. Jayshree et al, had used this wecheler memory scale in school going epileptic children and showed impaired attention, concentration and logical memory. In another study, RG Mc Credie et al have used Wecheler memory test in Indian patient in UK to study the memory in schizophrenia by using wechelher memory test. Non Yoga intervention for IQ, CV or PS could be design as control module to compared with corresponding Yoga modules and together to randomly allocated children in the same setting, either residential or non-residential. similar study has to be performed in non residential set up to evolves short during of practices which can be practically useful for
children during the school days. Limitation of the design of this study is that there was no non Yoga control group. The earlier study before had already been demonstrated the non significant change in memory in non Yoga control group.

2. Title

Effect of Yoga Intervention on Anxiety and Subjective Well-being

- **Researcher** Jadhav, S. G. and Havalappanavar, N.B.
- **Year & Degree** 2009, Research Project.

**Background**

The present study is an attempt to find out whether Yoga Intervention has any effect on State and Trait Anxiety and also on the Subjective well-being. Fifty, first year students were selected from Naturopathy and Yogic Sciences Course; on whom; Spielberger’s State Trait Anxiety Inventory and Nagpal and Sell’s Subjective well-being Inventory were administered in the beginning of the academic year and second time after a gap of one year. The data were analyzed by employing mean, SD and ‘t’ ratio. Results reveal a significant decrease in both State and Trait Anxiety levels and positive change in the Subjective Wellbeing of the students.

**Hypotheses**

1. There will be a difference in the levels of State and Trait Anxiety before and after the practice of Yoga.
2. Subjective well-being will be higher after the practice of Yoga in comparison to the one after practice of the Yoga.

Method

Fifty, first year Naturopathy and Yogic Sciences Course students were selected from two colleges of Naturopathy and Yogic Sciences i.e. Ujire and Moodbidre of Dakshina Kannada district of Karnataka. Among them were 25 boys and 25 girls who belonged to the age group of 19-20 years.

Tools

State-Trait Anxiety Inventory developed by Spielberger, Gorsuch, and Luschene (1970). This scale is divided into two sub scales that is, I. State Anxiety – it consists 20 statements, both positive and negative, which were intended to measure “How a person feels at that particular moment”. This is a 4 point scale. The options on the four point scale were- Almost Never, Sometimes, Often, and Almost Always. Positive items scored as- Almost Never-1, Sometimes-2, Often-3 and Almost Always-4. Negative items scored in the reverse ordered as- 4, 3, 2, and 1. The sum of the 20 items gives the State Anxiety score. A minimum score of 20 and maximum score of 80 is possible. The Higher score indicated higher level of State Anxiety and vice versa. II. Trait Anxiety- This sub-inventory also consists of 20 items, both positive and negative. It measures how a person generally feels? The same scoring procedure used for the Trait Anxiety is adopted in this inventory. The sum of the 20 items gives the Trait Anxiety score. A minimum score of 20 and
maximum score of 80 is possible. Higher the score indicated higher the Trait Anxiety and vice versa.

**Result**

The mean difference between before and after practice of Yoga on State anxiety $-7.489$, SD=$2.526$ and ‘t’ value $-29.65$ is highly significant at $P<0.001$ level. This clearly shows that Yoga practice leads to a significant the mean difference $-7.07$, SD=$3.87$, and ‘t’ value $-18.24$ was highly significant at $P<0.001$ level. This shows that Yoga practice is useful in decreasing the Trait Anxiety level of the practitioner. There is a significant difference between before and after the practice of Yoga. The mean difference $9.955$, SD $= 0.953$ and the‘t’ value $10.44$ is highly significant at $P < 0.001$ level. This shows that practice of Yoga is helpful in the improvement of subjective well-being of practitioners. Hence the second hypothesis is also accepted.

3. **Title**

*Effect of Two Yoga-based Relaxation Techniques on Memory Scores and State Anxiety*

- **Researcher** Pailoor S. and Shirley Telles
- **Year & Degree** 2009, Research Article.
- **University/Institution** Indian Council of Medical Research Center for Advanced Research in Yoga and Neurophysiology, Bangalore, India.

**Background**

A Yoga practice involving cycles of Yoga postures and supine rest (called cyclic meditation) was previously shown to improve performance in attention tasks more than relaxation
in the corpse posture (Shavasana). This was ascribed to reduced anxiety, though this was not assessed.

**Methods**

In fifty-seven male volunteers (group average age ± S.D., 26.6 ± 4.5 years) the immediate effect of two Yoga relaxation techniques was studied on memory and state anxiety. All participants were assessed before and after (i) Cyclic meditation (CM) practiced for 22:30 minutes on one day and (ii) an equal duration of Supine rest (SR) or the corpse posture (Shavasana), on another day. Sections of the Wechsler memory scale (WMS) were used to assess; (i) attention and concentration (digit span forward and backward), and (ii) associate learning. State anxiety was assessed using Spielberger's State-Trait Anxiety Inventory (STAI).

**Results**

There was a significant improvement in the scores of all sections of the WMS studied after both CM and SR, but, the magnitude of change was more after CM compared to after SR. The state anxiety scores decreased after both CM and SR, with a greater magnitude of decrease after CM. There was no correlation between percentage change in memory scores and state anxiety for either session.

**Conclusion**

A cyclical combination of Yoga postures and supine rest in CM improved memory scores immediately after the practice and decreased state anxiety more than rest in a classical Yoga relaxation posture (Shavasana).
4. Title

*Development of Human Potential through Yogic Practices assessed by Psychological and Health Variables*

- **Researcher** Sushil S. Khemka
- **Year & Degree** 2012, Ph.D.
- **University/Institution** SVYASA, Bangalore, India.

**Background**

There are a large number of methods of Yoga catering to the needs of different types of people in society to bring about the transformation of the individual. They are broadly classified into four streams. Swami Vivekananda puts them as Work, Worship, Philosophy and Psychic control. One can even achieve highest goal of life either one or more or all of these to get one liberated. Integral Yoga modules included all these four streams of Yoga in our study.

**Aims**

The study was aimed to evaluate the human potential through four main streams of Yoga (Paths) through Yoga modules practices and literatures by quantifying the changes in psychological and health variables evoked by following Integral Yoga practices, Kapalabhati (KB) and Deep Relaxation technique (DRT).

**Objectives**

1. To evaluate the effect of integral Yoga on sustained attention, emotional intelligence, general health, triguna personality and to evaluate the correlations of each variable with other variables.
2. To study the immediate effect of Kapalabhati and Breath awareness on state anxiety, sustained attention and verbal and spatial memory.

3. To study the immediate effect of Deep Relaxation Technique VS Supine rest on state anxiety and sustained attention.

Material and Methods

A. Effect of integral Yoga practiced for 28 days, on sustained attention (Six Letter Cancellation (SLC) & Digit Letter Substitution (DLS), Emotional Intelligence (EQ) General Health (GHQ) and guna personality (Sattva, Rajas, Tamas) on one group of 108 healthy volunteers ages ranged from 17 to 63 years, in a pre-post study design.

B. Immediate effect of Kapalabhati (KB) verses Breath Awareness (BA) on state anxiety, sustained attention, (SLC and DLS) tests and verbal and spatial memory on self control study group of 43 healthy volunteers aged 20-45 years practiced 20 minutes KB and BA over two consecutive days.

C. Immediate effect of Deep Relaxation Technique (DRT) verses Supine Rest (SR), on state anxiety and sustained attention (SLC and DLS) on 86 healthy subjects aged 18 to 64 years with a mean age 29 years. These subjects were divided into two groups of 43 volunteers each for 20 minutes each for DRT and SR respectively immediately before and after practice.

Results

A. Integral Yoga: Significant pre-post improvements were found in sustained attention (SLC & DLS), EQ, GH and rajas (p<0.001), tamas (p<0.01) and in sattva (p.0.05).
B. KB VS BA: After kapalabhati scores reduced significantly on state anxiety and increased on both sustained attention verbal and spatial memory (p< 0.001). After breath awareness changes were also significant (p<0.001) on all variables except state anxiety (p>0.05).

C. DRT VS SR: A significant reduction in state anxiety score (p< 0.001) was observed for the group practicing DRT, but not for the group practicing SR. For the sustained attention tests, however there were significant increases in scores in both DRT and SR groups (P < 0.001).

Findings
A. The study shows that integral Yoga practices imparts significant benefits to healthy volunteers in all psychological (SLC, DLS), emotional (EQ), health (GHQ) and personality (PI) variables.

B. KB VS BA: The study suggests that both KB and BA reduce anxiety and improve sustained attention. However KB was significantly more effective in doing so than BA. In contrast they act in opposite directions on verbal and spatial memory.

C. DRT VS SR: Results suggest that both interventions improve attention but that only DRT reduces state anxiety.

5. Title
The Effects of Cyclic Meditation in Psychomotor Performance on Children

- Researcher Balaram Pradhan
- Year & Degree 2012, Ph.D.
- University/Institution SVYASA, Bangalore, India.
**Background**

The two-fold process in the Cyclic Meditation (CM) namely concentration as stimulation to break the stagnation of mind and sustained attention to calm down the distraction of the mind helps in the growth of practitioners. Six Letter Cancellation for the first and Digit Letter Substitution test for the second are apt tools to their measures. No normality tools were available for Indian Students as also data related to use of CM for students. Hence, this study was taken up.

**Objectives**

1. To establish the normative data for (a) Six Letter Cancellation Task (b) Digit Letter Substitution Task.
2. To study the effect of CM on (a) Six Letter Cancellation Task (b) Digit Letter Substitution Task.

**Methods**

The study was performed on school students (Male =528; Female = 315) with age range from 13 to 16 years group mean age ± S.D. (13.94±0.98). The base line data was used for the developing normative data. In the self as control design students were participated in two sessions, i.e. Cyclic Meditation (CM) and Supine Rest (SR) for a period of 22:30 min. Six Letter Cancellation Task and Digit Letter Substitution task were administered before and immediately after each session.

**Results and Discussions**

The present study was set out to obtain normative data (currently unavailable) for the school students between 9 and 16 years of age. The Six Letter Cancellation task (SLCT) and Digit Letter
Substitution Task (DLST) were used as measures of psychomotor performance of concentration and sustain attention, attention span and information processing speed. For the SLCT the Multiple linear regressions provided a multiple R value of 0.538 with a corresponding R² determination index of 0.29, indicating that 29% of the score variance was explained by the combination of age and sex. The model equation was: SLCT score = -4.307 + 2.545×Age – 4.25×Sex. For the DLST the Multiple linear regressions provided a multiple R value of 0.688 with a corresponding R² determination index of 0.474, indicating that 47% of the score variance was explained by the combination of age and sex. The model equation was: DLST score = -13.45 + 5.313×Age – 5.647×Sex. The availability of the Indian normative data for the SLCT and DLST will allow wider application of this test in clinical practice. Study effectiveness of CM. The Six Letter Cancellation Task study on 255 school going students showed after both practices, significant increased net scores. However, the magnitude of change was more after Cyclic Meditation than after Supine Rest (14.9% versus 11.56%). Following both practices, the net scores were significantly increases in gender and in different age groups. There were non-significant changes in whole, gender and in different age groups in scores for wrong cancellations after Cyclic Meditation and Supine Rest. The Digit Letter Substitution Test was study on 249 school students. After both practices, the net scores were significantly increases, but these changes were not statistically significant. There were significant changes in
scores for wrongly letter substitution after Cyclic Meditation and Supine Rest. Following both practices, the net scores were significantly increases in both sex gender and in age groups.

**Conclusion**

These results suggest that both CM and SR lead to improve in performance in this task. Further study requires following long-term practice and experience compared to novices.

### 3.3.3 Researches of Gujarat State

Researcher has studied the researches done in Gujarat State in the context of effect of Yoga. Total 9 researches reviewed by researcher. The details about these researches are as under in sequence.

1. **Title**

   *A Study of Effectiveness of Yoga Education among the Student of Standard Eight*

   - **Researcher**
     Panesara Ratilal N.
   - **Year & Degree**
     1998, Ph.D.
   - **University**
     Veer Narmad S. G. University, Surat.

**Objectives**

The objectives of the research are as follows.

1. To study the effectiveness of Yoga in relation to achievement of students.
2. To study the effect of sex and teaching method and effect of interaction of students caste and teaching method on Yoga achievement.
Population and Sample
The students studying in schools of Ahmedabad became the population of the study. Total 546 students were included in controlled group as sample which included 325 boys and 221 girls. In experimental group, total 172 students were selected. There were 95 boys and 77 girls in sample.

Method of Study
Experimental Research method was used.

Data Analysis
Analysis of covariance and multiple regressions were used for analysis of data.

Findings
1. There is no significant difference between average score of Yoga achievement of boys and girls.
2. Significant effect of interaction of teaching method and sex of students is found on average score of Yoga achievement.
3. For Yoga training, Teaching Models are more effective than traditional teaching method in context to achievement.

Title
A Comparative Study of the Effect of Sports Skill and Yoga Method on Health Consciousness of Students of Standard 11

Researcher Raval Anamika C.
Year and Degree 2001, Ph. D.
University H.N.G. University, Patan.

Objectives of the Study
1. To study the effectiveness of consciousness to health.
2. To study the effectiveness of sports skills and Yoga Method.
3. To compare the effect of both methods on students of higher level, medium level and lower level.

**Method of the Study**

The experimental Research method was used by the researcher.

**Population & Sampling**

- All the students of Standard 11\textsuperscript{th} studying in higher secondary school in Gujarat state became the population of the study.
- The schools were selected using purposive sampling method.
- Students were selected randomly. Total 990 students studying in Standard 11\textsuperscript{th} were included in the sample.

**Tools of the Study**

Self constructed material was used as tools in the study.

**Data Analysis**

The data was analyzed using standard error and critical ratio.

**Findings**

1. Sport skills were more effective for average students.
2. Sport skills were more effective than Yoga method.
3. Yoga method was more effective for students of higher level.

3. **Title**

*Construction of Multimedia Health Education Programme and its Effectiveness on Health Consciousness*

- **Researcher** Mehta V. J.
- **Year & Degree** 2003, Ph. D.
- **University** Saurashtra University, Rajkot.
**Objectives**
1. To construct health consciousness programme using multimedia and teacher constructed health consciousness test.
2. To examine effect of health consciousness programme on health consciousness of boys and girls of Standard 8.
3. To examine the effect of sex between the relation of health consciousness programme and health consciousness.

**Population & Sampling**
The students of Standard 8 studying in Gujarati medium schools in rural area became the population for the study. For the sample two schools of Atkot village were selected. Two classes of girls were selected from Shri Nivasi Kanya Vidyalaya and two classes of boys were selected from Vidya Vihar High school as sample. All the students of those classes were included in the sample.

**Tool**
Self constructed health consciousness test was used.

**Research method**
Experimental Research method was used.

**Data Analysis**
Analysis of data was done by analysis of co-variance

**Findings**
1. Remarkable increase in health consciousness was found by use of multimedia based of health education among boys and girls.
2. Equal effect of sex was found on relation of health consciousness programme based on multimedia and health consciousness.

4. **Title**

   *The Output of Yoga Training and its Effect on Primary Education Field*

   ▪ **Researcher**  
   Vadhel Bhavsinh H.

   ▪ **Year & Degree**  
   2004, M.Ed.

   ▪ **University**  
   Gujarat University, Ahmedabad.

**Objectives**

1. To prepare Yoga training programme for students of standard 7th.

2. To prepare a plan for teaching social science subject to students of Standard 7th.

3. To obtain result after experimenting the design.

4. To decide the effect of Yoga Training on achievement of controlled group and experimental group in social science subject.

**Tool**

Achievement test was used for data collection.

**Sample**

64 Students of standard 7th were the sample of the study.

**Method**

Experimental research method was used for this study.

**Data Analysis**

For the data analysis t-test was used by the researcher.
Findings

1. Significant effect of teaching was found on controlled group.
2. Significant effect of teaching was found on experimental group.
3. Significant effect of Yoga training was found on learning output.
4. The students of experimental group were proved superior in retention power than those of controlled group.
5. Significant effect of Yoga training was found on retention of learning.

5. Title

The Effectiveness of Yoga Programme on Interest, Health Experience and Concentration of Secondary School Students

- Researcher Pandya N. M.
- Year & Degree 2005, Ph. D.
- University Saurashtra University, Rajkot.

Objectives

1. To construct Yoga programme and Interest Inventory to examine learning interest and to construct health experience inventory.
2. To examine effect of Yoga programme on learning, interest, health experiences and concentration on the boys and the girls of secondary schools.
3. To examine the effect of sex between relation of Yoga programme and concentration.
4. To examine effect of sex between relation of Yoga programme and learning interest.
5. To examine effect of sex between relation of Yoga programme and health experiences.

- **Population & Sampling**
  All the secondary school students studying during academic year 2004-05 in Rajkot city became the population of the study. Total 80 students of Narayan Vidya Mandir were included in the sample.

- **Tools**
  Learning interest inventory and health experience Inventory was used for this study.

- **Method**
  Experimental research method was used for this study.

- **Data Analysis**
  For the data analysis t-test was used by the researcher.

- **Findings**
  Yoga programme had not remarkable effect on learning interest of the boys and girls of secondary schools, but significant effect of Yoga programme was found on health experiences and concentration of students.

6. **Title**

*Effect of Yoga Education on Patients Having High Blood Pressure*

- **Researcher** Pal Biman Bihari
- **Year & Degree** 2006, Ph. D.
- **University** Gujarat Vidyapith, Ahmedabad.
Objectives
To examine the effect of Yoga education on Physiological variables of the patients having high blood pressure.

Tool
A register based on Physiological Variables was used for this study.

Sample
96 patients within the age group of 38 to 66.

Population
Patients having high blood pressure of Ahmedabad city were the population of this study.

Method
Experimental Research method was used for this study.

Hypothesis
There will be no significant effect on the score of pre test and post test for some physiological variables of patients having high blood pressure.

Data Analysis
Analysis of variance and co variance statistical method was used for data collection.

Findings
1. High blood pressure, cholesterol in blood and HDL in cholesterol is effectively controlled by Yoga programme which included Shavasan, Dhyana and Asanas.
2. Joint Yoga programme proved to be successful control on high blood pressure.
3. All Yoga programmes are effective to control blood pressure but they are more effective to control low blood pressure than high blood pressure.
4. Yoga programmes have been proved effective to decrease the SDL in cholesterol and cholesterol in blood.
5. Remarkable improvement was found on most of diseases like headache, mental restlessness, peevishness, obstinacy and sleeplessness.
6. The medicines taken by patients of controlled group were proved less effective.

7. Title

*A Study of the Effect of Yoga Training on Memory, Conservation and Creativity of the Students of Standard Six*

- **Researcher** Chaudhary Asha R.
- **Year & Degree** 2010, Ph.D.
- **University** Ganpat University, Kherva.

**Objectives**

The objectives of the research are as follows.

1. To construct Yoga training programme for the students of standard 6.
2. To construct memory test for the students of standard 6.
3. To construct conservation test for the students of standard 6.
4. To study the effect of Yoga training programme on memory of the students of standard 6.
5. To study the effect of Yoga training programme on conservation of the students of standard 6th.
6. To study the effect of Yoga training programme on creativity of the students of standard 6.

**Population and Sample**
The students studying in standard 6th during the academic year 2008-09 in primary school of Mehsana district became the population of this study. Total 120 students were included as a sample.

**Method of Study**
Experimental research method was used for this study.

**Data Analysis**
T-test was used for analysis of the data.

**Findings**
1. There was no significant difference shown between controlled group and experimental group in the score of pretest of memory.
2. There was a significant difference shown between controlled group and experimental group in the score of posttest of memory. The difference concluded that, Yoga training improved memory of the students.
3. There was no significant difference shown between controlled group and experimental group in the score of pretest of conservation.
4. There was a significant difference shown between controlled group and experimental group in the score of posttest of memory. The difference concluded that, Yoga training improved conservation of the students.
5. There was no significant difference shown between controlled group and experimental group in the score of pretest of creativity.

6. There was a significant difference shown between controlled group and experimental group in the score of posttest of memory. The difference concluded that, Yoga training improved creativity of the students.

8. Title

Effect of Yoga on Educational Achievement, Mental Development and Physical Health of Secondary School Students

- **Researcher**: Thakar Kamendu R.
- **Year & Degree**: 2010, Ph.D.
- **University**: Dr. B. Ambedkar, Ahmedabad.

**Objectives**

The objectives of the research are as follows.

1. To study the effect of Yoga on academic achievement of the students of secondary school students.

2. To study the effect of Yoga in relation to sex on academic achievement of the students of secondary school students.

3. To study the effect of Yoga in relation to area on academic achievement of the students of secondary school students.

4. To study the effect of Yoga in relation to standard on academic achievement of the students of secondary school students.

5. To study the effect of Yoga on mental development of the students of secondary school students.
6. To study the effect of Yoga in relation to sex on mental development of the students of secondary school students.
7. To study the effect of Yoga in relation to area on mental development of the students of secondary school students.
8. To study the effect of Yoga in relation to standard on mental development of the students of secondary school students.
9. To study the effect of Yoga on physical health of the students of secondary school students.
6. To study the effect of Yoga in relation to sex on physical health of the students of secondary school students.
7. To study the effect of Yoga in relation to area on physical health of the students of secondary school students.
8. To study the effect of Yoga in relation to standard on physical health of the students of secondary school students.

▶ Population and Sample

The students studying in standard 8th and 9th during the academic year 2008-09 in Gujarati medium school of Mehsana district became the population of this study. Total 320 students were included as a sample.

▶ Method of Study

Experimental Research method was used for this study.

▶ Data Analysis

T-test was used for analysis of the data.

▶ Findings

1. There was a significant difference shown on academic achievement through Yoga. So, it was indicated that, Yoga training improves academic achievement of the students.
2. Yoga training improved academic achievement of the students of urban area.

3. There was a significant difference shown in academic achievement between boys and girls. This difference was in favour of boys.

4. Yoga training increased the level of mental development of the students.

5. Yoga training increased the level of mental development of the students of rural area.

6. There was a positive effect shown on the components of physical health, such as heart beat, high and low blood pressure, weight etc.

7. There was a positive effect shown in favour of girls on the components of physical health, such as heart beat, high and low blood pressure, weight etc.

8. There was no significant different shown of Yoga training in relation to sex.

3.4 Criticism of the Previous Researches

In the present study there were 23 researches reviewed. These researches are in between 1979 to 2012. The review of these researches is presented in the context of objectives, instrument, and analysis.

3.4.1 Criticism According to Objectives

The researches related to Yoga exercises or Yoga experiment. There were total 18 researches reviewed by the researcher, in which the prime objectives was to constructed and developed the Yoga
programme for the students and the patients and tried out of it from the period between one week to one month.

Among these reviews one review was on to assess the relationship between thirteen independent variables and academic achievement of Indian and Non-Indian students to make comparisons between the two cultural groups and one was on To examine the effect of Yoga education on Physiological variables of the patients having high blood pressure.

3.4.2 Criticism According to Instruments

Out of eighteen researches one research was related to measurement of reasoning ability and the tool of achievement test. Four researches were on health consciousness, one was related to the construction of memory test and three researches were on to examine the effect of Yoga on different types of variables by inventory, health experience inventory and self constructed materials.

Among four foreign researches one research was related to Relationship of Yoga Instruction, one was related to Reasoning Ability and Classroom Learning Environment; one was related to Mood States and Stress-related Biochemical Indices in Long-term Yoga Practitioner and one was related to Concentration and Memory in relation to Stress.

Among five Indian researches one research was related to Logical Memory in School Children, one research was related to Anxiety and Subjective Well-being, one research was related to Memory Scores and State Anxiety, one research was related to to evaluate the human potential through four main streams of Yoga
through Yoga modules practices and literatures by quantifying the changes in psychological and health variables and one research was related to cyclic meditation in psychomotor performance on children.

3.4.3 Criticism According to Analysis

Different statistical techniques were applied to analyze the data of the previous eighteen researches. Out of eighteen researches, most of the researches were analyzed the data by using t-test and F-test, in one foreign research multiple regression programs were used to analyze the data.

3.5 Comparison of this Study with Previous Researches

The researcher has compared the present study with previous researches in to two parts. One is the similarity of this study and the second is the distinctiveness of this study.

3.5.1 Similarity of this Study with Previous Researches

- The most of previous researchers aimed at examining the effect of Yoga programme by experiments.
- In some researches, effect of Yoga on memory was also examined.
- Like this study, some researchers intended to examine the effect of different Yoga on attitude, academic performance, stress, performance, mood, concentration, memory, logical memory, health, anxiety and discipline.
- The results were obtained by forming groups.
- In some researches, the experiments were held on patients and the students within the age group of 10 to 21 years.
3.5.2 Distinctiveness of this Study

Any research differs from other researches in many ways. This study proves its peculiarities and differs from other researches which are stated as below.

- The students of standard 11th Commerce stream were included in the sample of this study.
- The data were collected based on results of three pre tests and three post tests in this study.
- The Short-term Memory test was constructed and standardized.
- Equal groups were formed focusing a dependent variable (Short-term Memory) in this study.
- The effect of independent variable (Yoga Exercises) on three dependent variables was examined in this study.
- The Yoga programme was tried out 1 hour every day for 21 days.
- Among two schools, one was selected from Urban area and second one was selected from Rural area.

3.6 Conclusion

Thus, information about independent variables and dependent variables is presented in this chapter. Beside this, review of related literature is also presented in this chapter.