

CHAPTER – I

INTRODUCTION

1.1 Background of the Study

Physical education is necessary to every person for all-round development and to be healthy as well as fit. Physical education helps an individual proper development of physical, mental, social, and emotional aspects through different types of physical activities (Sherchan,2068).

Physical education is not only concerned with the physical outcomes that accrue from participation in activities but also the development of knowledge and attitudes conducive to lifelong learning and life span participation (Bucher, 1992, p.9).

Physical fitness is the most important factor in the field of physical activities which is helpful to develop the capacity to perform different fitness abilities to the human body is to function with vigor and with ample energy to engage in leisure activities and to meet physical stress. Muscular strength and endurance cardiorespiratory integrity and general alertness are the overt signs of physical fitness. Physical fitness is one of the most important parts of human life only with this quality man can adapt to his changing environment. This quality of physical fitness was recognized many years ago. Gradually and steadily of human beings tried to acquire the qualities of physical fitness and they invented fitness devices after the world war. The term motor fitness came into existence which was known as an essential part of physical fitness and some time it is used as similar to physical education (Bucher,1992).

Physical fitness includes the elements of strength, muscular endurance, cardiorespiratory endurance, and flexibility. Recently, more and more physical educators are adding weight control or freedom from obesity, as a component of physical fitness. The impetus for this no doubt came from the medical profession. The many medical problems associated with obesity call the cooperative efforts between the medicals fields and physical education. Although causes of obesity are complex, lack of physical activity is major behavior characteristics held uncommon by a large presenting of obese person

Moreover, physical exercise is an effective means for reducing fat and maintaining sufficient muscle mass. Physical fitness is sometimes defined in terms of the capacity to do work. In this context, obesity is a negative factor and thus the avoidance of obesity qualifies as a viable component of health-related physical fitness (Johnson & Nelson, 1988, p.74).

Physical activities are key components of physical education those activities are closely related to Yoga activities. Yoga is a physical, mental, and spiritual practice or discipline. There is a broad variety of schools practice and goals in Hinduism, Buddhism including Vajrayana and Tibetan Buddhism, and Jainism. The best known are Hatha Yoga and Raja Yoga. The origin of Yoga has been speculated to date back to pre-Vedic Indian traditions but most likely developed around the sixth and fifth centuries. In ancient India's ascetic circles, which are also credited with the early sramana movement the chronology of earliest texts describes Yoga - practice is unclear, varyingly credited to Hindu Upanishads and Buddhist Pali Canon, probably of the third century or later. The Yoga Sutra of Patanjali from the first half of the millennium is one of the key surviving major texts on Yoga. Yoga which is popular today and involves physical exercise is Hatha Yoga and has its origins in the medieval period. Hatha Yoga texts emerged around the 11th centuries and their origins were related to tantrism (Retrieved from [Http://en.Wikipedia.org/wiki](http://en.Wikipedia.org/wiki)).

The Sanskrit word 'Yoga' has much meaning among which is 'Yoke' or 'unite', referring to the union of the individual's self with the universal consciousness or 'Absolute'. But Yoga also describes the union of the physical body with the mind and spirit as a method of transcending the limitations of the ego and reaching enlightenment. Yoga is a complete philosophy on life-based on scientific principles and can be used efficiently for self-healing and self-realization. It can be used as prevention, secondary prevention, and acute management. Through Yoga, one can bring discipline to life. We work upon our system rather than our symptoms. The therapeutic use of Yoga helps in removing toxins from the body and nourishing our body with the support of the right food. In Patanjali's Astanga Yoga we study about eight disciplines. They are Yam, Niyam, Ashan, Pranayam, Pratyahar, Dhyana, and Dharana &

Samadhi. Everyone can get health, happiness, peace, and enjoyment through AstanaYoga. According to Yoga Rishi Swami Ramdevj; by Yoga, one can enhance creativity, productivity, and quality within (Panth, 2072).

The beginnings of Yoga were developed by the Indus-Sarasvati civilization in Northern India over 5000 years ago. The word Yoga was first mentioned in the oldest sacred texts the Rig Veda. The Vedas were a collection of texts containing songs, mantras and rituals to be used by Brahmans, the Vedic priests (Retrieved from <https://www.wiki.historyofYoga.rtz>).

Yoga is one of the most importantly effective and widely accepted natural therapies based on systematic and moderate practical physical activities. Yoga is an indispensable aspect of health and physical education. Nepal government ministry of education has included Yoga exercise in the health and physical education curriculum for lower secondary and secondary school students so Yoga has become a part of our formal education in government schools (Shahi, 2071).

Yoga is an effective ancient technique or disciplinethat evolved thousands of years ago for optimum health. Pranayama is one of those techniques. Etymologically, it is a compound Sanskrit word constituting two words prana-life force, vital energy, breath or oxygen, and Ayama-prolongation or expansion. So pranayama is a technique, which prolongs or controls the vital force of our body (Shakya, 2072).

When we are talking about hormonal imbalances in women stress management is a good place to start. This Yoga sequence will calm your nervous system and depot organs. Without time for stillness, your hormones can pay a steep price for an accelerated pace of life. Years after a Yoga injury inspired me to slow down and study acupuncture, women elude the dangerous cycle of chronic stress. Here, a cautionary tale, a Yoga sequence, and acupressure meditations to boost vitality wake up energized, and find peaceful and calming bliss. Yoga for women is as ancient as the exercise itself. With plenty of modern research available, the understanding of those benefits is better and broader than ever before (Retrieved from <https://www.Yogajournal.com>).

The benefits of Yoga for women who are pregnant and postpartum are manifold. Research has shown Yoga decrease the perception of pain during labor, reduces physical discomfort during pregnancy and labor, significantly reduces stress and sleep disturbance as well as improve the quality of life. Approximately 13 percent of women experience a major depressive episode during pregnancy and the postpartum period. Research has documented poor outcomes associated with depression, such as higher rates of preeclampsia, spontaneous abortion, and complications during pregnancy and labor. Prenatal Yoga has been associated with reduced depression and anxiety and has been shown to support women with high-risk pregnancy-induced hypertension or preeclampsia. The transition to motherhood can have a significant impact in the areas of work and relationships. Further, postpartum women often experience weight gain coupled with decreased physical activity following childbirth with gain important factors contributing to poor emotional health during this time (Retrieved from <https://powerYoga.com>).

Yoga is about 5000 years old Indian body of knowledge. Though many think of yoga only as a physical exercise where people twist, turf, stretch, and breathe in the most complex ways, these are only the most superficial aspects of this profound science of unfolding the infinite potentials of the human mind and soul. The science of Yoga imbibes itself the complete essence of the way of Life, including - Gyan Yoga or philosophy, Bhakti Yoga, or path of mind control. Raja Yoga is further divided into eight parts. At the heart of the Raja Yoga system, balancing and unifying these various approaches is the practice of Yoga Asana. Maharishipatanjali introduced eight limbs of Yoga as follows- 1.Yama(control) 2.Niyama (Rules of conduct) 3.Asana (posture) 4.Pranayama (Controls of the breath) 5.Pratyahara (Withdrawal of sensory perceptions)6.Dharana(Concentration)7.Dhyana (Uninterrupted meditation) 8.Samadi (Effortless meditation, equilibrium) (Singh &Solanki,2015).

1.2 Statement of the Problem

There are different areas under naturopathy, Yoga is one of the best in its Yoga activities oriental type by origin practicing since time immemorial for the welfare of human beings. Physical fitness is essential to one's well-being. Yoga activities enhance not only mental aspects it helps physical, social, and emotional aspects as well. Yoga kriyas are for the purification of the body, Asanas for physical fitness and therapeutic purpose, Pranayam for concentration, meditation, and mental peace. Yoga helps for emotional balance and social adjustment as well. Therefore it can be suggested that, if anyone does not prefer heavy and energetic physical exercises, he /she should optional Yogic exercise for his / her better health and required fitness level. Hence Yoga is a part of naturopathy and physical education suitable to all age and sex groups of human beings.

Yoga has five principal meanings.

- * Yoga as a disciplined method for attaining a goal.
- * Yoga helps to bring physical fitness.
- * Yoga is a technique of controlling the body and the mind.
- * Yoga is the goal of Yoga practice.
- * Yoga is the truthfulness and practicable.
- * Yoga is a simple (Aparigraha)

Ilam district is one of 14 districts of Province No. 1 of eastern Nepal. It is a Hill district and covers 1,703 km² (658 sq mi). The 2011 census counted 290,254 populations. The municipality of Ilam is the district headquarters, about 600 km (370 mi) from Kathmandu. The name Ilam is derived from the Limbu language in which "IL" means twisted and "Lam" means road. Ilam was one of the ten self-ruling states of Limbuwan before the reunification of Nepal. Its ruler King Hangshu Phuba Kingdom of the Kingdom dynasty ruled Ilam as a confederate state of Limbuwan until 1813 AD. The treaty between the other Limbuwan states and the King of Gorkha (Gorkha-Limbuwan Treaty of 1774 AD) and the conflict between Gorkha and Sikkim led to the unification of Ilam with Gorkha. Ilam was the last of the ten kingdoms of Limbuwan to be reunified into Nepal. The King of Gorkha gave the ruler of Ilam full autonomy to rule and the right of Kipat. Ilam was an independent

Limbukingdom until 1813 CE/1869 BS. Ilam is today one of the most developed places in Nepal. Its ILAM TEA is very famous and is exported to many parts of Europe. The main source of income in this district is tea, cardamom, milk, ginger, potato, orlon, and broom production on a large scale. This place also has religious importance. The Devi temples have a great importance attached to them and many people come here just for pilgrimage. The major attraction of Ilam is the nine-cornered Mai Pokharilake. Also known as the abode of the goddess many tourists as well as Nepalese people come to visit this place. Similarly, Gajurmukhi is also the religious spot for pilgrimages from Nepal and India. Mai river and its four tributaries also emerge in the Ilam district. The famous Mane Bhanjyang (Mane pass) connects Ilam with the Darjeeling district of West Bengal, India.

Most of the people of the districts have long cultural practices in Yoga exercise. Some people say it is the right place to do yoga in Ilam. It might be true, it might be a dream, but there's something with the vibes of Nepal that just resonates with yoga. They were motivated by Yoga exercise by Ramdev Guru, since that time they were still practiced in Yoga at Ilam. Similarly, most of the younger were also interested and practiced in yoga but how much they were interested and what types of yoga especially they want to practice, and what is the main role of yoga so researcher had chosen this field to research. The goal of yoga and physical education are matched as whole-sum development of personality. Physical fitness is one of the major components to do many activities like Yoga. A physically fit person can perform yoga easily than other laypeople but there is still a lack of study on the role of yoga exercise in the physical fitness of girls in the context of Nepal, it was an unanswered question for the research so the researcher was interested to undertake the research work on the problem as "Role of Yoga in Physical Fitness of Girl Students in Ilam" which was new and researchable one.

1.3 Objectives of the Study

The main objective of the study was to find out the role of Yoga exercise on the physical fitness of girl students in the Ilam district. The specific objectives of the study were as follows;

- 1.3.1 To examine the physical fitness of girl students involved in yoga activity.

- 1.3.2 To findout the physical fitness of girl students who were not involved in yoga activity.
- 1.3.3 To evaluate the role of Yoga exercise in physical fitness of girls.
- 1.3.4 To compare the physical fitness between yoga practice and non practice group students of college level.

1.4 Significance of the Study

Yoga is exercised for the harmonious development of human beings which includes the overall development of body, mind, and spirit. It was impossible to fulfill the objective of the present study without evaluating the effect of Yoga exercise, so the present research has some major significance which is given below.

- 1.4.1 This study would help to support in generalizing the role of Yoga in physical fitness.
- 1.4.2 The study result would help to plan and execute Yoga exercises for the different age groups of girl students.
- 1.4.3 The study findings would provide important guidelines for the new researchers to carry on their research works related to Yoga.
- 1.4.4 The report of the study would significant as the reference to those authors, scholars, and other people who want to deal with the Yoga exercise.
- 1.4.5 The study report would provide important guidelines to the ministry of youths and sports to plan and implement Yoga programs at secondary schools of the country.

1.5 Delimitation of the Study

This study was delimited to the following points.

- 1.5.1 This study was conducted in the Ilam district only.
- 1.5.2 The college-level girl students of the Ilam district were taken as a source of data for this study thus, the study was delimited among girl students.
- 1.5.3 The respondents were selected based onthe convenient sampling method from the study site.
- 1.5.4 The respondents were selected based onYoga and non –yoga group.

1.6 Definitions of the Key Terms

Yoga

Yoga is a physical, mental, and spiritual practice or discipline.

Physical Fitness

Are a state of health and well-being and more specifically the ability to perform aspects of sports, occupations, and daily activities.

Married Women

A female person associated with a particular place, activity, or occupation.

Sport

sport is an event where the repetition's of movements are done such as swimming, running, weight lifting, etc usually of a competitive nature.

Disease

A particular quality or disposition regarded as adversely affecting a person or group of people.

Physical Activities

Physical activity simply means the movement of the body that uses energy.

Strength

Strength is the ability to overcome the resistance or to act against the resistance. It is the product of voluntary muscle contraction.

CHAPTER – II

REVIEW OF THE RELATED LITERATURE

A literature review is the most important function of development in any research. The researcher cannot complete without the review of related literature. This kind of study is quite new in our country. So it is very difficult to search related literature as required research materials and documents related to measuring Yoga concerning the effect of Yoga on the physical fitness of girl students of college-level are not available here. In this context of study whatever the concerning works found are given below.

2.1 Theoretical Literature Review

Vygotsky: Social Cultural Learning

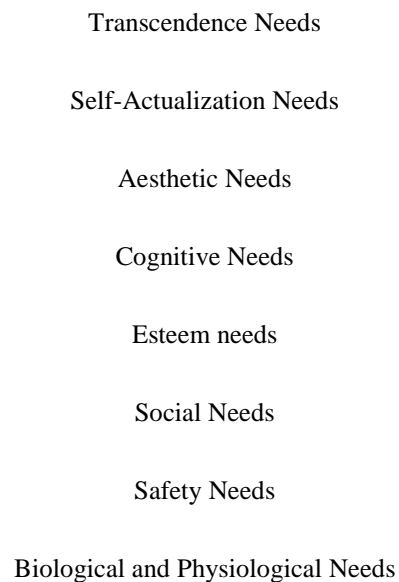
Chiluwal (2020) has described the book “Educational Learning Theories” whereas they make clear that Vygotsky has established Social Cultural Learning. He is known as an educational psychologist with a socio-cultural theory. This theory suggests that social interaction leads to continuous systematic changes in children's thoughts and behavior that can vary greatly from culture to culture. Vygotsky has cleared that the discussion given among students to the understanding of the relation between the social world and cognitive development. Particular attention has been given to the significance of culture, the role of language, and the student's relationship with this social world. His view of the integrated and dynamic social-nature of learning, and the notion of a zone of proximal development, which utilizes such ideas, introduced. Vygotsky's ideas on cognitive development have shown to lead to student-centered and a co-constructivist basis of learning, in which the student potential within the social context has accommodated. The dynamic relationships between culture, history, interpersonal interactions, and psychological development have been described, and the important role of language as a common and conducting medium discussed. He emphasizes the importance of the social aspect of learning, and particularly the student-centered and co-constructivist basis of learning in which the individual's

potential within the social context has been addressed. It concluded from this theory, the socio-cultural factors' directed the peoples' attitude towards issues (Zhou and Brown, 2015, as cited by Lohar, 2020,p. 6).

Maslow: Motivational Theory

Shahi (2020) has classified physiological and safety needs as essential needs because it is difficult to survive without addressing these needs first. Once these essential needs have been satisfied, even to a limited degree, other needs start to emerge as important. The third need relates to love and affection, and the sense of belonging to a group. The next relates to self-esteem: the need to be accepted and desired by others. The final need is self-actualization: people's drive to realize their full potential. While needs for love and self-esteem are commonly met in parts of the world where the essential needs are taken for granted, self-actualization is rare and often reveals itself in creativity. The hierarchy of needs can be arranged as follows.

Figure 1: Hierarchy of Needs in Pyramidal Shape



The various aspects of hierarchy needs from the above pyramid: Biological and physiological needs - air, food, drink, shelter, warmth, sex, sleep, etc., safety needs - protection from elements, security, order, law, limits, stability, etc., social needs - Belongingness and Love, - workgroup, family, affection, relationships, etc., esteem needs-self-esteem, achievement, mastery, independence, status, dominance, prestige, managerial responsibility, etc., Cognitive needs - knowledge, meaning, etc., aesthetic needs – appreciation and search for beauty, balance, form, etc., self-actualization needs - realizing personal potential, self-fulfillment, seeking personal growth and peak experiences and transcendence needs-helping others to achieve self-actualization. However, the hierarchy of needs later expanded with three needs: cognitive, aesthetic, and transcendence which have been described. These needs show that the ladder of needs is unlimited and no one fulfills it however when an individual achieves the lower level need another need automatically raised and tries to fulfill it.

Many studies have shown different results in motivation and behavior change. A study shows that motivation and performance including learning strategies have a positive association. Motivation can distinguish into two types: autonomous and controlled motivation. Autonomous motivation is out of control that means beyond the interest or necessity whereas controlled motivation is directed by reward and punishment or threat (Maslow, 1943 as cited by Rai, 2020 p. 10 & 11).

Dewey and Experiential Learning Theory

Chiluwal (2020) has explained his mini-research study. Whereas Zhou and Brown (2015) have explained the book “Educational Learning Theories” whereasthey clarified that John Dewey has developed Experimental learning Theory. Hebelieved that education was a life- long process and that philosophy was everyday life. Dewey put to use some of his ideas of learning in the Dewey School at the University of Chicago. The

scientifically tested curriculum has centered on the student. Dewey wanted the students to learn from hands on experience. He believed that psychology was the basis for learning and the way to obtain a good education. The child's decision based on the experience the child had in school. The child's home environment should focus in the school. Building, cooking, and sewing had these schooling components in it and these activities represented everyday life for the students. The teacher's responsibility was to be aware of where each child was intellectually and provide appropriate problems for the child to solve. Experiential Learning Theory "provides a holistic model of the learning process and a multi-linear model of adult development". In other words, an inclusive model of adult learning that intends to explain the complexities of and differences between adult learners within a single framework. This theory focuses the experience, main driving force and knowledge. Which have constructed through the transformative reflection on one's experience? This learning model outlined by the Experiential Learning Theory (ELT) contains two distinct modes of gaining experience that are related to each other on a continuum: concrete experience (apprehension) and abstract conceptualization (comprehension). In addition, there are also two distinct modes of transforming the experience so that learning is achieved reflective observation (intension) and active experimentation. When these four modes have viewed together, they constitute a four-stage learning cycle that learners go through during the experiential learning process. The learners begin with a concrete experience, which then leads them to observe and reflect on their experience. After this period of reflective observation, the learners then piece their thoughts together to create abstract concepts about what occurred, which will serve as guides for future actions. With these guides in place, the learners actively test what they have constructed leading to new experiences and the renewing of the learning cycle. Experiential learning theory and its factors has cleared by succeeding figure:

Figure 1: Experiential Learning Theory

Above graphic figure is a representation of the Experiential Learning Cycle, which includes the components of experience, critical reflection, abstract conceptualization, active experimentation, and more critical reflection. Real experiences help the individual learn advanced abstract concepts. The experiences might result in paths, which allow the individual to collect actively information to learn and become a member of the community of practice. Perhaps critical thinking and reflection may refine ideas or lead the individual to consider alternate possibilities. Each phase potentially leads to another and builds upon the former.

Experiential Learning Theory applies within educational systems, especially on college campuses. These examples include field courses, study abroad, and mentor-based internships. Additional examples of well-established experiential learning applications include cooperative education, internships and service learning. There are also numerous examples of computer-based interventions based on experience. Stages to Participating Experiential Learning in the Classroom has described below:

-) Video scenario provides as well as discussion.
-) Involve the learner in a realistic experience that provides scheming as well as depth of participation.
-) Permit for discussion for the experience.
-) Learner begins to formulate concepts and hypotheses concerning the experience through discussion as well as individual reflection.
-) Allow the learners to experiment with their understanding current conflict and conflict resolution scenario.

) Allow the additional reflection on investigation.

Experiential Learning Theory concluded that the individual attitudes towards learning activities, yoga and sports, as well as physical education have been depending on experience (Zhou and Brown, 2015 as cited by Chiluwal, 2020).

2.2 Empirical Literature

A review of related literature is a very important part of the proposal. It gives the essential idea for the study. A literature review is needed to gain knowledge and idea for the study to the researcher. Some people have researched in the field of sports and Yoga exercise but it is difficult to find literature with its problem.

Larson(2000) present work is the result of an honest into the positioning of women in yoga,both in the past and in the present, concerning historical and social developments while considering their implication on the Yoga discipline and femaleIn today's world Yoga appears to be everywhere, good for everything and suitable for everyone. When people say they "do Yoga" they usually refer to a form ofphysical discipline, or exercise practice, that can heal, to make youmore fit and enhance your scripture, and yet it is ever. So population in today's culture, assuming that the ancient Yoga and the current expression of Yoga in the same would be native.Sepractiones likewise Yoga has its ancient roots in Hindulf-acceptance, and notably, it is not only an exercise.

Anna (2002) studied "The psychological and physiological effects of Yoga on children" the current study aimed to assess the psychological and physiological impact of a brief Yoga program for children using a randomized placebo-control design. The result of the project remains speculative because of the small size and generous criteria used to determine statistical significance. Yoga classes may contribute to reductions in immediate anxiety levels. While the ability to relax voluntarily was not demonstrated by the end of the program. It was suggested that a longer Yoga program that incorporated more overt teaching of relaxation skills might produce such a result. This and other recommendations for further research are presented and the implications for the understanding of positive health are discussed.

Mccooy (2006) has described "Study of Yoga, its health benefits, and the search for the true self. The purpose of this study is to explore the lived experience of Yoga practitioners, and their search for the true self. He interviewed three Yoga practitioners for this qualitative study. The participants were purposively chosen. Heideggerian phenomenology was the method employed to examine the lived experience of the true self. The overall themes that emerged from the data include (The value of Yoga, the body as a vehicle for the self, relationship, the self versus the true self, and transformation.

Bucher (2008) explained that physical education is a very important part of the educational process. It is not a "frill or an ornament" that has been tacked on to the school program as means of keeping children busy. It is instead, a vital part of education. Through a well-directed physical education program, children develop skills for worthy use of leisure time, engage with activities which are conducive to healthful living, develop socially and contribute to their physical and mental health

Handa(2010) Meditation, Pranayama, and practice of yogic exercise are ancient Indian systems not only to keep body, mind, and soul fit but to provide relief in different women disease and enhance sex power among both painless. Nowadays, people are becoming alarmed by the ill-effects of medicines and are seeking natural and safe remedies. The yogic exercise or asana is the easiest, inexpensive, and surest way to cure almost any chronic or acute disease and beautify the human body and also cure all types of female disorders and make pregnancy and childbirth painless.

Monit.(2013) as cited by Shakya(2072) conducted an article on a Why anulomaviloma pranayama? had proved that the immediate effect of anulomaviloma is to reduce the BP while improving the performance in a task requiring attention, bimanual dexterity, and visual-motor coordination.

Shahi (2014) had explained that yogic activities and physical fitness are the urgent need of the present modern society which contributes to the healthier living of the people. The philosophy of Yoga and physical education is an interlinked process to develop physical fitness leading to the healthier living of community people. The practice of activities related to different types of Yoga and sports has been beneficial for human

beings to reduce the risk factors associated with some dangerous health problems like hypertension, heart disease, neurotic problems, and another disease. The ultimate aim of Yoga and physical exercise is to keep people physically, socially, mentally, and emotionally fit and help them to achieve healthier living.

Harkess(2016) has conducted a "The effect of Hatha Yoga practice on factors related to chronic stress" The research included two primary components. The first was a process evaluation of the implementation and quality of standardized Yoga protocol in a chronologically stressed female population and the Second component involved three outcomes evaluation studies conducted to explore the longitudinal effects of Yoga practice on psychological mental health variables and psychological variables, including a pilot study that explored biomechanical markers of stress. This thesis demonstrated that eight-week secular Yoga intervention was associated with some short-term mental health benefits in distressed women and is a feasible treatment option. However, it did not appear that the benefits were robustly maintained beyond engagement with the Yoga classes. Some evidence for molecular effects was indicated but tests involving specific biochemical markers of immunity. This thesis supports the potential value of larger-scale trials examining the efficiency of Yoga practice in treating stress-related illness.

Bista (2017) researched "Attitude Towards Yoga Activities of Higher Secondary Level Students in Bajhang District". The aim was to find out the attitude of the students towards Yoga activities. The data collected through the census method. Likert Carl-attitude scale was selected as a tool. He found that most of the respondents were positive about Yoga activities.

Pantha(2012 B.S) Sanskrit word 'Yoga' has much meaning among which is 'Yoke' or 'unite', referring to the union of the individual's self with the universal consciousness (or 'Absolute') But Yoga also describes the union of the physical body with the mind as spirit as a method of transcending the limitations of the ego and reaching enlightenment. Yoga is a complete philosophy on life-based on scientific principles and can be used efficiently for self-healing and self-realization. It can be used as prevention, secondary prevention, and acute management. Through Yoga, one can bring discipline to life. We work upon our system rather than our symptoms. The therapeutic use of Yoga helps in

removing toxins from the body and nourishing our body with the support of the right food. In Patanjali's Ashtanga Yoga we study about eight disciplines. They are Yam, Niyam, Ashan, Pranayam, Pratyahara, Dhyan, Dharana & Samadhi. Everyone can get health, happiness, peace, and enjoyment through Ashtanga Yoga. According to Yoga Rishi Swami Ramdevj; by Yoga, one can enhance creativity, productivity, and quality within.

2.3 Implication of Literature for the Study

The reviews of related literature helped to design the chapters as well as the methodology of this study. The reviews were very much beneficial in selecting research tools and sampling procedures and also in deciding the number of respondents from selected Yoga centers. The reviews of literature helped to design and develop tables, figures, abstracts, and findings. The above-mentioned literature would help the researcher to the developed questionnaire.

2.4 Conceptual Framework

This conceptual framework is developed through grounded theory. This means, the variables of this framework have been taken by different theories, which are described in the theoretical review. In the conceptual framework, the research problems are related to variables and their links which are shown in the chart or pictorial and descriptive frame. Here, we are discussing the role of Yoga exercise in the physical fitness of girl students. The conceptual framework for this study is shown below.

Conceptual Framework

**Level of
Physical
fitness**

Many common health problems affect males and females differently now a day's females are suffering from different kinds of diseases So Yoga plays a vital role in protecting different diseases in the female. Yoga incorporates breathing exercise, meditation, and poses designed to encourage relaxation and reduce stress, practicing Yoga is said to come with many benefits for both mental and physical health. Though not all of these benefits have been backed by science, Yoga is known for its ability to ease stress and promote relaxation. It helps to relieve anxiety many people begin practicing yoga as a way to cope with feelings of anxiety. May reduce inflammation in addition to improving your mental health, some studies suggest that practicing yoga may reduce inflammation as well. It helps to reduced inflammatory markers in breast cancer survivors with persistent fatigue and also protects against certain diseases caused by chronic inflammation. it helps to increase stamina, lose body weight, and reduce the risk of these problems.

CHAPTER – III

RESEARCH METHODOLOGY

3.1 Research Design

The study was characterized by a descriptive research design based on quantitative nature. This study was based on quantitative and narrative inquiry mainly focusing on the role of Yoga exercise in the physical fitness of girl students in the Ilam district.

3.2 Source of Data

The study was based on primary sources of data. The data were derived from the purposive cum conveniently selected girl students from different four colleges of Ilam district.

3.3 Population of the Study

All the college-level girl students who were involved in Yoga activities and non-yoga groups of students of the Ilam district were considered as the population of the present research study.

3.4 Sampling Procedure and Sample Size

Due to the lack of sufficient sources, the study was conducted in four colleges. They were selected purposively from the Ilam district and the respondents of the study were selected by convenience sampling method. Seventy-five girl students were selected from the Yoga practiced group and seventy-five students were selected from the non-yoga group who were not involved in Yoga activities. So, the sample size was delimited to altogether 150 respondents.

3.5 Data Collection Tool

The ready-made test battery for the fitness test recommended by AAHPER was used as the tool for data collection. All test items, six test items i.e., Standing Broad Jump, Shuttle Run, Flex Arm Hang, Knee Bent Sit-Ups, 50 Yard Run and 600 Yard Run were applied

by the researcher to find out the level of fitness and to analyze the role of Yoga in physical fitness.

Description of AAHPER Physical Fitness Test:-

AAPHER Physical fitness Test: This test was designed to help the teachers of physical education and other recreation leaders in the field find out the performance levels of their students, compare them with national norms and inspire them towards higher levels of achievements.

Test Contents: The test consists of the following six items:

(a) Pull-ups: In the case of girls, the pull-ups are to be started from a flexed arm hang. This test item judges the arm and shoulder girdle strength.

(b) Flexed Leg Situps: This test is meant to judge the efficiency of abdominal and hip flexor muscles.

(c) Shuttle Run: This test item is meant for judging the speed and change of direction.

(d) Standing Long Jump: For judging the explosive power of leg muscles.

(e) 50 Yard Dash or Sprint: For judging speed.

(f) 600 Yard Run: For judging endurance.

Administration of Tests:

These tests can be conducted in a gymnasium or outdoors. The only apparatus required in these tests is a horizontal bar having a diameter of approximately 1 ~ inches for pull-ups and flexed arm hang for girls. However, the arrangement has to be made for the timing and recording of all scorers with the help of timers and recorders.

Item No. 1—Pull up: This item has to be done from a hanging position on the bar by using the overhead grasp (with palms facing outwards). The arms and legs of a subject should be fully extended. From a hanging position, the subject should raise his body with his arms until his chin is placed over the bar. Then, he should lower his body to a full hanging position. In doing so, the knees should not be bent and the pull should not be

jerky or snap pull. The number of completed pull-ups is the score of the subject. Item No. 1 (Girls)—Flexed-arm Hang: In this test item for girls, the subject is required to hang from the bar with flexed arms and overhead grasp. She should raise her body to a position where the chin is above the bar, the elbows are flexed and the chest is close to the bar. The stopwatch is started as soon as a subject assumes such a hanging position and is stopped when the subject's chin falls below the level of the bar. The time recorded in seconds for which a subject holds the hang position is her score.

Item No. 2—Sit-ups: For this test meant for boys and girls, the subject should lie on his or her back with knees flexed and kept not more than 12 inches from the buttocks. The hands of the subject should be placed at the back of the neck, fingers clasped and elbows touching the mat. From this position, the subject should raise his or her head and elbows forward upwards till the elbows touch the knees. This constitutes one sit-up. The number of correctly performed sit-ups in 60 seconds from the start of the first sit-up is the score of a subject.

Item No. 3—Shuttle Run: For this test item, two parallel lines are drawn at a distance of 30 feet from each other and two blocks of wood are placed behind one of the lines. The subject has to stand behind the other line and on the signal "Ready", "Go" should run to pick up one block, run back to the starting line, and place the block behind the line. He should again turn back to pick up the second block and bring it also behind the starting line. Two such trials are given.

The better time of the two trials to the nearest 10th of a second is the score of the subject.

Item No. 4—Standing Long jump: In this test, a subject is required to stand behind a take-off line, with feet apart. He takes a jump forward by extending his bent knees and swinging the arms forward.

The best jump recorded, out of the three trials given, is the score of the subject. The jump should be recorded in feet and inches.

Item No. 5—50 Yard Run: Two lines are drawn at a distance of 50 Yards from each other. The subject is made to run from the start line to the finish line and his time

taken is recorded in seconds (nearest to the tenth of a second.) This indicates his score. Item No. 6—600 Yard Run: This run can be organized on a track, on a football field, or in an open area marked for this purpose. In this test item, a subject runs a distance of 600 Yards, The subject takes a standing start from the start line. The subject may walk in between. However, the objective is to cover the distance in the shortest time, When he crosses the finish line, he is informed of his time. The time taken to run the distance is recorded in minutes and seconds.

3.6 Standardization of the Tools

The readymade test battery for fitness test recommended by AAHPER in 1961, the validity and reliability were already tested by AAHPER so further validation was not necessary for the new researcher. The detailed description, validity, reliability, and technical procedure are given in the appendix.

3.7 Data Collection Procedure

At first, the researcher visited the principal/chief of college with the recommended letter of PE Department T.U Kirtipur and described the purpose of the study, administrative permission was taken from the head to select the respondents. After the selection of the respondent's girl students, permission was taken to apply the test, after the management of the materials and technical supporters the test was conducted for data collection.

3.8 Data Analysis Procedure

After collection of the raw data, it was checked and verified to reduce the mistakes, then data was converted into different statistical forms i.e., Mean, SD, CV, and Z test, and presented in tables. After the presentation of data was analyzed interpreted on the basic objectives of the study.

3.9 Ethical Considerations

The study was based on the role of Yoga in the Physical Fitness of Girl Student in the Ilam District, while collecting the data, the researcher was ethically aware and maintained major ethical tips. The respondents were assured of their privacy and no-harm through

this study. Respondents weren't forced to answer, respondents' names and other personal things were kept at the top confidential in this research, and collected data weren't used in any other area/field.

CHAPTER-IV

ANALYSIS AND INTERPRETATION OF RESULTS

In this chapter, all the information collected from the field was tabulated, analyzed, and interpreted as per the objective of the study. The researcher collected the data from the field by using all test items of AAHPER Youth Physical Fitness Test Battery except Soft Ball Throw. The data were used to analyze the role of Yoga activities in physical fitness with comparison to Yoga practiced and not practiced students of the Ilam district. By using the z-test, the researcher had tried to find the role of Yoga and the difference between the physical fitness of selected groups of students in this chapter.

4.1 Analysis of Physical Fitness Based on Test

The researcher applied all the seven test items recommended by AAHPER Youth Physical Fitness Test. By using the collected data, the researcher compared the physical fitness of the girl students who were practiced Yoga and not practiced girl students of the Ilam district. The role of Yoga in physical fitness and item-wise comparison is given below:

4.1.1 Performance on Flexed Arm Hang

The detailed description of the test item was given in chapter third so only statistical analysis is given as below; by treating the Flexed Arm Hang scores of Yoga practiced students and not practiced students, the researcher found the result as following:

Table 1: Performance on Flexed Arm Hang Between Respondents

S.N.	Statistical Measures	Yoga Practiced	Not Practiced Students
1	Mean	8.08	7.50
2	Standard Deviation	2.48	1.88
3	Coefficient of Variation	30.69	25.06
4	Calculated Z-value	1.65	
5	Tabulated Z-value at .05	1.96	
Conclusion		Not Significant	

Table 1 shows that the mean score of Yoga practiced students was 8.08 and the mean score of normal students was 7.50 while performing Flexed Arm Hang i.e. in average each Yoga practiced students did 8.08 seconds Flexed Arm Hang whereas each normal students did it for 7.50 seconds which shows that the Yoga practiced students' arm strength and endurance is better than not practiced students but the raw score of Yoga practice students seems to be more dilated than other groups' students. The researcher applied Z-test to see the significant difference between the mean value of the students. The calculated Z value was found 1.65 whereas the tabulated Z value was given 1.96 at a .05 level of significance. The tabulated Z value is greater than the calculated value at a .05 level of significance. Therefore; it was found that there is no significant difference between the mean score of these two groups' students. Although a significant difference was not seen we can be concluded the role of Yoga activities is positive in maintain better arm strength and endurance so it plays a positive role in the physical fitness of an individual. It can be concluded that Yoga activities are useful to maintain physical fitness too.

4.1.2 Performance on Knee Bent Sit-Ups

Knee Bent Sit Ups is also a recommended test battery by AAHPER for physical fitness so they administered the test. The collected data were converted into statistical value by the researcher on Knee Bent Sit-Ups of Yoga practiced and not practiced students which is presented on the following table:

Table 2: Performance on Knee Bent Sit-Ups Between the Students

S.N.	Statistical Measures	Yoga Practiced	Not Practiced
1	Mean	10.17	9.44
2	Standard Deviation	2.89	2.89
3	Coefficient of	28.41	30.61
4	Calculated Z-value	1.55	
5	Tabulated Z-value at	1.96	
Conclusion		Not Significant	

Table 2 shows that the mean score of Yoga practiced students are 10.17 and the mean score of normal students is 9.44 in performing Knee Bent Sit Ups. The mean score of Yoga Practiced students is higher than normal students. The researcher used Z-test to see the significant difference between the means of the two groups. THE calculated Z value found 1.55 and the tabulated Z value is given 1.96 at a .05 significance level. The calculated Z value is smaller than the tabulated Z value at a .05 level of significance. So, it was found that there is no significant difference between the means of the two groups.

By seeing the difference between the mean score the researcher concluded that Yoga practiced students showed better performance in Knee Bent Sit-Ups than normal students who were not practiced Yoga activities. It can be concluded that the practice of Yoga activities is a supporter to maintain physical fitness also. It can be concluded that the yoga practiced students have more capable in abdominal strength.

4.1.3 Performance on Standing Broad Jump

The test item Standing Broad Jump was applied to measure the explosive leg power of the respondents. The statistical scores of Yoga practiced students and normal students on Standing Broad Jump are presented on the following table:

Table 3: Performance of Standing Broad Jump Between the Students

S.N	Statistical Measures	Yoga Practiced	Not Practiced
1	Mean	66	64.2
2	Standard Deviation	4.46	6.10
3	Coefficient of Variation	6.75	9.50
4	Calculated Z-value	2.06	
5	Tabulated Z-value at .05	1.96	
Conclusion		Significant	

Table 3 shows that the mean score of Standing Broad Jump of Yoga practiced and normal students who were not practicing Yoga is 66 inch and 64.2 inches respectively. The mean scores show that each Yoga practiced student can jump longer distances than normal students. Thus, who was practicing Yoga the leg muscle power was found better than normal students. The difference in mean scores only does not show the significant difference between the means of the two groups. So, the researcher applied the Z-test to find the significant difference between the means. The calculated Z value was 2.06 and the tabulated Z value is 1.96 at a .05 significance level. The calculated Z value was greater than the tabulated Z value at .05 significance level so a significant difference was found between the two groups' students in the study area.

After the above data and mean testing, the mean score of Yoga practiced students is greater than normal students who did not practice Yoga in Standing Broad Jump whereas the mean score was found 66 and 64.2 respectively. So that it can be concluded that the Yoga activity is best to make better leg power which is supportive for physical fitness too.

4.1.4 Performance on 50 Yard Dash

The 50 Yard Dash test was administered to measure the speed level of the respondents, the statistical value and performance level of the two groups' students is presented below.

Table 4: Performance on 50 Yard Dash Between the Students

S.N.	Statistical Measures	Yoga Practiced	Not practiced
1	Mean	7.13	7.32
2	Standard Deviation	0.53	0.81
3	Coefficient of Variation	7.43	11.06
4	Calculated Z-value	1.72	
5	Tabulated Z-value at .05	1.96	
Conclusion		Not Significant	

From the table above, it is found that the mean score of Yoga practiced students are 7.13 seconds and the mean score of normal students is 7.32 seconds on 50 Yard Dash which shows that Yoga practice students can run faster than normal students. But by comparing the means only, the significant difference cannot be determined. So, the researcher applied Z-test to find a significant difference between the means of the students. The calculated Z value was 1.72 and the tabulated Z value is 1.96 at a .05 significance level. It was found that the calculated Z value is smaller than the tabulated Z value at a .05 significance level. Thus, a significant difference was not found between the speed of the students.

After analyzing the above table also shows well mean score of Yoga practiced students because the time to complete the run is less than normal students. It can be concluded that the speed performance of the students who were practiced Yoga is better than normal students in the study area. So, we can practice Yoga activities that are useful to develop speed performance which has a positive role in physical fitness too.

4.1.5 Performance on 600 Yard Run

The performance of the respondents is shown by the converted data which were collected by the researcher through the test of 600 Yard Run between Yoga practiced and normal students is presented in the table below:

Table 5: Performance on 600 Yard Run Between the Students

S.N.	Statistical Measures	Yoga Practiced	Not Practiced
1	Mean	2.21	2.26
2	Standard Deviation	0.21	0.49
3	Coefficient of Variation	9.50	12.18
4	Calculated Z-value	0.83	
5	Tabulated Z-value at .05	1.96	
Conclusion		Not Significant	

Table 5 shows that the mean score of Yoga practiced students are 2.21 minutes and the mean normal group's students are 2.26 minutes on the 600 Yard Run Test. The mean score of Yoga practiced students is slightly low than normal students which means that Yoga practiced students having better endurance than normal students. But by seeing the means of two groups, comparison cannot be done. So, the researcher applied Z-test to see the significant difference between the means of Yoga practiced and normal students. The calculated Z value was 0.83 and the tabulated Z value is 1.96 at a .05 significance level. Here, the calculated Z value was found lower than the tabulated Z value at a .05 level of significance. So, it is concluded that there is no significant difference between the means of the two groups.

After analyzing the above data, the mean score of Yoga practiced students is seen slightly low than that of normal students it means those students taken short time to complete the 600-yard run than normal students. So, it can be concluded that Yoga practiced students have more endurance capacity than normal students in the study area. It can be concluded that the Yoga activities are beneficial in maintaining physical fitness too which plays a positive role among the participants.

4.1.6 Performance on Shuttle Run

The test Shuttle Run was administered to examine the speed and agility among the respondents. The converted raw data in statistical form was found the result as following:

Table 6: Performance on Shuttle Run Between the Students

S.N.	Statistical Measures	Yoga Practiced	Not practiced
1	Mean	6.91	7.14
2	Standard Deviation	0.84	0.99
3	Coefficient of Variation	12.55	13.86
4	Calculated Z-value	1.64	
5	Tabulated Z-value at .05	1.96	
Conclusion		Not Significant	

Table 6 shows that the mean score of Yoga practiced students are 6.91 seconds and the mean score of normal students is 7.14 seconds on Shuttle Run Test which means that Yoga practiced students are more agile than normal students. But the difference in mean scores only cannot show the difference between the agility of the two grouped students. So the researcher applied Z-test to see the significant difference between the mean score of the students. The calculated Z value was 1.64 and the tabulated Z value was 1.96 at a .05 level of significance. The calculated Z value is greater than the tabulated Z value at a .05 level of significance. So, the researcher concluded that there is no significant difference between the means of the two groups' i.e., Yoga practiced students' agility is better than normal students who were not practiced Yoga.

After analyzing the above data, the mean score of normal students is seen high than Yoga practiced students it means those students were complete the shuttle runs in a maximum time than that of Yoga practiced students. So, it can be concluded that the Yoga practiced students are well-performing than normal students in agility which reflect positively in physical fitness too.

CHAPTER-V

SUMMARY, FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The study was conducted on the Role of Yoga Activities in the Physical Fitness of Girl Students in the Ilam District. The purpose of the study was to find out, compare the physical fitness status and analyze the role of Yoga activities among girl students between Yoga practice and normal group in the Ilam district. Altogether 150 girl students of college-level were selected as respondents by using the convenient sampling method whereas 75 students were selected from the Yoga practiced group and 75 from the normal group through the purposive cum convenient sampling method. AAHPER Youth Physical Fitness Test Battery was used by the researcher as the tool for data collection. The test battery included six test items i.e. Flexed Arm Hang, Knee Bent Sit Ups, Standing Broad Jump, 50 Yard Dash, 600 Yard Run, and Shuttle run which measure arm strength, abdominal muscles strength, power of legs, speed, cardio-respiratory endurance, and agility respectively. As prescribed in the test battery four test items: Flexed arm Hang, Sit Ups, Standing, Broad Jump, and Shuttle Run were conducted on the first day, and the remaining two test items: 50-Yard Dash and 600 Yard Run were conducted on the second day. For the comparison and analyzed the data, Mean, Sd. CV and Z-test were applied as statistical treatments and calculated as per the need and demand of the subject matter. Some important converted data were presented in various tables and analyzed statistically and tested mean difference by applying the Z- test.

5.2 Key Findings

After the statistical analysis of the data and under limitation of the objectives, the researcher has drawn out the following findings:

5.2.1 The arm strength and endurance of Yoga practiced students was found better than normal students who have not practiced Yoga. It was found better mean score of Yoga practiced students in Flexed Arm hang than normal students but significant

difference was not found while applying Z-test between the two groups at .05 significance level.

5.2.2 It was found the mean score of Flex Arm Hang was 8.08 in Yoga practiced students and 7.50 in normal students.

5.2.3 In the Knee Bent Sit-Ups test, the mean score of Yoga practiced students were found slightly higher than normal students and a significant difference was not found at a .05 level of significance between the means of two groups while applying Z-test. Thus, the Yoga practiced students have better abdominal muscles' strength than normal students.

5.2.4 It was found 10.17 mean score of Yoga practiced students and 9.44 of normal students in Knee Bent Sit Ups.

5.2.5 The researcher was found a significant difference between the means of yoga practiced and normal students while applying Z-test at .05 significance level in Standing Broad Jump. Thus, Yoga practiced students have better leg power as compared to normal students.

5.2.6 It was found 66 mean scores of Yoga practiced students and 64.2 of normal students in Standing Broad Jump.

5.2.7 The researcher found that the Yoga practiced students were slightly faster than normal students in the 50 Yard Dash test but a significant difference was not found between the means of two groups while applying Z-test at a .05 significance level.

5.2.8 It was found 7.13 mean score of Yoga practiced students and 7.32 of normal students in 50 Yard Dash.

5.2.9 Significant difference was not found at .05 significance level between the means of Yoga practiced and normal students on the 600 Yard Run test while applying Z-test. But mean score of Yoga practiced students was slightly higher than normal

students which indicate that Yoga practiced students can run the distance in less time and have better endurance than normal students.

5.2.10 It was found 2.21 mean score of Yoga practiced students and 2.26 of normal students in 600 Yard Run.

5.2.11 The researcher was not found a significant difference at a .05 significance level between the mean score of the students on the Shuttle Run test while applying Z-test. The mean score of Yoga practiced students was better (less in second) than normal students which indicate that Yoga practiced students were found more agile and faster than normal students.

5.2.12 It was found 6.91 mean scores of Yoga practiced students and 7.14 mean scores of normal students in Shuttle Run.

5.2.13 Finally, the researcher found a positive role in maintaining physical fitness among Yoga practiced girl students cause of the better statistical result of all tested items.

5.3 Conclusion

The study was conducted on the Role of Yoga Activities in the Physical Fitness of Girl Students in the Ilam District. The purpose of the study was to find out, compare the physical fitness status and analyze the role of Yoga activities among girl students between Yoga practice and normal group in the Ilam district. The researcher applied AAHPER Youth Physical Fitness Test Batteries which include Flexed Arm Hang, Sit Ups, Standing Broad Jump, 50 Yard Dash, 600 Yard Run and Shuttle Run. These test items measure the strength of arms and abdominal muscles, speed, agility, power of legs, and cardio-respiratory endurance. After analyzing the above findings and data it can be concluded that the Yoga practiced students were better in all of the tested components of physical fitness but a researcher was not found a significant difference between the mean score of two groups' students in all applied tests items except Standing Broad Jump. Finally, it can be concluded that Yoga activities play a positive role in maintaining physical fitness too in the study area Ilam district.

5.4 Recommendations

Based on the present study, the researcher wants to suggest the following recommendations. These recommendations may be helpful at the practice level, other new researchers, and policymakers. It is recommended to study the physical fitness of girls of different age levels.

5.4.1 Recommendations for Practice

- a) It would be better to involve the students in different sports and Yoga in college and school.
- b) Special training program can be provided to the students in Yoga and other sports, their performance can be improved.
- c) Extra sports activities and Yoga-related competition can be conducted at the college and school level which increases the performance physical fitness level of the students.
- d) It would be better to encourage the students in participating in Yoga and different sports.

5.4.2 Recommendations for National Policy

- a) Information and skill base practice about Yoga should be included in school and college level curriculum which will be beneficial to maintain physical fitness.
- b) Yoga and Sports teacher should be facilitated by the government to conduct training of Yoga and sports activities.
- c) It can be suggested to concerned organizations to conduct training about Yoga to support the school and college-level teachers.

5.4.3 Recommendations for Further Study

- a) It is recommended to study Yoga about the physical fitness of girls of different ages and levels.
- b) Comparison of physical fitness can be conducted including other aspects such as age, sex, cast, level, etc.
- c) Experimental research can be conducted between Yoga practiced and not practiced students with physical fitness as a research topic.
- d) Comparative study can be conducted in various caste and ethnicity by using other test items.
- e) It would be better to study the different communities living in the different ecological regions as their respondents.

References

- Bista, J.(2017). *Attitude towards yoga activities of higher secondary level students in Bajhang district*.An Unpublished M.Ed. thesis, Submitted to HPPE Department T.U.Kirtipur: Tribhuvan University, Campus Central Department of Education.
- Bucher, C.A. (1992). *Foundation of physical education and sports*. New Delhi: B.I. Publications Pvt. Ltd.
- Chiluwal, S. (2020).*Attitude towards yoga among girl students between public campuses of Kathmandu and Rautahat districts*.An Unpublished Mini-Research, Submitted to Research Directorate, Rector's Office, Tribhuvan University, Kirtipur, Kathmandu Nepal.
- Crowely,A.(2002).*The psychological and physiological effects of yoga on children*.Hawthorn,Victoria Australia.
- Handa,P. (2010).*Yoga for sex power and women's disease*.NewDelhi:Atlantic Publication Pvt.Ltd.The University of Georgia.
- Harkess,K.N.(2016).*The effects of a hatha yoga practice on factors related to chronic stress*.The University of Adelaide.
- Johnson, B.L. & Nelson J.K. (1988).*Practical measurement for evaluation in physical education*. New Delhi:Surjeet Publication,7-k,Koholpur Road
- Khanal, P.(2072). *Research methodology in education*.Kathmandu: Sunlight
- Larson,G.J. (2000).*History and theology of the yoga lineage*.New Delhi Publication.Pvt.Ltd.
- Lohar, S. (2020).*Contribution of Nepal volleyball association for the development of volleyball games in Nepal*.An Unpublished M.Ed. thesis, Submitted to PE Department T.U.Kirtipur: Tribhuvan University, Campus Central Department of Education.

McCoy, C.M. (2006). *A study of yoga, its health benefits, and the search for the true self*. Georgia The University of Georgia

Pantha, P. (2072). *Aarogyasanjibani* Kathmandu Aarogya Sanjibani yoga Kendra, Samakhusi. Publication.

Rai, M. (2020). *Participation of women in different sports: problems and solutions*. An Unpublished M.Ed. thesis, Submitted to PE Department T.U. Kirtipur: Tribhuvan University, Campus Central Department of Education.

Sakya, N. (2072). *Aarogyasanjibaniiyogkendrasamakhusi*. Kathmandu.

Shahi, S. (2014). Yoga and physical fitness for healthier living. *HEAPASS: A bi-annual Professional Journal*, HPPE Department, T.U. Kirtipur, Vol. 9&10 (1), pp. 41-43.

Sherchan, L. (2068). *Sports training and evaluation in physical education*. Kathmandu: Quest publication.

Sherchan, L. (2072). *Foundation of physical education*. Kathmandu: Quest Publication.

<https://www.en.wikipedia.org/wiki/Yoga>, retrieved from, 5th February 2020.

https://www.google.com/search?q=about+Kathmandu+valley&rlz=1C1PRFE_enNP825NP825&oq=about+Kathmandu+valley&aqs=chrome..69i57j0i17.12317j0j8&sourceid=chrome&ie=UTF-8, retrieved from, 15th January 2020.

https://www.google.com/search?rlz=1C1PRFE_enNP825NP825&sxsrf=ACYBGNRV8ucYRf3Grpw1H4InF8hDYpBb7g%3A1574306605803&ei=LQPWXa7aMK7Sz7sP9N2RwAY&q=https%3B%2F%2Fen.wikipedia.org%2Fwiki+Yoga&oq=https%3B%2F%2Fen.wikipedia.org%2Fwiki+Yoga&gs_l=psy-ab.12...4315.54645..58046...2.2..4.593.8310.0j24j15j5-1.....0....1..gws-wiz.....2..0i71j35i39j35i362i39j0i273j0i131j0i3j0i10j0i13j0i22i30.p2qd4gwBg-c&ved=0ahUKEwjupIaQrfr1AhUu6XMBHfRuBGgQ4dUDCAs, retrieved from, 25th January 2020.

<https://www.powerYoga.com>, retrieved from, 25th February 2020.

<https://www.Yoga.journal.com>, retrieved from, 15th February 2020.

Appendix- I

Calculation of Mean, Standard Deviation and Coefficient of Variation of Flexed Arm Hang score (in Second) of Yoga Practiced Students

S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$	S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$
1	4.41	13.47	40	7.77	0.10
2	4.49	12.89	41	10.14	4.24
3	6.08	4.00	42	11.15	9.42
4	6.87	1.46	43	10.14	4.24
5	7.82	0.07	44	7.13	0.90
6	6.23	3.42	45	7.19	0.79
7	8.93	0.72	46	8.23	0.02
8	9.94	3.46	47	10.21	4.54
9	10.11	4.12	48	14.15	36.84
10	7.33	0.56	49	15.01	48.02
11	6.51	2.46	50	13.40	28.30
12	5.14	8.64	51	14.08	36.00
13	6.11	3.88	52	13.04	24.60
14	6.41	2.79	53	15.01	48.02
15	6.05	4.12	54	14.01	35.16
16	6.21	3.50	55	9.20	1.25
17	6.27	3.28	56	8.01	0.00
18	6.11	3.88	57	7.22	0.74
19	6.14	3.76	58	6.55	2.34
20	7.71	0.14	59	6.16	3.69
21	6.71	1.88	60	7.21	0.76
22	6.24	3.39	61	5.44	6.97
23	7.36	0.52	62	6.71	1.88
24	6.45	2.66	63	6.61	2.16
25	7.13	0.90	64	8.92	0.71
26	8.24	0.03	65	7.43	0.42
27	9.33	1.56	66	6.51	2.46
28	10.11	4.12	67	5.62	6.05
29	11.24	9.99	68	6.64	2.07
30	8.49	0.17	69	8.17	0.01
31	7.01	1.14	70	6.13	3.80
32	6.51	2.46	71	7.44	0.41
33	6.44	2.69	72	6.17	3.65
34	6.01	4.28	73	5.71	5.62

35	8.91	0.69	74	9.22	1.30
36	9.01	0.86	75	6.47	2.59
37	10.00	3.69			
38	11.23	9.92	Total	606.04	464.03
39	6.55	2.34	Average	8.080533	

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{606.04}{75} = 8.08$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{464.03}{75}} = 2.48$$

$$\text{C.V.} = \frac{\dagger}{\bar{X}} \times 100 = \frac{2.48}{8.08} \times 100 = 30.69$$

Appendix- II

Calculation of Mean, Standard Deviation and Coefficient of Variation of Flexed Arm Hang score (in second) of normal Students

S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$	S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$
1	6.21	1.66	40	5.75	3.06
2	6.11	1.93	41	7.90	0.16
3	7.12	0.14	42	6.51	0.98
4	5.54	3.84	43	14.65	51.12
5	5.71	3.20	44	7.14	0.13
6	6.62	0.77	45	5.75	3.06
7	7.71	0.04	46	6.76	0.55
8	7.06	0.19	47	6.22	1.64
9	7.08	0.18	48	6.06	2.07
10	6.80	0.49	49	6.94	0.31
11	7.19	0.10	50	12.48	24.80
12	6.15	1.82	51	11.81	18.58
13	6.12	1.90	52	9.66	4.67
14	8.48	0.96	53	8.48	0.96
15	3.15	18.92	54	7.11	0.15
16	5.24	5.11	55	10.36	8.18
17	5.33	4.71	56	7.15	0.12
18	6.77	0.53	57	9.90	5.76
19	7.77	0.07	58	5.31	4.80
20	10.06	6.55	59	7.25	0.06
21	9.01	2.28	60	7.13	0.14
22	10.10	6.76	61	5.44	4.24
23	9.81	5.34	62	6.71	0.62
24	7.72	0.05	63	6.61	0.79
25	6.22	1.64	64	8.92	2.02
26	6.77	0.53	65	7.43	0.00
27	7.21	0.08	66	6.51	0.98
28	8.26	0.58	67	5.62	3.53
29	8.31	0.66	68	6.64	0.74
30	6.33	1.37	69	8.17	0.45
31	8.39	0.79	70	6.13	1.88
32	9.21	2.92	71	7.44	0.00
33	5.54	3.84	72	6.17	1.77
34	6.71	0.62	73	9.11	2.59

35	6.48	1.04	74	9.22	2.96
36	11.81	18.58	75	6.47	1.06
37	8.65	1.32			
38	6.73	0.59	Total	562.75	265.27
39	10.36	8.18	Average	7.503333	

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{562.75}{75} = 7.50$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{265.27}{75}} = 1.88$$

$$\text{C.V.} = \frac{\dagger}{\bar{X}} \times 100 = \frac{1.88}{7.50} \times 100 = 25.06$$

Appendix-III

Calculation of Z- test between the mean score of Flexed Arm Hang Score between Yoga practiced and not practiced Students.

	Yoga practiced	Not practiced
Mean(\bar{X})	8.08	7.5
S.D.(\dagger)	2.48	1.88

$$\mathbf{Z\text{-Test}} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\dagger_1^2}{N_1} + \frac{\dagger_2^2}{N_2}}} \times \frac{8.08 - 7.5}{\sqrt{\frac{2.48^2}{75} + \frac{1.88^2}{75}}} \times \frac{0.58}{\sqrt{0.35}} \times 1.65$$

Here,

-) Calculated Z value = 1.65
-) Tabulated Z value at .05 level of significance = 1.96
-) Thus, Calculated Z value < tabulated Z value
-) Therefore, a significant difference was not found between the mean score of Yoga practiced and not practiced students in Flexed arm Hang test at a .05 level of significance.

Appendix -IV

Calculation of Mean, Standard Deviation and Coefficient of Variation of Standing Broad Jump score (in inches) of Yoga practiced students

S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$	S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$
1	69.00	9.00	40	64.00	4.00
2	72.00	36.00	41	70.00	16.00
3	73.00	49.00	42	71.00	25.00
4	70.00	16.00	43	73.00	49.00
5	67.00	1.00	44	75.00	81.00
6	68.00	4.00	45	65.00	1.00
7	67.00	1.00	46	64.00	4.00
8	69.00	9.00	47	62.00	16.00
9	67.00	1.00	48	67.00	1.00
10	64.00	4.00	49	69.00	9.00
11	63.00	9.00	50	71.00	25.00
12	71.00	25.00	51	70.00	16.00
13	67.00	1.00	52	64.00	4.00
14	61.00	25.00	53	65.00	1.00
15	64.00	4.00	54	67.00	1.00
16	69.00	9.00	55	63.00	9.00
17	60.00	36.00	56	60.00	36.00
18	64.00	4.00	57	67.00	1.00
19	67.00	1.00	58	61.00	25.00
20	61.00	25.00	59	69.00	9.00
21	66.00	0.00	60	61.00	25.00
22	71.00	25.00	61	66.00	0.00
23	72.00	36.00	62	71.00	25.00
24	74.00	64.00	63	72.00	36.00
25	71.00	25.00	64	71.00	25.00
26	64.00	4.00	65	61.00	25.00
27	62.00	16.00	66	63.00	9.00
28	62.00	16.00	67	64.00	4.00
29	59.00	49.00	68	61.00	25.00
30	69.00	9.00	69	64.00	4.00
31	70.00	16.00	70	62.00	16.00
32	71.00	25.00	71	61.00	25.00
33	61.00	25.00	72	73.00	49.00
34	58.00	64.00	73	59.00	49.00

35	59.00	49.00	74	57.00	81.00
36	71.00	25.00	75	67.00	1.00
37	64.00	4.00			
38	62.00	16.00	Total	4950.00	1494.00
39	61.00	25.00	Average	66	

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{4950}{75} = 66$$

$$\text{S.D. } (\sigma) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{1494}{75}} = 4.46$$

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100 = \frac{4.46}{66} \times 100 = 6.75$$

Appendix -V

Calculation of Mean, Standard Deviation and Coefficient of Variation of Standing Broad Jump score (inches) of Yoga not practiced students

S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$	S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$
1	59.00	27.04	40	64.00	0.04
2	52.00	148.84	41	70.00	33.64
3	56.00	67.24	42	71.00	46.24
4	51.00	174.24	43	73.00	77.44
5	61.00	10.24	44	75.00	116.64
6	65.00	0.64	45	65.00	0.64
7	69.00	23.04	46	64.00	0.04
8	54.00	104.04	47	62.00	4.84
9	58.00	38.44	48	67.00	7.84
10	66.00	3.24	49	69.00	23.04
11	67.00	7.84	50	71.00	46.24
12	69.00	23.04	51	70.00	33.64
13	57.00	51.84	52	64.00	0.04
14	55.00	84.64	53	65.00	0.64
15	53.00	125.44	54	67.00	7.84
16	61.00	10.24	55	63.00	1.44
17	56.00	67.24	56	60.00	17.64
18	67.00	7.84	57	67.00	7.84
19	64.00	0.04	58	61.00	10.24
20	69.00	23.04	59	69.00	23.04
21	68.00	14.44	60	61.00	10.24
22	58.00	38.44	61	66.00	3.24
23	71.00	46.24	62	71.00	46.24
24	74.00	96.04	63	72.00	60.84
25	55.00	84.64	64	71.00	46.24
26	57.00	51.84	65	67.00	7.84
27	60.00	17.64	66	64.00	0.04
28	62.00	4.84	67	69.00	23.04
29	65.00	0.64	68	68.00	14.44
30	70.00	33.64	69	58.00	38.44
31	58.00	38.44	70	71.00	46.24
32	51.00	174.24	71	74.00	96.04
33	70.00	33.64	72	73.00	77.44
34	56.00	67.24	73	59.00	27.04

35	68.00	14.44	74	57.00	51.84
36	71.00	46.24	75	67.00	7.84
37	64.00	0.04			
38	62.00	4.84	Total	4815.00	2792.00
39	61.00	10.24	Average	64.2	

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{4815}{75} = 64.2$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{2792}{75}} = 6.10$$

$$\text{C.V.} = \frac{\dagger}{\bar{X}} \times 100 = \frac{6.10}{64.2} \times 100 = 9.50$$

Appendix -VI

Calculation of Z- test between the mean score of Standing Broad Jump Score between Yoga practiced and not practiced Students.

	Yoga practiced	Not practiced
Mean(\bar{X})	66	64.2
S.D.(†)	4.46	6.10

$$\mathbf{Z\text{-Test}} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\dagger_1^2}{N_1} + \frac{\dagger_2^2}{N_2}}} \times \frac{66 - 64.2}{\sqrt{\frac{4.46^2}{75} + \frac{6.10^2}{75}}} \times \frac{1.8}{\sqrt{57.1}} \times \frac{1.8}{0.87} \times 2.06$$

Here,

-) Calculated Z value = 2.06
-) Tabulated Z value at .05 level of significance= 1.96
-) Thus, Calculated Z value > tabulated Z value
-) Therefore, a significant difference was found between the mean score of Yoga practiced and normal students in the Standing Broad Jump test at a .05 level of significance.

Appendix -VII

Calculation of Mean, Standard Deviation and Coefficient of Variation of Shuttle Run score (in second) of Yoga practiced Students

S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$	S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$
1	7.79	0.77	40	6.18	0.53
2	6.17	0.55	41	7.11	0.04
3	5.14	3.13	42	7.13	0.05
4	7.77	0.74	43	7.31	0.16
5	7.81	0.81	44	8.19	1.64
6	7.95	1.08	45	7.01	0.01
7	7.22	0.10	46	6.22	0.48
8	6.77	0.02	47	6.19	0.52
9	6.99	0.01	48	6.99	0.01
10	7.00	0.01	49	7.00	0.01
11	8.24	1.77	50	8.24	1.77
12	7.09	0.03	51	8.29	1.90
13	7.14	0.05	52	6.26	0.42
14	8.11	1.44	53	6.13	0.61
15	5.34	2.46	54	5.08	3.35
16	6.18	0.53	55	6.21	0.49
17	7.11	0.04	56	7.24	0.11
18	7.13	0.05	57	6.11	0.64
19	7.31	0.16	58	7.14	0.05
20	5.08	3.35	59	7.24	0.11
21	6.21	0.49	60	7.11	0.04
22	7.24	0.11	61	5.34	2.46
23	6.11	0.64	62	6.18	0.53
24	7.14	0.05	63	7.11	0.04
25	7.24	0.11	64	7.13	0.05
26	7.11	0.04	65	7.31	0.16
27	5.34	2.46	66	7.22	0.10
28	6.18	0.53	67	6.77	0.02
29	5.45	2.13	68	6.99	0.01
30	6.11	0.64	69	6.99	0.01
31	7.22	0.10	70	7.00	0.01
32	6.77	0.02	71	8.51	2.56
33	6.99	0.01	72	6.18	0.53

34	7.00	0.01	73	7.65	0.55
35	8.51	2.56	74	8.48	2.46
36	6.14	0.59	75	7.11	0.04
37	7.65	0.55			
38	8.48	2.46	Total	518.91	53.41
39	6.33	0.34	Average	6.9188	

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{518.91}{75} = 6.91$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{53.41}{75}} = 0.84$$

$$\text{C.V.} = \frac{\dagger}{\bar{X}} \times 100 = \frac{0.84}{6.91} \times 100 = 12.15$$

Appendix -VIII

Calculation of Mean, Standard Deviation and Coefficient of Variation of Shuttle Run score (in second) of Yoga not practiced students

S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$	S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$
1	6.26	0.77	40	7.79	0.42
2	6.13	1.02	41	6.17	0.94
3	5.08	4.24	42	5.14	4.00
4	6.21	0.86	43	7.77	0.40
5	7.24	0.01	44	7.81	0.45
6	6.11	1.06	45	7.95	0.66
7	7.14	0.00	46	7.22	0.01
8	7.24	0.01	47	6.77	0.14
9	7.11	0.00	48	6.99	0.02
10	7.14	0.00	49	7.00	0.02
11	6.99	0.02	50	8.24	1.21
12	7.09	0.00	51	8.29	1.32
13	7.14	0.00	52	8.13	0.98
14	8.11	0.94	53	9.14	4.00
15	5.34	3.24	54	7.24	0.01
16	6.18	0.92	55	6.11	1.06
17	7.11	0.00	56	8.13	0.98
18	7.13	0.00	57	7.28	0.02
19	7.31	0.03	58	7.26	0.01
20	8.19	1.10	59	7.24	0.01
21	9.24	4.41	60	7.34	0.04
22	10.24	9.61	61	5.34	3.24
23	6.19	0.90	62	6.18	0.92
24	7.71	0.32	63	7.11	0.00
25	7.79	0.42	64	7.13	0.00
26	6.17	0.94	65	7.31	0.03
27	5.14	4.00	66	7.22	0.01
28	7.77	0.40	67	6.77	0.14
29	7.81	0.45	68	6.99	0.02
30	7.95	0.66	69	7.00	0.02
31	7.22	0.01	70	5.45	2.86
32	6.77	0.14	71	7.14	0.00
33	6.99	0.02	72	8.11	0.94
34	7.00	0.02	73	5.34	3.24
35	8.51	1.88	74	6.18	0.92

36	9.00	3.46	75	7.11	0.00
37	7.65	0.26			
38	8.48	1.80	Total	535.60	73.63
39	6.33	0.66	Average	7.141333	

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{535.6}{75} = 7.14$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{\sum x^2}{N} - \left(\frac{\sum X}{N}\right)^2} = \sqrt{\frac{73.63}{75} - (7.14)^2} = 0.99$$

$$\text{C.V.} = \frac{\dagger}{\bar{X}} \times 100 = \frac{0.99}{7.14} \times 100 = 13.86$$

Appendix -IX

Calculation of Z- test between the mean score of Shuttle Run Score between Yoga practiced and not practiced Students.

	Yoga practiced	Not practiced
Mean(\bar{X})	6.91	7.14
S.D.(\dagger)	0.84	0.99

$$\mathbf{Z\text{-Test}} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\dagger_1^2}{N_1} + \frac{\dagger_2^2}{N_2}}} \times \frac{7.14 - 6.91}{\sqrt{\frac{0.99^2}{75} + \frac{0.84^2}{75}}} \times \frac{0.23}{\sqrt{1.68}} \times \frac{0.23}{0.14} = 1.64$$

Here,

-) Calculated Z value = 1.64
-) Tabulated Z value at .05 level of significance = 1.96
-) Thus, Calculated Z value < tabulated Z value
-) Therefore, a significant difference was not found between the mean score of Yoga practiced and not practiced students in the Shuttle Run test at a .05 level of significance.

Appendix -X

Calculation of Mean, Standard Deviation and Coefficient of Variation of Knee Bent Sit-Ups score of Normal Students

S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$	S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$
1	7.00	5.95	40	14.00	20.79
2	9.00	0.19	41	7.00	5.95
3	10.00	0.31	42	8.00	2.07
4	8.00	2.07	43	7.00	5.95
5	6.00	11.83	44	9.00	0.19
6	7.00	5.95	45	11.00	2.43
7	6.00	11.83	46	9.00	0.19
8	8.00	2.07	47	11.00	2.43
9	11.00	2.43	48	14.00	20.79
10	13.00	12.67	49	13.00	12.67
11	15.00	30.91	50	11.00	2.43
12	14.00	20.79	51	14.00	20.79
13	9.00	0.19	52	7.00	5.95
14	8.00	2.07	53	6.00	11.83
15	6.00	11.83	54	7.00	5.95
16	6.00	11.83	55	7.00	5.95
17	10.00	0.31	56	7.00	5.95
18	11.00	2.43	57	10.00	0.31
19	14.00	20.79	58	14.00	20.79
20	8.00	2.07	59	11.00	2.43
21	7.00	5.95	60	14.00	20.79
22	7.00	5.95	61	11.00	2.43
23	6.00	11.83	62	8.00	2.07
24	9.00	0.19	63	7.00	5.95
25	11.00	2.43	64	9.00	0.19
26	13.00	12.67	65	7.00	5.95
27	10.00	0.31	66	5.00	19.71
28	11.00	2.43	67	7.00	5.95
29	15.00	30.91	68	7.00	5.95
30	16.00	43.03	69	7.00	5.95
31	10.00	0.31	70	6.00	11.83
32	11.00	2.43	71	8.00	2.07
33	14.00	20.79	72	9.00	0.19
34	17.00	57.15	73	6.00	11.83

35	9.00	0.19	74	7.00	5.95
36	9.00	0.19	75	8.00	2.07
37	8.00	2.07			
38	9.00	0.19	Total	708.00	628.48
39	7.00	5.95	Average	9.44	

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{708}{75} = 9.44$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{628.48}{75}} = 2.89$$

$$\text{C.V.} = \frac{\dagger}{\bar{X}} \times 100 = \frac{2.89}{9.44} \times 100 = 30.61$$

Appendix -XI

Calculation of Mean, Standard Deviation and Coefficient of Variation of Knee Bent Sit-Ups score of Yogapracticed Students

S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$	S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$
1	11.00	0.69	40	14.00	14.67
2	9.00	1.37	41	7.00	10.05
3	11.00	0.69	42	8.00	4.71
4	14.00	14.67	43	7.00	10.05
5	13.00	8.01	44	9.00	1.37
6	11.00	0.69	45	11.00	0.69
7	14.00	14.67	46	9.00	1.37
8	7.00	10.05	47	11.00	0.69
9	6.00	17.39	48	14.00	14.67
10	7.00	10.05	49	13.00	8.01
11	14.00	14.67	50	11.00	0.69
12	7.00	10.05	51	14.00	14.67
13	8.00	4.71	52	7.00	10.05
14	7.00	10.05	53	6.00	17.39
15	9.00	1.37	54	7.00	10.05
16	11.00	0.69	55	7.00	10.05
17	9.00	1.37	56	7.00	10.05
18	11.00	0.69	57	10.00	0.03
19	14.00	14.67	58	14.00	14.67
20	8.00	4.71	59	11.00	0.69
21	7.00	10.05	60	9.00	1.37
22	7.00	10.05	61	11.00	0.69
23	6.00	17.39	62	13.00	8.01
24	9.00	1.37	63	10.00	0.03
25	11.00	0.69	64	11.00	0.69
26	13.00	8.01	65	15.00	23.33
27	10.00	0.03	66	5.00	26.73
28	11.00	0.69	67	7.00	10.05
29	15.00	23.33	68	11.00	0.69
30	16.00	33.99	69	14.00	14.67
31	10.00	0.03	70	17.00	46.65
32	11.00	0.69	71	9.00	1.37
33	14.00	14.67	72	9.00	1.37
34	17.00	46.65	73	8.00	4.71

35	9.00	1.37	74	9.00	1.37
36	9.00	1.37	75	8.00	4.71
37	8.00	4.71			
38	9.00	1.37	Total	763.00	628.75
39	7.00	10.05	Average	10.17333	

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{763}{75} = 10.17$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{\sum x^2}{N} - \left(\frac{\sum X}{N}\right)^2} = \sqrt{\frac{628.75}{75} - (10.17)^2} = 2.89$$

$$\text{C.V.} = \frac{\dagger}{\bar{X}} \times 100 = \frac{2.89}{10.17} \times 100 = 28.41$$

Appendix -XII

Calculation of Z- test between the mean score of Knee Bent Sit Ups Score between Yoga practiced and normal Students.

	Yoga practiced	Normal
Mean(\bar{X})	10.17	9.44
S.D.(\dagger)	2.89	2.89

$$\mathbf{Z\text{-Test}} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\dagger_1^2}{N_1} + \frac{\dagger_2^2}{N_2}}} \times \frac{10.17 - 9.44}{\sqrt{\frac{2.89^2}{75} + \frac{2.89^2}{75}}} \times \frac{0.73}{\sqrt{16.7}} \times \frac{0.73}{0.47} \times 1.55$$

Here,

-) Calculated Z value = 1.55
-) Tabulated Z value at .05 level of significance= 1.96
-) Thus, Calculated Z value < tabulated Z value
-) Therefore, a significant difference was not found between the mean score of Yoga practiced and normal in the Knee Bent Sit-Ups test at a .05 level of significance.

Appendix -XIII

Calculation of Mean, Standard Deviation and Coefficient of Variation of 50 Yard Dash score (in second) of normal students

S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$	S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$
1	7.13	0.04	40	5.73	2.53
2	7.43	0.01	41	6.99	0.11
3	6.13	1.42	42	7.11	0.04
4	7.12	0.04	43	6.54	0.61
5	9.11	3.20	44	7.48	0.03
6	7.27	0.00	45	8.42	1.21
7	7.77	0.20	46	6.33	0.98
8	7.89	0.32	47	7.34	0.00
9	7.32	0.00	48	6.24	1.17
10	8.11	0.62	49	7.19	0.02
11	9.81	6.20	50	7.02	0.09
12	6.19	1.28	51	7.34	0.00
13	7.11	0.04	52	8.33	1.02
14	6.33	0.98	53	8.34	1.04
15	6.18	1.30	54	6.19	1.28
16	7.18	0.02	55	7.34	0.00
17	7.19	0.02	56	7.86	0.29
18	8.36	1.08	57	8.89	2.46
19	8.71	1.93	58	7.13	0.04
20	6.12	1.44	59	6.44	0.77
21	7.19	0.02	60	8.69	1.88
22	6.11	1.46	61	6.99	0.11
23	7.19	0.02	62	7.11	0.04
24	7.02	0.09	63	7.34	0.00
25	7.34	0.00	64	6.31	1.02
26	8.33	1.02	65	7.45	0.02
27	7.45	0.02	66	7.49	0.03
28	8.41	1.19	67	7.33	0.00
29	9.01	2.86	68	6.83	0.24
30	7.01	0.10	69	7.43	0.01
31	7.24	0.01	70	7.19	0.02
32	7.21	0.01	71	7.02	0.09
33	6.25	1.14	72	7.34	0.00

34	8.69	1.88	73	6.31	1.02
35	6.99	0.11	74	7.68	0.13
36	7.11	0.04	75	6.45	0.76
37	7.34	0.00			
38	8.33	1.02	Total	549.02	50.22
39	7.13	0.04	Average	7.320267	

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{549.02}{75} = 7.32$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{50.22}{75}} = 0.81$$

$$\text{C.V.} = \frac{\dagger}{\bar{X}} \times 100 = \frac{0.81}{7.32} \times 100 = 11.06$$

Appendix -XIV

Calculation of Mean, Standard Deviation and Coefficient of Variation of 50 Yard Dash score (in second) of Yoga practiced Students

S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$	S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$
1	6.33	0.64	40	5.73	1.96
2	7.34	0.04	41	6.99	0.02
3	6.24	0.79	42	7.11	0.00
4	7.19	0.00	43	6.54	0.35
5	7.02	0.01	44	6.33	0.64
6	7.34	0.04	45	7.34	0.04
7	8.33	1.44	46	6.24	0.79
8	8.34	1.46	47	7.19	0.00
9	6.19	0.88	48	7.02	0.01

10	7.34	0.04	49	7.34	0.04
11	5.73	1.96	50	8.33	1.44
12	6.99	0.02	51	7.02	0.01
13	7.11	0.00	52	7.34	0.04
14	6.54	0.35	53	8.33	1.44
15	7.48	0.12	54	6.31	0.67
16	7.23	0.01	55	7.45	0.10
17	6.33	0.64	56	7.49	0.13
18	7.34	0.04	57	7.33	0.04
19	6.24	0.79	58	6.83	0.09
20	7.19	0.00	59	7.43	0.09
21	7.02	0.01	60	6.83	0.09
22	7.34	0.04	61	7.43	0.09
23	8.33	1.44	62	7.19	0.00
24	7.02	0.01	63	7.02	0.01
25	7.49	0.13	64	6.99	0.02
26	7.33	0.04	65	7.45	0.10
27	6.83	0.09	66	7.45	0.10
28	7.43	0.09	67	7.49	0.13
29	7.19	0.00	68	7.33	0.04
30	7.02	0.01	69	6.83	0.09
31	6.83	0.09	70	7.43	0.09
32	7.43	0.09	71	7.19	0.00
33	7.19	0.00	72	7.02	0.01
34	7.02	0.01	73	6.99	0.02
35	6.99	0.02	74	7.11	0.00
36	7.11	0.00	75	7.14	0.00
37	7.34	0.04			
38	8.33	1.44	Total	534.79	21.61
39	7.13	0.00	Average	7.130533	

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{534.79}{75} = 7.13$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{21.61}{75}} = 0.53$$

$$\text{C.V.} = \frac{\dagger}{\bar{X}} \times 100 = \frac{0.53}{7.13} \times 100 = 7.43$$

Appendix -XV

Calculation of Z- test between the mean score of 50 Yard Dash Score between Yoga practiced and normal Students.

	Normal	Yoga practiced
Mean(\bar{X})	7.32	7.13
S.D.(\dagger)	0.81	0.53

$$\mathbf{Z\text{-Test}} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\dagger_1^2}{N_1} + \frac{\dagger_2^2}{N_2}}} \times \frac{7.32 - 7.13}{\sqrt{\frac{0.81^2}{75} + \frac{0.53^2}{75}}} \times \frac{0.19}{\sqrt{0.93}} \times \frac{0.19}{0.11} \times 1.72$$

Here,

-) Calculated Z value = 1.72
-) Tabulated Z value at .05 level of significance= 1.96
-) Thus, Calculated Z value < tabulated Z value
-) Therefore, a significant difference was not found between the mean score of Yoga practiced and normal students in the 50 Yard Dash test at a .05 level of significance.

Appendix -XVI

Calculation of Mean, Standard Deviation and Coefficient of Variation of 600 Yard Dash score (in minute)of normal students

S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$	S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$
1	1.99	0.07	40	2.11	0.02
2	2.03	0.05	41	2.14	0.01
3	2.17	0.01	42	2.19	0.00
4	2.11	0.02	43	2.27	0.00
5	2.19	0.00	44	2.33	0.00
6	2.35	0.01	45	2.49	0.05
7	2.28	0.00	46	2.95	0.48
8	2.91	0.42	47	2.81	0.30
9	2.66	0.16	48	2.90	0.41
10	2.77	0.26	49	2.84	0.34
11	2.45	0.04	50	2.11	0.02
12	2.01	0.06	51	2.14	0.01
13	2.19	0.00	52	2.09	0.03
14	2.81	0.30	53	2.07	0.04
15	2.25	0.00	54	2.19	0.00
16	2.26	0.00	55	2.18	0.01
17	2.21	0.00	56	2.17	0.01
18	2.06	0.04	57	2.35	0.01
19	2.07	0.04	58	2.49	0.05
20	2.08	0.03	59	2.17	0.01
21	2.11	0.02	60	2.96	0.49
22	2.19	0.00	61	2.27	0.00
23	2.12	0.02	62	2.24	0.00
24	2.13	0.02	63	2.18	0.01
25	2.26	0.00	64	2.21	0.00
26	2.21	0.00	65	2.25	0.00
27	2.52	0.07	66	2.13	0.02
28	2.22	0.00	67	2.26	0.00
29	2.09	0.03	68	2.21	0.00
30	2.08	0.03	69	2.52	0.07
31	2.00	0.07	70	2.22	0.00
32	1.99	0.07	71	2.09	0.03
33	2.08	0.03	72	2.08	0.03
34	2.11	0.02	73	2.00	0.07

35	2.19	0.00	74	2.08	0.03
36	2.12	0.02	75	2.00	0.07
37	2.13	0.02			
38	2.26	0.00	Total	169.56	4.60
39	2.21	0.00	Average	2.2608	

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{169.56}{75} = 2.26$$

$$\text{S.D. } (\dagger) = \sqrt{\frac{\sum x^2}{N}} = \sqrt{\frac{4.60}{75}} = 0.247$$

$$\text{C.V.} = \frac{\dagger}{\bar{X}} \times 100 = \frac{0.247}{2.26} \times 100 = 10.93$$

Appendix -XVII

Calculation of Mean, Standard Deviation and Coefficient of Variation of 600 Yard Dash score(in minute)ofYogapracticedStudents

S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$	S.N.	Raw Score (X)	$x^2=(X-\bar{X})^2$
1	2.13	0.01	40	2.11	0.01
2	2.14	0.00	41	2.14	0.00
3	2.45	0.06	42	2.19	0.00
4	2.01	0.04	43	2.27	0.00
5	2.19	0.00	44	2.33	0.01
6	2.16	0.00	45	2.49	0.08
7	2.25	0.00	46	2.95	0.55
8	2.26	0.00	47	2.81	0.36
9	2.21	0.00	48	2.90	0.48
10	2.77	0.31	49	2.84	0.40
11	2.45	0.06	50	2.11	0.01
12	2.01	0.04	51	2.14	0.00
13	2.19	0.00	52	2.09	0.01
14	2.32	0.01	53	2.07	0.02
15	2.40	0.04	54	2.19	0.00
16	2.33	0.01	55	2.18	0.00
17	2.11	0.01	56	2.17	0.00
18	2.14	0.00	57	2.35	0.02
19	2.09	0.01	58	1.98	0.05
20	2.07	0.02	59	2.17	0.00
21	2.19	0.00	60	2.33	0.01
22	2.19	0.00	61	1.99	0.05
23	2.12	0.01	62	2.12	0.01
24	2.13	0.01	63	2.13	0.01
25	2.26	0.00	64	2.26	0.00
26	2.21	0.00	65	2.21	0.00
27	2.52	0.10	66	2.52	0.10
28	2.22	0.00	67	2.22	0.00
29	2.09	0.01	68	2.09	0.01
30	2.08	0.02	69	2.08	0.02
31	2.00	0.04	70	2.00	0.04
32	1.99	0.05	71	1.99	0.05
33	2.08	0.02	72	2.08	0.02
34	2.11	0.01	73	2.11	0.01

35	2.19	0.00	74	2.08	0.02
36	2.12	0.01	75	2.00	0.04
37	2.13	0.01			
38	2.26	0.00	Total	166.47	3.33
39	2.21	0.00	Average	2.2196	

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{166.47}{75} = 2.21$$

$$\text{S.D. } (\sigma) = \sqrt{\frac{\sum x^2}{N} - \left(\frac{\sum X}{N}\right)^2} = \sqrt{\frac{3.33}{75} - (2.21)^2}$$

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100 = \frac{0.21}{2.21} \times 100 = 9.50\%$$

Appendix -XVIII

Calculation of Z- test between the mean score of 600 Yard Dash Score between Yoga practiced and normal Students.

	Normal	Yoga practiced
Mean(\bar{X})	2.26	2.21
S.D.(\dagger)	0.49	0.21

$$\mathbf{Z\text{-Test}} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{\dagger_1^2}{N_1} + \frac{\dagger_2^2}{N_2}}} \times \frac{2.26 - 2.21}{\sqrt{\frac{0.49^2}{75} + \frac{0.21^2}{75}}} \times \frac{0.05}{0.06} \times 0.83$$

Here,

-) Calculated Z value = 0.83
-) Tabulated Z value at .05 level of significance= 1.96
-) Thus, Calculated Z value < tabulated Z value
-) Therefore, a significant difference was not found between the mean score of Yoga practiced and normal students in 600 Yard Dash at a .05 level of significance.

Appendix- XIX

Tools descriptions

a. Shuttle Run

Objective: To measure the agility of the body.

Reliability: 0.88

Equipment: Two wooden blocks, 2 inches X 2 inches X 4 inches, and a stopwatch.

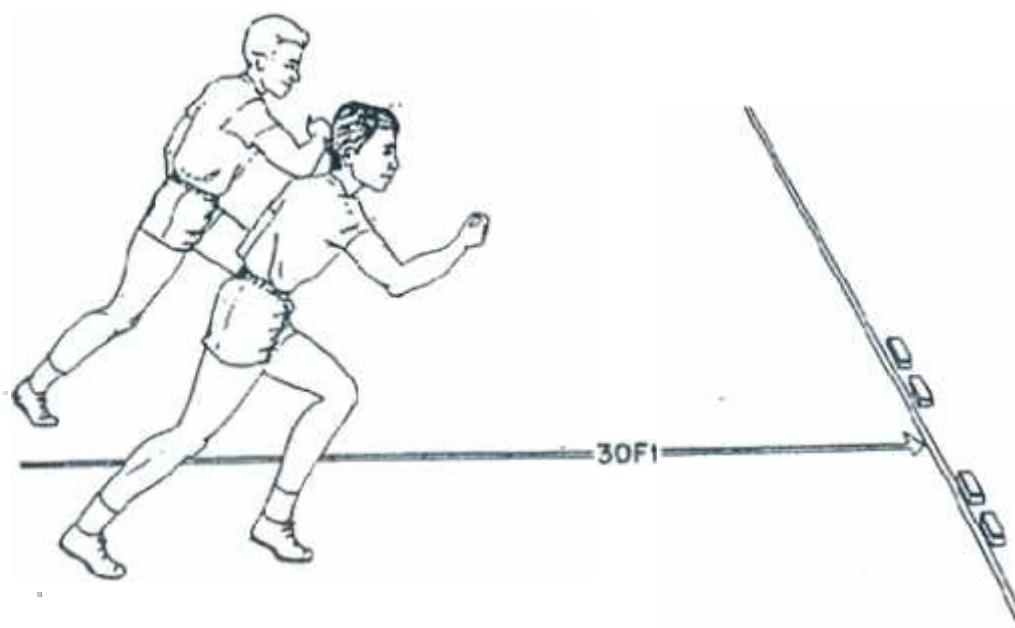


Figure:- 1: Shuttle Run

Description: Two parallel lines are marked on the floor 30 feet apart. Place the block of wood behind one of the lines as indicated in Figure 1. The pupil starts from behind the other line. On the signal “Ready” and “Go” the pupil runs to the blocks, picks one up, runs back to the starting line, and places the block behind the line; he/she runs again and picks up the second block, which he carries back across the starting line if the scorer has two stopwatches or one with a split second timer, it is preferable to have two pupils

running the same time. To eliminate the necessity of returning the blocks after each race, start the races alternately, first from behind one line and then from behind the other.

Rules: Allow two trials with some rest in between.

Scoring: The best record of the two trials should be recorded to the nearest tenth of a second.

b. 50 Yard Dash

Objective: To measure the speed

Reliability: 0.92

Equipment: Two stopwatches or one with a split-second timer, measuring tape, and lime powder.

Description: It is preferable to administer this test to two or more pupils at a time. Have to take positions behind the starting line. The starter will use the commands "Are you ready?" And "Go!". The latter will be accompanied by a downward sweep of the starter's arm to give a visual signal to the timer, who stands at the finish line (Figure. 2)

Rules: The score is the amount of time between the starter's signal and the instant the pupil crosses the finish line.

Scoring: Record the time in seconds to the nearest tenth of a second.

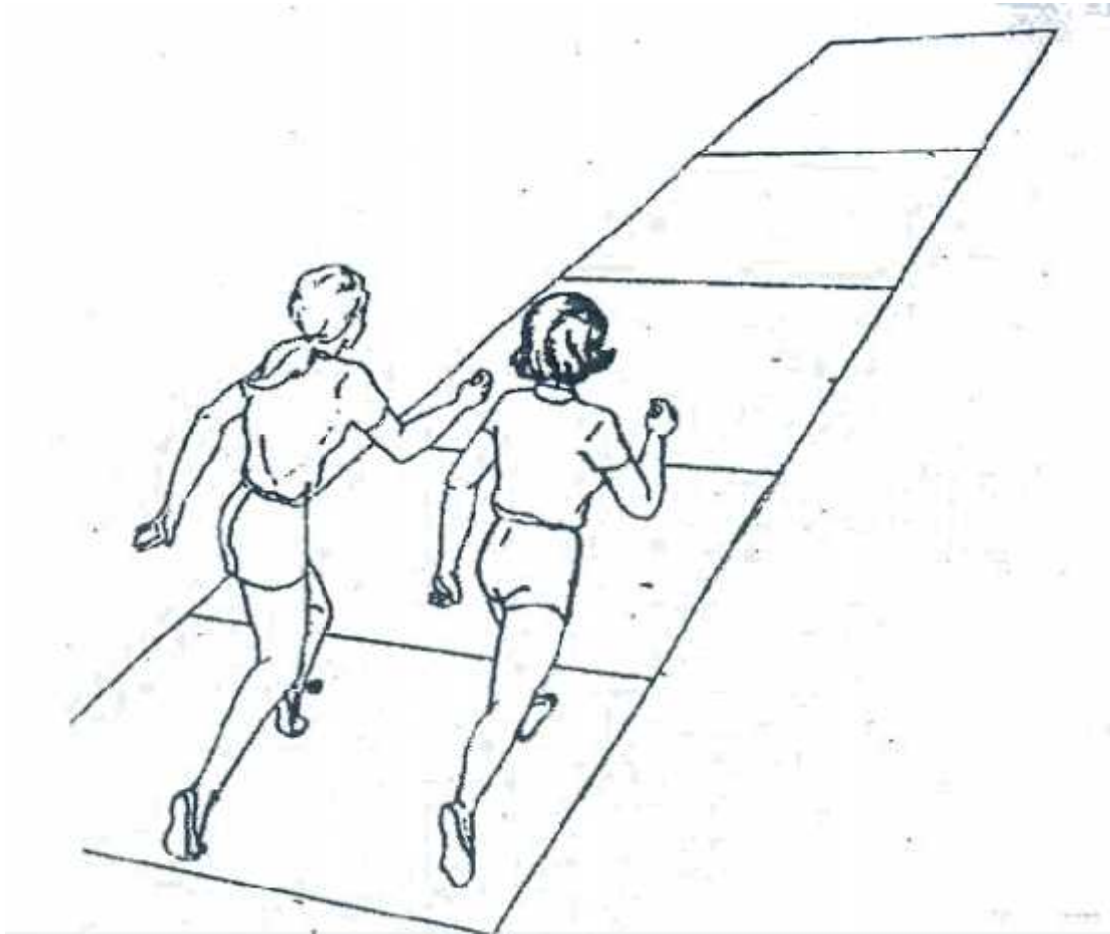


Figure:-2: 50 Yard Dash

c. Standing Broad Jump

Objective: To measure the explosive power of leg muscle.

Reliability: 0.96

Equipment: Mat, floor, or outdoor jumping pit and measuring tape.

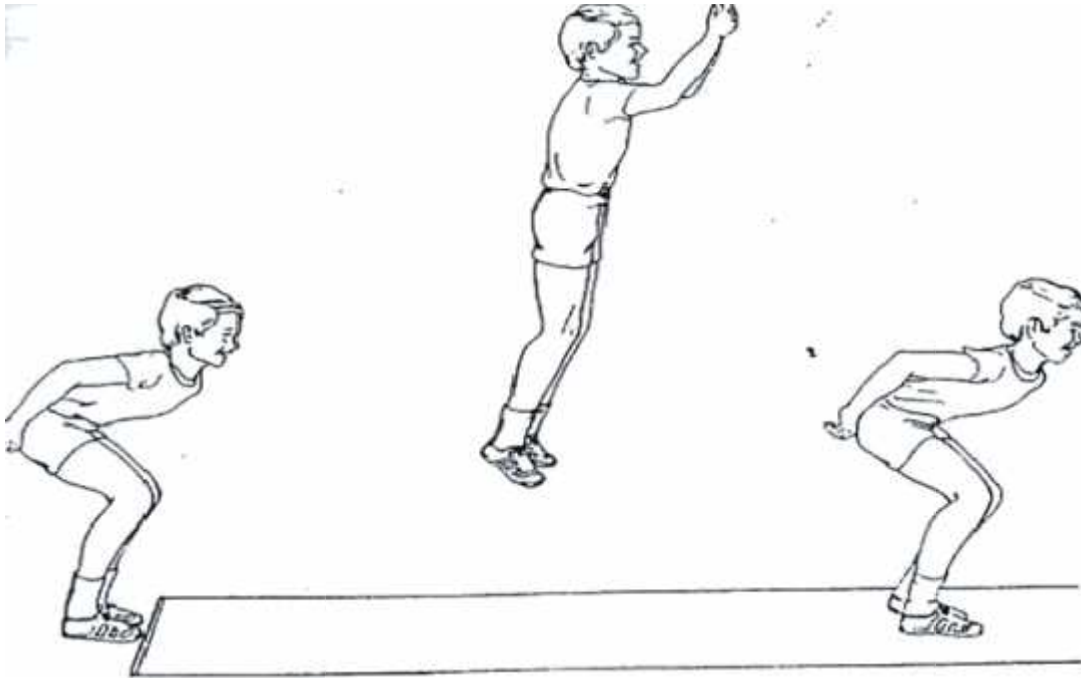


Figure:-3: Standing Broad Jump

Description: Pupil stands as indicated in figure 3, with the feet several inches apart and the toes just behind the take-off line. While jumping, the pupil swings the arms backward and bends the knees. The jump is accomplished by simultaneously extending the knees and swinging forward the arms.

Rules:

1. Allow three trials.
2. Measure from the take-off line to the heel or other part of the body that touches the floor nearest the take-off line.

Scoring: Count and record the best of the three trials in feet and inches.

d. Sit-ups:

Objective: To measure the strength of the abdomen and hips flexor muscle.

Reliability: 0.97

Validity: Face validity is accepted

Equipment: Mat, floor, or dry turf.

Administration of the test: Subject assumes a supine position, legs, extended, and feet about 12 inches apart. Subject's hands with finger interlaced are grasped behind the neck. A partner holds the ankles of the subject to keep his heels in contact with the floor and counts its successful, sit-up.

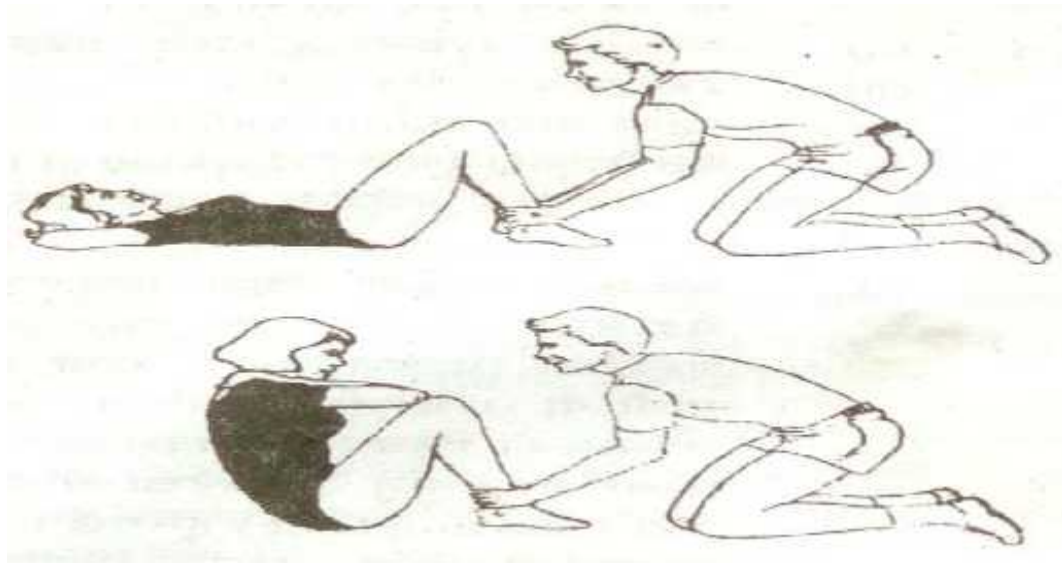


Figure:- 4: Knee Bend Sit-Ups

Rules:

1. Subject sit-ups and turns trunk of the left; touches right elbow to left knee.
2. Returns to starting position.
3. Sit-ups and turns trunk to right; touches left elbow to the right knee.
4. Returns to starting position.
5. Repeats as able up to a required number of times.
6. One complete sit-up is counted each time and the pupil returns to starting position.

e. Flexed Arm Hang

The flexed-arm hang test measures upper body strength and endurance.

Purpose: to measure upper body strength and endurance by timing how long they can hang with the chin above the bar.

Reliability: 0.91

Equipment required: [Stopwatch](#), Horizontal overhead bar at an adequate height, stool (optional).

Administration of the test: Grasp the overhead bar. Position the body with the arms flexed and the chin clears the bar. The chest should be held close to the bar with legs hanging straight. The subjects should be assisted to this position. The subject holds this position for as long as possible. Only one trial is required.

Scoring: The total time in second is recorded – timing is stopped when the student's chin touches or falls below the bar. This is also presented in the figure below:

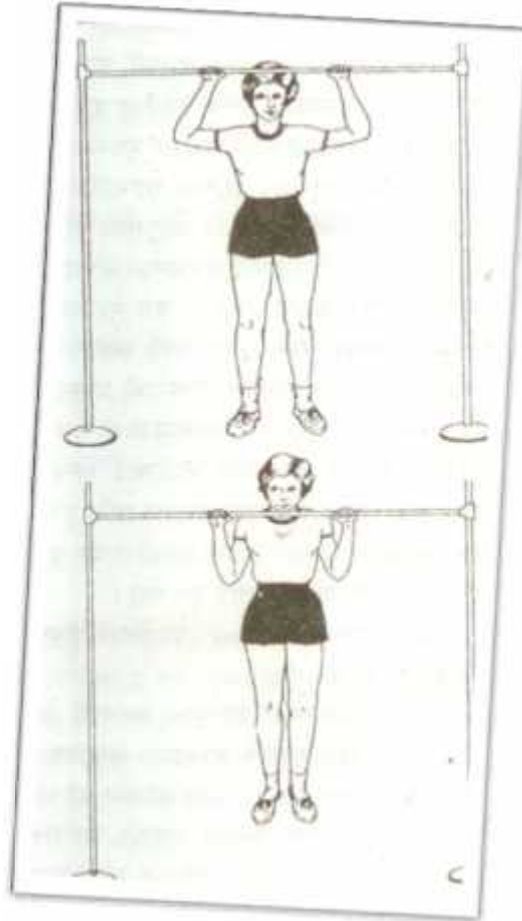


Figure:-5: Flexed Arm Hang

f. Six hundred yard run walk

Purpose: To measure the efficiency endurance of the Cardio-respiratory system of the students by having students cover 600 yards as fast as possible.

Reliability:0.89

Equipment Required: A 600-yard course, one stopwatch, and a scorecard and pencil for each student.

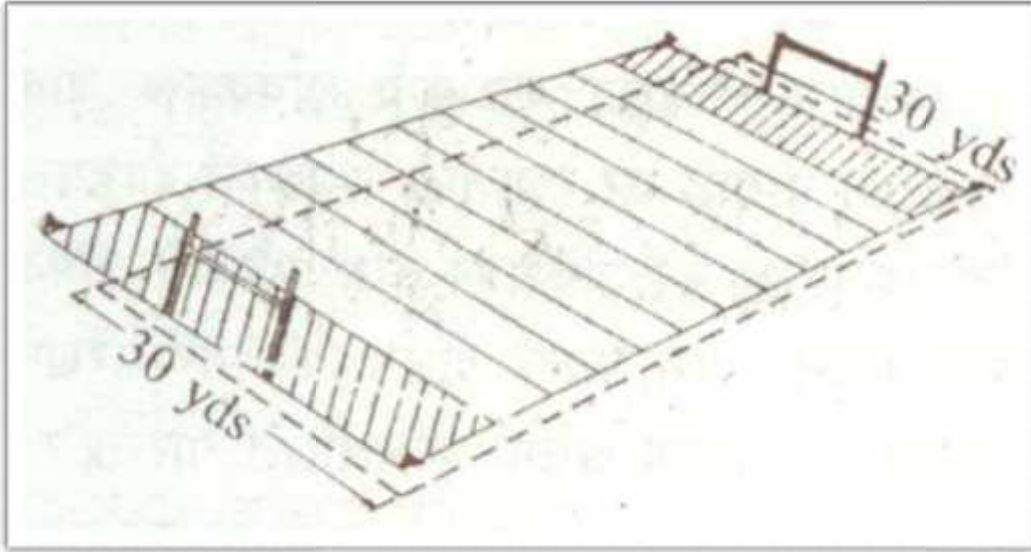


Figure:- 6: 600-yard Run Walk

Scoring: The score was recorded in time. The time taken by the respondents to complete the 600-yard distance either by running or walking will be recorded as a score.