

SUGGESTED METHODS IN COACHING GIRLS' TRACK

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TABLE OF CONTENTS

Document

Chapter	Page
I. INTRODUCTION.....	1
Purpose.....	2
Method of Study.....	3
Definition of Terms.....	3
II. REVIEW OF LITERATURE.....	5
III. RESULTS AND DISCUSSION.....	7
Generating Interest and the Promotion of Track and Field.....	7
Stimulating Student Involvement.....	7
Developing Good Public Relations.....	8
Conditioning.....	9
Stretching.....	10
Strength.....	11
Endurance.....	12
Types of Endurance Training.....	12
Methods Used in Coaching Individual Events.....	15
Running.....	15
Hurdling.....	18
Jumping Events.....	20
Throwing Events.....	22
IV. SUMMARY.....	27
BIBLIOGRAPHY.....	29

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CHAPTER I

INTRODUCTION

For many years track and field has been considered a controversial activity for the American girl. Perhaps one of the most obvious reasons why this point of view has prevailed is that few women in physical education have had the training or experience to teach girls the finer techniques of running, jumping, and throwing necessary for interscholastic competition.

Times are changing, and an era of growing interest in track and field for girls and women is emerging. Old prejudices are giving way to new understandings of the nature of the female and her role in our contemporary society.

There are several factors which may be linked to the recent upsurge of interest and activity in girls' and women's track and field. One factor may be the recognition of the latent values for fitness of running, jumping, and throwing--common activities in a track and field program. A second factor may be that the excellence of skilled women performers is becoming more appreciated and admired by both sexes. It is no longer considered unfeminine to compete in highly active and competitive sports. Another factor is the enthusiastic promotional efforts for physical activity by federal, state, and local representatives of associations, agencies, and clubs. Last, but not least, is the fact that girls are no longer willing to play the traditional role of cheerleader and spectator; they want to get involved in the sport.

There are many girls and women who have helped to establish the place of women in track and field events. These same young women have helped to show that participation in track and field contributes to the all-round development of women. Some of these young women are RaNae Bair, America's javelin champion; Marie Mulder, who at 15 years of age set a national record in the 880-yard run for United States women; Pat Winslow, a seven-time winner of the United States National Pentathlon; Doris Brown, National Amateur Athletic Union 800-meter run outdoor champion; and Madeline Manning, current world's record holder in the 800-meter run.

In the past the greatest women performers in the United States were sprinters and hurdlers, but now American girls and women are excelling in almost all of the events in international competition. In Kansas and other states, records are being improved every year.

PURPOSE

The growing interest in track and field has resulted in vastly improved performance at each level of competition. New innovations of training and administration are constantly being found which will improve the presentation of the basic skills of each event. A coach must constantly strive to stay current with all of the latest techniques in coaching. The purpose of this report is to present current methods of coaching the various events in girls' track.

METHOD OF STUDY

Various sources were used to collect the information gathered in this report. The Kansas State University library and the personal libraries of women track coaches in the state of Kansas were used as resources.

Personal interviews with men and women track coaches concerning techniques were also used in preparing the report.

All data collected was then studied and analyzed for its use in this report.

DEFINITION OF TERMS

Agility -- The ability to change position of the entire body in space; i.e., direction and speed.

Cardiovascular Endurance -- The ability to sustain a series of repetitions of an activity without unduly taxing the physiological systems that furnish the fuel and oxygen to the muscles.

Fartlek -- "Speed play". A Swedish term denoting a run for fun.

Float -- A period of relaxed striding when no attempt is being made to increase or decrease running speed.

Heats -- Preliminary rounds of a race to determine who runs in the finals.

Isometric -- A type of muscular contraction resulting from the exertion of force against an immovable object. The tension increases but the muscle length remains constant.

Isotonic -- A type of muscular contraction resulting from the exertion of force against a movable object. The tension remains constant but the muscle length changes.

Jogging -- Slow, easy running.

Kick -- The "sprint" for the finish.

Lap -- One complete circuit of the track.

Lay-out -- The horizontal position assumed by a jumper when passing over the crossbar.

Lead leg -- The first leg over the hurdle.

Muscular Endurance -- The ability of certain muscle groups to exert external force for many repetitions or successive exertions.

Overload -- To impose greater than normal demands on the systems of the body.

Overstriding -- An uneconomical stride of exaggerated length.

Power -- The ability to transfer energy into force at a fast rate of speed.

Trail leg -- The second leg over the hurdle.

CHAPTER II

REVIEW OF LITERATURE

The role of the girl athlete in our society has long been a controversial issue. Although a growing interest in the provision of more competitive opportunities in sports for girls and women has been evidenced in recent years, widespread differences of opinion have existed relative to the desirability of athletic competition for girls and women.

Quantitative information concerning the attitudes and opinions of our present day society toward intensive athletic competition for girls and women is necessary if physical educators are to present a dynamic program of physical education designed to meet the needs and desires of the present and future generations. A first step toward making an appraisal of the place and value of athletic competition for girls and women is to gain a knowledge of its present status.

Although many studies have been conducted pertaining to various aspects of athletic competition for boys and men, few investigations have been made concerning athletic competition for girls and women.

In the literature read, most of the authors revealed that the books should have been written by women, just as women should coach, manage, and conduct girls' competitive sports activities. The disheartening fact of the matter is simply that the number of women in the United States with valid qualifications to do either technical writing on sports subjects or coaching of high-level motor performance skills is negligible.

However, during the past several years women authors have become aware that little authoritative information about track and field for girls is available. They have discovered that many girls enjoy running, throwing, and jumping when they are given the opportunity. Moreover, experience has shown that a majority of the girls who excel in these activities desire to be ladies and are different from their peer group only in that they have disciplined their time and energy in a particular manner.

CHAPTER III

RESULTS AND DISCUSSION

Generating Interest and the Promotion of Track and Field

Stimulating Student Involvement

An interested and energetic coach is part of getting a track and field program started in a school. The attendance of both the coach and the students at track and field clinics and at other meets is valuable in developing interest as well as increasing knowledge of the sport.

The inclusion of a good instructional unit in track and field in the physical education program is of vital importance in helping to stimulate interest and to provide good experience for the students.

The track coach may want to visit the elementary and junior high schools to encourage the development of children's interest in track and field activities by giving talks, conducting demonstrations, showing films, and promoting meets for this age group. High school girls may enjoy working as student leaders for the junior high and intermediate grade school girls in their various events. Through such training sessions the older girl is challenged to become more skilled. Track team members will often encourage others to participate if the program is attractive, stimulating, and self-satisfying.

Early in the season a nearby school may be invited to participate in a practice meet by sending three girls to compete in each event, each girl being allowed to enter only one event and with a race being

run every six to eight minutes. This adds much interest and helps prepare the girl athletes for the coming season.

Developing Good Public Relations

Well-located bulletin boards containing timely articles, up to date special features, and action pictures, colorfully displayed, can help advertise and promote track and field meets. School and community newspaper articles can be used to call attention to the meet by citing unusual or spectacular events being planned.

School assemblies at which girls of the squad, dressed in their uniforms, are introduced help create interest in track and field, especially in a forthcoming meet. At such special assemblies school spirit may be developed and/or increased by involving the cheerleaders and the school band. Also, holding such an assembly in the stadium or at the site of the meet a few days before a track meet occurs is a good way to help promote it.

The appearance of the coach before civic, service, and church groups for the purpose of creating booster organizations to publicize, support, and provide officials also helps promote track and field activities. By speaking to these groups, showing them movies of some of the meets, or presenting some of the members of the track team, one can present the track program very well.

Kenneth Doherty, Ph.D., who is now Director of the Pennsylvania Relays and the Philadelphia Inquirer Games, former President of the National College Track Coaches Association, and was selected in 1961 as a member of the Helms Foundation Hall of Fame in Track and Field, explains the promotional job of track and field:

Track and field athletics is a wonderful sport to coach, but it is one that requires abundant energy and enthusiasm and a willingness to work endlessly with innumerable details and ever present small problems. It requires, therefore, a leader who is many persons in one. He must first be an educator who understands the proper place of his sport in the educational system. He must possess or acquire enough drawing power to secure good material. He must understand how they can best be taught. And, finally, he must know how to sell his product to his own institution, to local business and social groups, and to the potential spectators who might support his efforts financially.¹

Conditioning

O. William Dayton, Head Athletic Trainer at Yale University, has summarized the effects of training and conditioning in one statement:

There are as many conditioning programs as there are coaches and trainers. We know that sports basically require physical strength, endurance, and skills. The better the condition of the athlete, the longer he participates; the poorer the condition of the athlete, the quicker he retires. The individuals who are in good physical condition are the athletes who compose our teams today; the group lacking this physical conditioning falls by the wayside and they do not participate in athletics very long.²

In order to encourage high school girls to participate in a training program, the program must have great appeal for them. It must have variety, include activities that girls like, be difficult enough to challenge them, and provide progressive development of the skeletal muscles. Furthermore, it must include exercises that strengthen and

¹Modern Track and Field, J. Kenneth Doherty, Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1963, p. 29.

²Track and Field for Girls and Women, Nell C. Jackson, Minneapolis, Minn.: Burgess Publishing Company, 1968, p. 1.

develop the heart and lungs. Other fitness essentials (agility, flexibility, balance, coordination, and power) must also be learned in such a program.

A complete physical examination must be given to the girls before a preliminary conditioning program to insure that they have no physical defects. Then they can be worked far beyond the point where they think they are "too tired."

When girls first take part in running, jumping, and throwing movements, they must be careful not to injure their leg and arm muscles. They must be in proper physical condition to perform effectively and safely. It is recommended that no girl be permitted to take part in any meet without having been in training for at least one month.

Stretching

Proper conditioning of the body consists of doing stretching, relaxing, and strengthening exercises and participating in speed and endurance-producing actions. Muscles that are stretched and body parts that have been extended through their full range of movement are less likely to sustain injury. Stretching should be done in a gradual and continuous manner until the full range of movement is reached. A body part should be put on a stretch, but it should not be over stretched. A good rule for a coach to follow is to have a girl work up to her pain zone but not beyond it.

Stretching exercises consist of head circles, arm circles, toe touches, trunk twisting, sitting bobs, hip bobs, hurdle exercises, and hamstring stretching. An example of a good hamstring stretcher is the exercise in which the arms are kept folded with the hands placed on the

opposite elbows while the girl exercises moving down, touching first the knee with the elbows, then gradually stretching down to touch well below the knees toward the ankles.

Strength

Strength, because of its importance in the concept of power, is the single most important factor in athletic performance. Strength is also a physical characteristic that can be increased by simple procedures if a person has the desire to do so. Strength is not easy to build without motivation because the only way to achieve it is through hard work.

Muscles become stronger when a work load greater than any previous work load is applied to the muscular effort. This is the overload principle, and should be understood by the girl athlete. Frequency of repetitions of a muscular effort, without overloading, has no effect on the increase of strength.

For strength development, the shoulder girdle area needs special attention, because these muscle groups are usually underdeveloped in women. Hanging by the arms, chinning, doing push-ups, and performing dips on parallel bars may help to increase the strength of arms, shoulders, and back muscles.

Strength may be developed through the use of resistive exercises composed of isometric and isotonic contractions. Arm, shoulder, neck, and back muscles may be strengthened rapidly through the use of isotonic and some isometric exercises.

Fingers must be strengthened. Strong fingers make it possible for runners to hold a set position in the sprint start. The increased

strength that helps throwers to better their performance is developed by wrist and finger flexion. A good exercise is one in which the athlete assumes a sitting position, then lifts and supports her body weight on the first joints of her fingers for from six to ten seconds. Athletes may also increase strength by doing finger push-ups.

Abdomen strength which is needed in long jumping and hurdling, can be developed by doing sit ups and leg lifts. The back muscles can be strengthened by clasping the hands behind the head while in a prone position, then elevating the trunk and holding it in this position for a count of ten.

In order for athletes in the throwing events to execute their moves as they would like, they will have to practice some strength gaining exercises. This can be done through the lifting of weights. Girls should lift weights in order to increase their strength.

Endurance

Endurance is the second physical trait that receives major emphasis during the conditioning program. Endurance is the ability of a muscle to prolong activity without fatigue.

Like strength, the development of endurance is relatively simple to achieve if the girl has the desire. Endurance is increased when sustained loads are placed on the muscles for increasing periods of time.

Types of Endurance Training

Some of the methods used to increase endurance are conditioning activities such as fartlek, interval training, and circuit training.

The term fartlek is a Swedish word that can be translated to mean "speed play." It is a combination of much easy running mixed with fast sprints and periods of resistance running up hills. The advantages of fartlek is that a lot of good solid running can be done without boredom. The freedom of the runner's choice in speed variation is the factor that takes the pressure off the athlete and keeps the training routine "play" to a certain degree.

To prove effective as a method of developing endurance, fartlek must be physically demanding. The sprinting and middle distance striding that alternate with the recovery jogging must consist of hard, purposeful efforts. Therefore, for a girl to get into condition she must run fast enough to cause physiological changes in her circulatory system. It is recommended that she use this method of training only during the first few weeks of the season.

Interval training is an endurance building program in which a specific running distance is repeated a specific number of times at a specific pace. These three factors are tied together with a specific recovery period of jogging between the repetitions. One of the major advantages of this program is its flexibility. Any of the factors can be modified to meet individual needs. If she starts off running 220 yards in 45 seconds, she should then walk 220 yards or just rest, repeating this procedure three times. Each time she is ready to repeat the run, her pulse and breathing rates should have returned to near normal.

Circuit training is the newest training method. The term comes from England where the program was developed at the University of Leeds for students who did not have a required program of physical education.

Since its introduction into the American educational systems around 1950, circuit training has been a very popular adjunct to physical education and athletic training programs. Although it has undergone many modifications, most programs of this kind seek to produce large gains in circulatory-respiratory endurance and muscular strength through the process of continued overloading.

Some of the values of circuit training include a variety of activity, little equipment and space needed, easily fitted to individual differences, continuous challenge, and well-defined aims.

Long periods of rest are not utilized in the circuit approach since the extended rest does not place demands on respiratory endurance. The exercises are so arranged in the circuit that demands on the various parts of the body are alternated. All areas of the body should receive attention in the program: arms and shoulders, back, trunk, abdomen, chest, and legs.

Two factors to consider when setting up the circuit sequence are: (1) what is the intensity of effort required to perform each exercise, and (2) what part of the body is affected by each exercise. The sequence should be planned so as to allow recovery of some parts while other parts are being exercised. Additionally, the exercises for each area will vary depending on whether strength or endurance is the particular aim. Repetitions range from one, for maximum strength, to thirty, for endurance.

The circuit may be made more or less difficult by several means: vary the required completion time, change the weight of the resistance, or modify the number of repetitions.

Following is an example of circuit training for jumping events.

1. Warm up - one-quarter-mile jog; five minutes of loosening exercises
2. Hanging leg lifts
3. Double leg press
4. Sprinter
5. Arch-ups
6. Squat jumps
7. Double arm depressors
8. Stair running
9. Lateral lifts
10. Chin-ups

Methods Used in Coaching Individual Events

Running

Prospective girl runners are great in number, because almost all girls can run to some extent and many like to run. It is quite another matter to run fast enough to become a good sprinter. It is also difficult to predict sprinting ability by body type. It should be noted that speed comes from the fast driving power of the legs, the main qualification for fast running.

In attempting to master the technique of sprinting, the beginner must recognize the fact that this event involves something more than being able to run rapidly. It is generally recognized that a fast start is a prerequisite to a winning performance.

A study of the starting positions assumed by trained sprinters reveals the fact that there is a rather wide variation in the distances

at which they space their feet. The sprinter is advised to experiment with the various patterns of foot spacing and to select the one that best suits her requirements. The more commonly used positions are discussed in the following paragraphs. But first it is interesting to note how the development of starting techniques, known as the "crouch" starts all began. It appears to be generally accepted that this method of starting did not begin until 1877. Mike Murphy, the remarkable University of Pennsylvania, Yale, and Olympic track coach, took credit in his book for inventing it:

The crouching start was introduced by me. This was in 1887, at Yale, and Charles H. Sherrill was the athlete who first demonstrated its superiority. When he used it in his first race, he was laughed at, and the starter, thinking that Sherrill did not know how to start, held up the race to give him instructions. Finally he was made to understand that Sherrill was using a new start. Sherrill immediately demonstrated how superior it was to the old standing start, which it displaced, and now the crouching start is used the world over for sprinters, hurdlers, and even quarter and half-milers.³

The bunch start is defined as one in which the toe of the back foot is placed opposite the heel of the front foot while in a standing position. According to many authors the use of the bunch start allows the sprinter the fastest starting time from the blocks. Also this position will probably be the closest together that any sprinter will ever place her feet in the starting blocks. It is mainly used by short girls.

The second position is the medium start in which the knee of the rear foot is placed opposite the ball of the front foot. This type

³Michael C. Murphy, Athletic Training. New York: Charles Scribner's Sons, 1914, p. 32.

of start is more popular because it allows greater relaxation and is more comfortable in the set position.

Another position is the elongated start. Few sprinters will want to use the elongated start because the distance between blocks is too great. The distance is determined by finding the distance between the rear knee and the forward foot from a kneeling position. The elongated start is comfortable for runners with very long legs.

The hands in the above three starts are placed so that the weight rests on the thumbs and fingers. Some sprinters prefer to place the weight on the thumb and second joint of the fingers, whereas others throw their weight on the thumb and knuckles. The guiding factor is the comfort of the sprinter. Care should be taken always so that the hands are back of the starting line.

In the position "on the mark" the arms should be fully extended and not flexed at the elbow. They should be far enough apart to ensure free knee action in getting set. The sprinter should remember that the arms and hands are so placed that there is no feeling of discomfort. He should be in a state of sharply defined balance.

The final position is the standing start. This start is generally used in the longer races, where a quick start is not imperative.

In running, the knees are picked up and the arms are carried close to the sides in a bent-arm position. The body leans forward slightly. The power comes from pushing from the rear foot. She should run with perfect relaxation with her head and eyes held straight to the front. Throughout the run, the feet point forward.

Races are frequently won and lost during the final two or three strides. For this reason a runner, and particularly a sprinter, should run to a point beyond the finish line. This will prevent a last instant letdown and insure the maintenance of speed through the entire race. The actual finish of a sprint race may be negotiated in one of two acceptable ways. During the final driving surge for the tape, the runner may extend herself forward in an attempt to move her chest beyond those of her opponents or she may turn one shoulder toward the tape in a final burst of energy. Both of these techniques make it appear that one sprinter has crossed the finish line ahead of her more erect opponents and may well constitute a margin of victory. While leaning and turning are acceptable finishing techniques, a runner never dives for the tape. A dive may result in injury and certainly is slower than sprinting through the tape.

Hurdling

The hurdle race is a speed race. Some coaches refer to it as "a sprint with ten obstacles in it."

The start for the hurdle race is exactly the same as the sprint start, although it may be necessary for the hurdler to reverse her feet in the starting blocks to arrive at the hurdle with the preferred foot forward.

The form for hurdling is learned best by assuming the correct position on the ground. To get the rear or trailing leg in position, place it so that, as seen from above, the thigh is at right angles to the front leg and the lower part of the trail leg is in a position parallel to the front leg. The hand and arm opposite the front leg are

stretched out directly in front of the body, and the opposite arm is held downward and slightly to the rear. This reaching forward position puts the hurdler in a forward lean that helps her clear the hurdle.

Getting over the first barrier is the most important problem facing the hurdler. If she arrives at her takeoff point in step and is able to come off the hurdle in a balanced, sprinting position, she very likely will run a good race. If the girl is not leaning forward as she comes off the hurdle and her stride is not normal and powerful, she will lose her forward momentum, and the race becomes little more than a series of animated lopes.

Taking steps that are too short is a common fault. If this is done during the first few strides, the runner will over extend during later strides in order to get to the first hurdle in the prescribed number of strides. Most hurdlers, therefore, take eight strides to the first hurdle, in which case the back foot in the starting blocks is the lead foot in clearing the hurdle. It is necessary for a girl to repeatedly run to and over one hurdle if she is to perfect her step pattern and clearance action.

Start a hurdle race by sprinting to the first hurdle, with three strides between hurdles.

As a guide to beginners, a coach states he has tried this method with success in coaching hurdlers:

I have found that, by marking a white line on the track for each of his fifteen steps, from the 5th hurdle on, he is forced to concentrate and keep his rhythm by stepping on each white line. The hurdler will quickly notice where he must increase his effort in order to match the designated strides. By frequent runs over the marked course,

the runner will soon learn to "steel" himself against fatigue, to fight harder when his strides begin to shorten, and thus gain confidence in his ability to finish.⁴

Jumping Events

For the girls who have never jumped, either upward, or forward, there are several factors to consider. How fast do they run, which foot do they kick up, and where do they take off?

High jumping. High jumping styles have changed. Scissoring has been replaced by the graceful athlete who crosses the bar in a lay-out position. Some jumpers still scissor, but the serious performer turns onto her side, back, or stomach when over the crossbar to take advantage of the height that she is able to attain.

One style of jumping is the western roll. This is a type of one legged hop, and is a good style for a beginner to use. When a right footed girl uses the western roll, she approaches the bar from the left side at an angle. As the jumper goes over the bar her left side is nearest it. The take off is made from the left foot, and the girl lands on both hands and her take off, or jumping, foot.

The straddle roll is used by most top jumpers. The approach and take off used in this style of jumping are nearly the same as those used in the western roll.

The beginning jumper should start at an angle. The take off is made from the leg that is nearer the bar. As the take off foot is

⁴Louis C. Montgomery, "The 400 Meter Hurdles," Clinic Notes, National College Track Coaches Association, 1956, p. 50.

planted, the lead leg is swung through vigorously, kicking to a point above the bar.

When straddling the bar, the face and abdomen are turned toward the bar. The girl should land on her back with her face looking up to the sky.

The "Fosbury Flop" is a new style of high jump that is gaining recognition. The approach angle is approximately the same as in the straddle and western rolls. The take-off is from the outside, rather than the inside foot. The "flop," in essence, is a scissors jump with a quarter-turn outward, coupled with other modifications in flight. The landing which follows is on the seat. For this particular style, a suitable soft landing area without any obstructions is needed.

Long jump. The long jump, or running broad jump, is, as the name suggests, a run followed by a jump upward and forward. The object is to keep the body up in the air and traveling forward in space as far as possible. The faster the run and the higher the jump upward, the longer the body will stay in the air and the greater the distance it will travel.

In long jumping the checkmark is extremely important because it determines the point from which the jumper will start the run. In a practice session, the jumper locates the checkmark by placing one foot against the edge of the take off board that is closest to the pit, and simulates his run and take-off in the reverse direction from the actual event. The spot is marked. By trial and error, slight adjustments are made until the precise spot for a perfect take-off is found.

A good jump requires that the jumper be running at close to top speed when approaching the take-off board with the jumping foot. During the jump it may be necessary to kick the legs as though running through air to maintain balance. Upon landing the arms and head are brought forward and downward; this action will cause the body to fall forward.

Throwing Events

There are three different throwing events in girls' track. These are the softball throw, the discus, and the shot put. All of these events require serious thinking and concentration during competition. Such concentration is of course a mind-body action and tends to be a function of the girl as a whole, not merely related to putting the shot. The comments of Wilbur Thompson, the 1948 Olympic shot champion, are filled with phrases related to concentration, so that one feels he is very conscious of its value and has developed it. For example:

There must be consistency of action in practice. This is necessary as it is desired to have a nerve pattern so established that after a certain sequence of events the put is started automatically...Consistency is obtained by repetition and the mastering of the ability to gradually shift the weight of the right foot so that there is not interrupting of the nerve pattern by sudden impulses from the muscles as the body sways from one position of unbalance to another... However this does not refer to those movements which are a part of a habit pattern by which the athlete obtains concentration and release from nervous tension or those that give continuity...Of these the last (mental attitude) is the most important, since the ability to pin-point nervous energy in competition is the answer to being successful.⁵

⁵Wilbur M. Thompson, "The Shot Put," a talk delivered before the National College Track Coaches Association meetings, Minneapolis, 1949.

The coach is aware that the human body is best adapted to those activities involving speed and range of motion and least well adapted to those demanding great power. In throwing, for instance, the weight of the implement and the length of the approach determine the nature of the throwing technique. Each of the throwing events, therefore, has a different motor pattern.

Softball Throw. The competitive softball throw is an excellent event for girls. Since the softball is comparatively light, young girls can participate in this event and in so doing improve their strength and coordination.

To increase the speed and distance of the softball throw, it is necessary for the thrower to speed up the movement of the body parts, which in turn will increase the speed of the arm movement and help get the body weight into the throw.

The throw is made from a running approach, with the performer utilizing a transitional step to attain maximum force from body momentum and muscular strength. The girl approaches the scratch line with as much speed as can be transferred into the throw; she hops into the throwing position, breaks her progress with the outstretched foot, and in the final transfer of forces, leads with the elbow, bringing it through high above the throwing shoulder.

Discus Throw. Discus throwing requires an extremely high level of skill and coordination. It is not necessarily reserved for the heavy, overweight girl. The attitude of the performer has great influence on the intended outcome.

It is true that the large active girl with long arms should have an advantage over the petite girl, because strength and speed are factors to consider in the discus. However, perhaps more important than brawn are concentration and the ability to develop the needed twisting force by practicing hundreds of spins to perfect the proper techniques.

The discus should be held in the hand with the first joint of each of the fingers over its edge. The fingers are relaxed and spread so that the discus is in a comfortable position and is easy to hold. It spins off the index finger in clockwise rotation as it is thrown.

At the beginning, the thrower stands with both feet at the back of the circle so that her back is toward the intended direction of the flight of the discus. From this position one or two preliminary arm swings are taken, and then a more accelerated swing is made as the girl starts her wind up. She unwinds as she smoothly and rhythmically rotates around the circle in a one and three quarters turn. At this point the moment of release is a part of the entire movement. The last spin across the circle is accelerated as the discus thrower prepares for release.

Shot Put. Shot putting is an event involving a powerful driving action of the legs and hips, along with a thrusting action of the arm. More so than any other track and field event, the shot-put is looked upon with disdain by many women. This stems, in part at least, from the fact that some shot-putters are large, heavy girls.

By official rules, in the shot put, the shot is pushed rather than thrown. Impetus is added to the push of the shot by a body shift across the circle.

The girls' shot put is an iron ball weighing eight pounds. As in the boys' events, the shot is put from a ring seven feet in diameter. To produce the force which is essential to putting, the participant must utilize to the fullest extent the principles of mechanics which are favorable to this event. These include a low center of mass for speed, and a breaking of forward momentum for explosive delivery.

Although numerous techniques have been developed as a means of attaining the optimum effect from these mechanical adaptations, the Parry O'Brien style, named for the great Olympic champion, is used by most shot-putters. This style permits an effective blending of strength and speed with an extended application of force and can be learned by anyone who is willing to practice.

A right handed person should take a position at the back of the ring, with her back toward the toe board. The feet are about shoulder width apart. The shot is nestled in the palm of the right hand, with the fingers held close together. While holding the shot in this manner, place it against the neck just under the right cheek.

Start the put by bending forward at the waist, lifting the left leg up and cocking it in the forward position. Thrust the left leg to the rear and hop backward on the right foot. Keep the body moving in the direction of the toe board, and start the body turning to the left. In one coordinated explosive movement, push the right arm forward and upward as the right leg pushes backward.

Complete the put by reversing the direction of the body, by stepping with the right foot toward the toe board.

Certain technical points must be discussed with each girl as she develops an understanding of shot putting. For example, each girl will have to work out her own patterns of movement under her coach's guidance, including the distance of glide, method of holding the shot, execution of the follow-through, use of the grunt for explosion of breath after release, and so forth.

CHAPTER IV

SUMMARY

Track and field offers an opportunity for all girls to participate. There is a place for the tall, the short, the heavy, the fast, the slow, the strong, and the weak. Every girl without physical limitations should be able to adapt satisfactorily to some running, throwing, or jumping event.

It is believed that attainment of the proper level of conditioning should be the goal of every girl, not just those who wish to participate in track and field events. However, training must suit the individual and each girl's program will be different even though it will include some universal procedures.

The track and field events for girls may be divided into four main areas: running, hurdling, jumping, and throwing.

Running is very important in every track and field event, therefore proper running techniques must be used by the participant. She must learn to start, which is a prerequisite to a winning performance, learn to carry her body while running, and the techniques of a good finish.

Hurdling also requires speed in running, but must also contain correct form in clearing the hurdle. This form is best learned by assuming the position of the ground and then practicing the technique used over a few hurdles, gradually leading up to all ten hurdles.

The jumping events include high jumping and the long jump. There are several different styles of high jumping in which the performer either turns onto her side, back, or stomach when going over the crossbar to take advantage of the height that she is able to attain.

The long jump possesses both speed and spring. The performer must remember the faster the run and the higher the jump upward, the greater the distance the body will travel in the air.

The throwing events include the softball throw, the discus and the shot put. The weight of the implement and the length of the approach determine the nature of the throwing event.

Robert Louis Stevenson wrote, "If you miss the joy of it, you miss all of it." We agree but would add, "If you miss the pain of it, you miss the heart of it." And this applies to coaching even more than it does to performance.

Three major guidelines are the result of the research done for this report: (1) Sell the product, (2) Establish a conditioning program that appeals because of its variety, (3) Encourage the girls to try all events, not just the ones in which they do well. Each coach is encouraged to discover her own methods for placement through the suggested coaching methods outlined in this report.

BIBLIOGRAPHY

- Bunn, John W. Scientific Principles of Coaching. Prentice-Hall, Englewood Cliffs, N. J., 1972.
- Cretzmeyer, Francis X. Track and Field Athletics. The C. V. Mosby Company, St. Louis, Mo., 1969.
- Doherty, Kenneth J. Modern Track and Field. Prentice-Hall, Englewood Cliffs, N. J., 1963.
- Foreman, Ken and Virginia Husted. Track and Field Techniques for Girls and Women. Wm. C. Brown Company, Dubuque, Iowa, 1971.
- Jackson, Nell C. Track and Field for Girls and Women. Burgess Publishing Company, Minneapolis, Minn., 1968.
- Kring, Ray F. Complete Guide to High School Track and Field Coaching. Parker Publishing Company, West Nyack, N. Y., 1968.
- Miller, Kenneth D. Track and Field for Girls. The Ronald Press Company, N. Y., 1964.
- Poindexter, Hally B. W. and Carole L. Mushier. Coaching Competitive Team Sports for Girls and Women. W. B. Saunders Company, Philadelphia, Pa., 1973.
- Wakefield, Frances and Dorothy Harkins. Track and Field Fundamentals for Girls and Women. The C. V. Mosby Company, St. Louis, Mo., 1970.

SUGGESTED METHODS IN COACHING GIRLS' TRACK

by

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AN ABSTRACT OF A MASTER'S REPORT

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The purpose of this report was to suggest and to present methods of coaching girls in conditioning and training programs and individual track events, and to suggest methods to promote and to generate interest in track and field events.

The information included in the report was obtained through personal interviews with men and women track coaches in the state of Kansas, through the Kansas State University library, and from personal libraries of women coaches.

The first section of the discussion topics includes ways and methods of generating interest to promote a track and field program. When there is so much emphasis placed on materialistic gains, so many outside activities to choose from, and so many things vying for the interest of young people, a coach finds she must motivate and generate interest in the track candidate. The coach must not only win over the girl, but also the administration, the girl's parents, the student body, and the community.

Section two is concerned with the proper physical condition of the girl in order for her to perform effectively and safely. Several training and conditioning programs have been suggested to provide progressive development of the skeletal muscles. Included in the report are exercises that strengthen and develop the heart and lungs, develop agility, flexibility, balance, coordination and power.

The last section deals with the methods and coaching hints used in the individual track events. The track events have been divided into the areas of running, hurdling, jumping and throwing. Each of

these areas has been subdivided into the individual track and field events such as sprints, low hurdles, long jump, high jump, softball throw, discus and shot put.

The research for this report showed there were as many methods of coaching girls' track as there were coaches, but the objectives were generally the same. It can be stated that in this particular sport there are a wide variety and number of events which call for speed, strength, endurance, and skill. Very often a girl discovers after only one trial in an event, that she has a level of ability which can be developed to a point of enjoyment or even excellence. Moreover, if she competes on a track and field team, she will be able to measure her personal improvement in time and distance and to see how well she compares with other girl athletes.