

A STUDY OF PRESENT METHODS USED IN THE
TRAINING OF PARTICIPANTS IN THE
UNIVERSITY OF TEXAS STATE HIGH
SCHOOL CROSS COUNTRY MEET

APPROVED:

Jack Watson

Major Professor

J. B. McBryde

Minor Professor

Jess Cearley

Director of the Department of Health,
Physical Education and Recreation

Robert B. Toulous

Dean of the Graduate School

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William E. Briedwell, B. S.

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CHAPTER I

INTRODUCTION

To primitive man running was basic for finding food and escaping from enemies. Running often meant the difference between survival and extinction. Modern man still has this basic urge to run to prove his superiority; therefore, millions of people participate in activities which require running.¹ Cross country running originated many, many years ago and is a sport of growing interest in schools today. It has been a part of high school athletics for years at some schools, but only on a local level. At present, cross country is not an officially recognized part of the University Interscholastic League program.

In 1954 the University of Texas State High School Cross Country Meet was initiated to provide high school boys an opportunity to compete at the state level. The meet is held at Austin, and a course of two miles is run through Town Lake Golf Course.²

Although cross country running is a sport of growing interest in schools today, the information available to coaches on this subject is very limited and quite often not applicable to the high school runner.

¹Pincus Sober, "Track and Field," Encyclopedia Americana, Vol. 26, (New York, 1964).

²Cleburne Price, "Thirteen Years of Progress in Cross Country," Texas Coach, Vol. IX (Aug., 1966), 19.

Statement of Problem

This study was conducted to investigate the methods which are presently being used to train boys for participation in the University of Texas State High School Cross Country Meet.

Definitions of Terms

The following definitions of terms are proposed for the study:

Methods - The different plans of physical activity through which boys are trained for cross country running.

Training - The development of strength, speed, endurance and the skills necessary for effective participation in cross country races through a planned program of physical activity, including running.

University of Texas State High School Cross Country Meet - A meet held every year by the University of Texas which is open to boys in grades nine through twelve of Texas high schools. Participants run a two mile cross country course in divisions according to school enrollment.

Division I	2,000 or more	Division IV	501 to 900
Division II	1,401 to 2,000	Division V	251 to 500
Division III	901 to 1,400	Division VI	Under 250

Purposes of Study

The following purposes of the study were proposed:

1. To determine the training methods most widely used by schools entered in each division of the University of Texas State High School Cross Country Meet.

2. To investigate the training methods used by different coaches in preparation for the University of Texas State High School Cross Country Meet.

3. To present the results obtained through different programs of training for cross country running.

4. To present facts which may be helpful to cross country coaches in developing programs of training.

Limitations of Study

The study was limited to methods used in training boys for participation in the University of Texas State High School Cross Country Meet.

Sources of Data

The data for this study were obtained from coaches through questionnaires.

Procedures of Study

1. A survey of previous studies in the area of the development of cross country teams was conducted.

2. Professional literature in the fields of track and athletics was studied thoroughly.

3. A questionnaire was constructed as an instrument for the collection of data.

4. The questionnaire was distributed to coaches who train boys for the University of Texas State High School Cross Country Meet.

5. The data collected were tabulated, classified and analyzed.

6. The data collected on the training methods were treated statistically, using percentage.

7. The data were interpreted in terms of the types of training methods most widely used.

8. Recommendations were made on the basis of the training methods used and the results obtained.

9. A summary of the study and of the findings of the study was made.

10. Conclusions were drawn based on the findings of the study.

11. Recommendations were made for future studies.

Probable Values of the Study

The following probable values are proposed for the study:

1. The data reveal numerous methods of cross country training being used today, giving coaches more knowledge of the numerous view points on cross country training.

2. The extent to which various methods of training for the University of Texas State High School Cross Country Meet are being used by schools in each of the six divisions was revealed by the study.

3. Coaches may find the data helpful in planning future cross country training programs designed to meet the needs of any particular school.

Related Studies

Long distance running has long been a vital part of the Olympics, and yet very little research has been done in fields related to long distance or cross country running. The only related study found was made in 1958 at Ohio University by Nixon.³

Nixon made a study of conditioning techniques for long distance runners being used by many successful runners and college coaches in the United States. Nixon found that coaches have few sources of reliable research and information concerning any of the factors involved in long distance running; therefore, it seemed quite worthwhile to investigate the conditioning techniques being used for long distance runners in the United States.

Two groups were included in Nixon's study. The first group consisted of forty-eight select, successful college coaches, and the second was made up of twenty-seven champion runners. Each runner had run a 9.05 or better for two miles or had placed at a national track meet. A questionnaire was constructed and sent to each member of the two groups. Thirty-seven of the forty-eight coaches responded to the questionnaire, and twenty-three of the twenty-seven runners responded. The questionnaire covered many of the physical and mental aspects of long distance running. Factors such as motivation, practice sessions, and meet preparation were covered in the questionnaire.

³Frank P. Nixon, "A Study of Conditioning Techniques for Long Distance Runners in the United States," unpublished master's thesis, School of Education, Ohio University, 1958.

On the basis of answers recorded, desire to excel was the motivation governing more great runners than any other single factor. Without this desire conditioning techniques make little difference. Different motivations were given for this desire to excel. For some of the runners realization of potential victory was the prime motivation. Others cited religion, a need for self-expression, or a test of will power as the motivation for this desire.

The groups polled agreed that time trials are essential as a measure of progress and condition. Early in the season weekly time trials were preferred by runners and coaches alike. The usual time trial consists of about three-fourths of the regular racing distance for each runner. Later in the season when frequent competition occurs, time trials are not deemed necessary.

The types of training most frequently used were Fartlek running, interval running, running repetitions, and over-distance. Nixon found that most runners feel overdistance is their greatest training tool. Coaches generally believed a combination of Fartlek running or interval running and over-distance to be the best policy.

Workouts were not confined to conventional tracks or courses. Many runners use any convenient grassy area. Others ran on golf courses, roads or even sandy beaches. Runners seemed to do better work wherever they felt at ease.

Nixon found that training schedules vary greatly, although April is generally considered the month devoted to the most

strenuous workouts and conditioning. Many coaches and runners use interval running during this month, and they use the 440 and 880 yard distances. Most coaches believed the best plan is to work out five days, compete or run time trials on Saturday, and rest on Sunday. The runners generally suggested the same schedule except that the majority expressed a preference for a light workout on Sunday instead of rest.

Nixon discovered that coaches and runners use 440 and 880 yard distances extensively in workouts. Overdistance is also extensively used. A combination of the three was generally considered more efficient for the first few days of the workout week. The workout is generally strenuous. The last day or two of the week are considerably lighter and might, typically, consist of a few 220 yard runs and an easy overdistance.

Both the coaches and the athletes considered a combination of group workouts and individual workouts as the best procedure. Both methods have unique value. Only two of the runners preferred workouts alone exclusively.

The opinions on the value of a weight training program were sharply divided. A weight program was considered essential by half of those polled, useful by a few, and unimportant by the remainder. Nixon noted that the runners placed less importance on weight training than the coaches.

In preparation for a meet, relaxation was cited as an important factor. Nixon found that coaches and runners alike stressed physical and mental relaxation before competition.

Rest was also recommended before an important meet. Two days of rest before a meet were widely recommended. Others mentioned from one to six days of rest but two was the figure most frequently given.

On the basis of the findings of the questionnaire, Nixon made the following conclusions:

1. That desire seems to be the greatest asset possessed by any long distance runner.

2. That workouts do not have to be confined to any particular place.

3. That emphasis is placed on fartlek running, on interval running, on repetitive running, or on overdistance, but overdistance is generally considered of the greatest value in training.

4. That the value of weight training in a conditioning program is debatable.

5. That a runner should have rest before competition.

Nixon recommended that further studies be conducted in the virtually unexplored field of long distance running.

The present study is related to Nixon's study in that it attempted to investigate conditioning techniques for cross country runners.

The present study differs from the previous study as it was concerned only with current methods being used to train high school runners for the University of Texas State High School Cross Country Meet and not the college or career athlete.

CHAPTER II

PRESENTATION OF STUDY

Introduction

Before a study of the present methods being used to train participants for the University of Texas State High School Cross Country Meet could be made certain procedures had to be established.

First, a method of obtaining the data necessary to investigate the problem had to be decided upon. A questionnaire was considered the best method of obtaining the data necessary for this study. After much study of professional literature in the fields of physical education and track, and of questionnaire usage and construction, a questionnaire was constructed. The questionnaire was then evaluated and revised, taking into consideration the recommendations of advisors in the matter, and a final draft was made. A copy of the questionnaire and the introductory letter which accompanied it is found in the appendix.

The subjects selected for the study were the coaches who train boys for participation in the University of Texas State High School Cross Country Meet. The questionnaires were distributed to the cross country coach at each school entered in the 1966 meet. The names of the coaches and schools to which questionnaires were sent were obtained from the list of entries furnished each coach at the meet. An introductory letter,

questionnaire, and a stamped, self-addressed envelope were sent to each of the eighty-one coaches on the list.

Presentation of the Data

The University of Texas State High School Cross Country Meet is divided into six divisions. Table I illustrates these divisions.

TABLE I

SCHOOL DIVISIONS USED AT THE UNIVERSITY OF TEXAS STATE HIGH SCHOOL CROSS COUNTRY MEET

Division	Enrollment
I	2,000 or more
II	1,401 to 2,000
III	901 to 1,400
IV	501 to 900
V	251 to 500
VI	250 or less

Table II indicates the number of questionnaires sent to each division and the number and percentage of the questionnaires returned. Of eighty-one questionnaires distributed, a total of sixty-eight or eighty-three per cent were returned. A great deal of interest was exhibited by the coaches polled, as was indicated by the good response and the enthusiastic remarks made by many coaches. Division IV returned ninety-three per cent of the questionnaires distributed in that group, which is the highest percentage of return in a single division.

TABLE II
NUMBER AND PER CENT OF QUESTIONNAIRES
RETURNED

Division	Number sent	Number Returned	Per Cent
I	15	13	87
II	16	13	81
III	15	13	87
IV	14	13	93
V	6	4	67
VI	15	12	80
Total	81	68	83

The lowest percentage of response occurred in Division V, with sixty-seven per cent. The other four divisions averaged from eighty to eighty-seven per cent returns.

Many schools in Texas regularly attend the University of Texas State High School Cross Country Meet. Others attend only occasionally or as often as their schools will permit. Table III shows the number and per cent of schools in each division which enter the meet every year, based on the past several years.

TABLE III
NUMBER AND PER CENT OF SCHOOLS WHICH ATTEND THE
UNIVERSITY OF TEXAS STATE HIGH SCHOOL
CROSS COUNTRY MEET EACH YEAR

Division	Number	Per Cent
I	11	85
II	11	85
III	11	85
IV	10	77
V	3	75
VI	6	50
Total	52	75

It may be noted that the top three divisions each have eighty-five per cent which attend the meet every year. The percentage progressively becomes smaller in the lower divisions, with only fifty per cent attending the meet every year in Division VI. Larger schools seem to be able to enter more consistently. Perhaps they are more financially able to send teams than smaller schools, or small schools may not have enough personnel to allow the coach to be absent from his regular classes.

Five of the schools returning the questionnaire hold meet records in their respective divisions. Table IV indicates the divisions and whether or not the record holder in that division replied. It may be noted that the Division III record is shared by two schools, one a respondent while the other did not respond. Therefore, there are actually seven record holders in the six divisions.

TABLE IV

NUMBER OF RECORD-HOLDING SCHOOLS RETURNING COMPLETED QUESTIONNAIRES

Division	Reply Received
I	Yes
II	No
III	No
III	Yes
IV	Yes
V	Yes
VI	Yes

5 replies

Of the thirteen schools who were champions and runners-up in the 1966 University of Texas State High School Cross Country

Meet, eleven returned a completed questionnaire. Ten of the twelve schools who were champions and runners-up in the 1965 meet completed and returned questionnaires. Again, only two failed to reply.

Table V illustrates the number of coaches working with the cross country team in the schools in the different divisions. The data revealed that ninety-one per cent of the schools polled have only one coach to work with the cross country team. Nine per cent of the schools have two coaches who work with cross country. No school replying had more than two coaches. The size of the school does not seem to be a determining factor in the number of coaches employed, as is indicated by the table.

TABLE V
NUMBER OF COACHES WORKING WITH THE CROSS COUNTRY
TEAM IN EACH SCHOOL

Division	One Coach	Per Cent	Two Coaches	Per Cent
I	11	16	2	3
II	13	19	0	0
III	11	16	2	3
IV	12	17	1	2
V	4	6	0	0
VI	11	16	1	2
Total	62	90	6	10

Ninety-eight per cent of the coaches are also head coaches in at least one other sport and occasionally two other sports, as is indicated in Table VI. Only one of the sixty-eight

coaches indicated that he was not the head coach in any other sport. All of the coaches, with the exception of two, indicated that they were head coach of the regular track and field team. One coach works only with the cross country team, and the other is head coach of the football team in addition to his cross country work. Some of the coaches are also head basketball or baseball coaches. The variety of sports coached by the sixty-seven men who are also head coaches in at least one other sport is indicated in Table VI.

TABLE VI

THE NUMBER AND PER CENT OF OTHER SPORTS
COACHED BY CROSS COUNTRY COACHES

Division	Track	Track and Football	Track and Basketball	Track and Baseball
I	13			
II	13			
III	12	1		
IV	9	2		1
V	3		1	
VI	5	6		1
Totals	55	9	1	2
Per Cent	82	13	2	3

The coaches in the smaller schools in Division VI have a greater variety of duties in major sports. It may be noted that half of them double as head football and track coach in addition to their duties as cross country coach. In Divisions I and II all of the coaches are head coach in track, in addition

to their assignment as cross country coach. In all divisions, eighty-two per cent are head coaches in track. Eighteen per cent are head coaches in two sports in addition to cross country.

The coaches involved in the study had a wide range of cross country coaching experience. Twelve of the coaches have just begun coaching, and one coach has been coaching cross country for twenty years. Table VII illustrates the number of years of cross country coaching experience for the sixty-eight coaches.

TABLE VII
NUMBER OF YEARS OF EXPERIENCE OF
CROSS COUNTRY COACHES

Number of Years	Number of Coaches	Per Cent
1	12	19
2	11	16
3	11	16
4	9	14
5	3	4
6	8	12
7	3	4
9	2	3
10	6	9
12	1	1
13	1	1
20	1	1
Total	68	100

It may be noted that a great number of the coaches have just begun coaching. Sixty-five per cent of the coaches have four years or less of cross country experience. Ninety-seven per cent of the coaches have ten years or less of experience.

Of the sixty-eight coaches fifty-five, or eighty-one per cent, majored in physical education in college. Some of them participated in cross country in either high school or college. Table VIII indicates the number and per cent of coaches who majored in physical education and the number and per cent who have been cross country runners.

TABLE VIII

NUMBER AND PER CENT OF COACHES WHO MAJORED IN PHYSICAL EDUCATION AND WHO HAD EXPERIENCE AS CROSS COUNTRY RUNNERS

	Number of Physical Education Majors	Per Cent	Number with Running Experience	Per Cent
Yes	55	81	19	28
No	13	19	49	72
Total	68	100	68	100

Only nineteen per cent majored in fields other than physical education. Twenty-eight per cent of the coaches had cross country experience in either high school or college. Seventy-two per cent of the coaches did not run cross country. Although the majority of the respondents majored in the field of physical education, they did not participate in cross country or distance running.

The University of Texas State High School Cross Country Meet is held each year in December. For many schools it is the climax of the cross country season. Coaches try to have

their teams in peak condition at the time of this meet, and they generally have this goal in mind when they select the time of year to begin training their teams. Coaches have varying opinions as to when cross country training should begin, and how long the season should be. Seventy-two per cent of the coaches begin training in September since school begins during that month. Table IX illustrates the months and the number of coaches designating each month as the one in which they begin cross country training. It may be noted that one coach trains his boys all year.

TABLE IX
THE NUMBER AND PER CENT OF COACHES CHOOSING
DIFFERENT MONTHS TO BEGIN CROSS
COUNTRY TRAINING

Month	Number	Per Cent
August	5	7
September	49	72
October	6	9
November	7	10
Year around	1	2
Total	68	100

Seventy-two per cent of the coaches begin training as school starts. Only seven per cent of the group begin training for cross country in August before school begins. Nine per cent begin in October, and ten per cent begin training in November.

The number of weeks covered by the cross country program at each school varied greatly. Two of the coaches train their

athletes for only four weeks before the University of Texas State High School Cross Country Meet. Table X indicates the number and percentage of the sixty-eight coaches designating various numbers of weeks as the length of their respective cross country programs.

TABLE X.

THE NUMBER AND PER CENT OF COACHES USING CERTAIN NUMBERS OF WEEKS OF CROSS COUNTRY TRAINING

Number of Weeks	Number of Coaches	Per Cent of Coaches
4	2	3
8	4	6
10	5	7
12	20	30
13	5	7
14	10	15
15	5	7
16	11	17
18	2	3
20	2	3
24	1	1
52	1	1
Total	68	100

One coach trains his team for twenty-four weeks, and still another trains his cross country team the entire year. Eighty-six per cent of the teams have cross country programs covering from twelve to sixteen weeks.

The number of boys reporting for cross country training in the fall of 1966 varied greatly from school to school, as revealed by Table XI. Numbers of participants range from one to eighty with the larger number of boys reporting at the

larger schools. The average number of boys reporting for cross country training per school in each division ranged from eight in Division V to twenty-seven for Division I. Table XI illustrates these averages.

TABLE XI
AVERAGE NUMBER OF BOYS REPORTING FOR CROSS COUNTRY
TRAINING PER SCHOOL IN EACH DIVISION

Division	Average Number Reporting
I	27
II	16
III	18
IV	12
V	8
VI	16

The coaches generally agree that each boy should be given a physical examination at the beginning of the cross country season. Table XII indicates that sixty-one schools, or ninety per cent, require physical examinations for each participant. Only ten per cent require no examination.

TABLE XII
NUMBER AND PER CENT OF CROSS COUNTRY PARTICIPANTS
RECEIVING PHYSICAL EXAMINATIONS

	Number of Schools	Per Cent
Physical required	61	90
Physical not Required	7	10
Total	68	100

Records are generally considered an important tool in training because they show whether or not a boy is making progress during the season. His improvements over the previous year or his lag in progress may be indicated. Table XIII indicates that ninety-four per cent of the coaches keep some type of records. It shows number and per cent of coaches who keep records.

TABLE XIII
NUMBER AND PER CENT OF COACHES KEEPING
RECORDS

Total Keeping Records		Number Keeping Daily Records		Number Keeping Permanent Records	
Number	Per Cent	Number	Per Cent	Number	Per Cent
64	94	24	35	52	79

Seventy-nine per cent of the coaches keep some type of performance records in the individual permanent records of each boy. Only thirty-five per cent of the coaches polled keep daily records of performance.

Table XIV indicates the different techniques used to teach boys the skills they need in order to participate in the University of Texas State High School Cross Country Meet. Some coaches teach their teams as a unit. Others coach the boys individually. Many coaches combine the two methods, using unit coaching and giving individual attention as warranted.

TABLE XIV

NUMBER AND PER CENT OF COACHES USING UNIT COACHING
AND INDIVIDUAL COACHING

Unit Coaching Method Used		Individual Coaching Used		Individual and Unit Coaching Used	
Number	Per Cent	Number	Per Cent	Number	Per Cent
29	43	8	12	31	45

Forty-three per cent of the coaches polled use unit coaching exclusively. Twelve per cent employ only individual coaching techniques. A combination of unit coaching and individual coaching was used by forty-five per cent of the coaches in training their boys.

The views of coaches on using visual aids and demonstrations in training boys were quite divided, as is illustrated by Table XV. Fifty per cent, or thirty-four coaches, make use of visual aids and demonstrations and the other fifty per cent of the coaches do not.

TABLE XV

NUMBER AND PER CENT OF COACHES USING
VISUAL AIDS AND DEMONSTRATIONS

Visual Aids and Demonstrations Used		No Visual Aids and Demonstrations Used	
Number	Per Cent	Number	Per Cent
34	50	34	50

School customs on giving awards to cross country boys vary. Table XVI indicates that only forty-two per cent of the schools do give some type of award to cross country participants at the end of the season. No award is given by fifty-eight per cent of the schools. Table XVI illustrates the number and per cent of schools giving awards to cross country participants.

TABLE XVI
NUMBER AND PER CENT OF SCHOOLS GIVING AWARDS
TO CROSS COUNTRY PARTICIPANTS

School Award Given?	Number	Per Cent
Yes	29	42
No	39	58
Total	68	100

It may be noted that some schools do take cross country participation into consideration when awarding letters for the regular track program.

The coaches were almost unanimous in agreeing that cross country does benefit the regular spring track program. Table XVII shows the number and per cent of coaches who believe that cross country does benefit the spring track program. Only two coaches believe that cross country does not in any way benefit the spring track program. The majority agreed that the training benefits were definitely an aid, especially to the distance runners.

TABLE XVII

NUMBER AND PER CENT OF COACHES WHO BELIEVE THAT CROSS
COUNTRY WOULD BENEFIT THE SWING TRACK
PROGRAM

Number Agreeing	Per Cent	Number Disagreeing	Per Cent
66	97	2	3

The study revealed that high school cross country teams work out from five to seven days per week. Table XVIII indicates the number of days per week that each school trains. Fifty per cent of the teams work out six days per week. Forty-five per cent work out five days, and only five per cent of the teams work out seven days per week.

TABLE XVIII

NUMBER OF DAYS PER WEEK OF TRAINING FOR
EACH SCHOOL

Number of Days	Number of Schools	Per Cent
5	31	45
6	34	50
7	3	5
Total	68	100

The number of hours of training per week for each team ranges from as few as eight hours to as many as twenty hours per week. Each coach gave the average number of hours per week of training for his team during the cross country season. Table XIX shows the various numbers of hours of training for the teams represented in the study.

TABLE XIX
NUMBER OF HOURS OF TRAINING PER WEEK FOR CROSS
COUNTRY TEAMS

Number of Hours	Number of Teams	Per Cent
8	5	7
10	10	16
12	20	30
14	9	13
15	5	7
16	3	5
18	6	8
19	6	8
20	4	6
Total	68	100

Thirty per cent of the teams work out twelve hours per week. Fifty-nine per cent work out from ten to fourteen hours per week.

Many of the teams have two workouts per day. Those who do consider two workouts per day essential for a good team. It may be noted that the five responding schools who hold records at the University of Texas State High School Cross Country Meet use and recommend two workouts per day. Table XX indicates the number and per cent of schools having one

or two workouts per day. Forty-seven per cent of the teams do have two workouts per day. Twelve per cent of the teams work out twice a day whenever they possibly, can, and forty-one per cent have just one workout each day though many expressed the desire to have two if time and circumstances permitted.

TABLE XX
NUMBER AND PER CENT OF SCHOOLS HAVING
ONE AND TWO WORKOUTS PER DAY

Number of Workouts	Number of Schools	Per Cent
1	28	41
2	32	47
2 when possible	8	12
Total	68	100

The coaches differed on the value of weight training programs and isometric programs in cross country training. Different procedures are used as some coaches use isometrics and some use weight training. Table XXI indicates the number and per cent of the teams which have isometric programs and the number and per cent which have weight training, or isotonic programs. Some coaches use a combination of the two or use neither of the two. Seventeen of the teams use the Exer-genie in what they term their isometric programs. Six per cent of the coaches use weight training only occasionally.

TABLE XXI

THE NUMBER AND PER CENT OF THE TEAMS WHICH HAVE
ISOMETRIC PROGRAMS AND WEIGHT PROGRAMS

Isometric Program		Weight Program		
	Number of Teams	Per Cent	Number of Teams	Per Cent
Yes	29	42	39	57
No	37	55	25	37
Some	2	3	4	6
Total	68	100	68	100

Forty-two per cent of the teams have isometric programs, and fifty-seven per cent have weight training programs.

Many coaches feel that the number of miles run per day by a runner is a very important factor in a cross country program. A coach may set a specific number of miles for each boy on the team to run each week. This distance generally increases as the season progresses toward the University of Texas State High School Cross Country Meet and as the runners progress in training and fitness. The number of miles is set in proportion to the ability of the boy. The boys in the best physical condition and with the most ability run the most miles as a rule. It may be noted that the two top record holders at the University of Texas State High School Cross Country Meet run about one hundred miles per week. Table XXII indicates the number of miles per week and the number and per cent of the coaches suggesting each figure.

TABLE XXII

MILES PER WEEK AND THE NUMBER AND PER CENT
OF THE COACHES SUGGESTING EACH DISTANCE

Number of Miles	Number of Coaches	Per Cent
25	12	18
35	19	28
40	2	3
55	17	25
60	1	1
70	8	12
85	6	9
100	3	4
Total	68	100

From thirty-five to fifty-five miles was the figure used by fifty-six per cent of the coaches who answered. Eighteen per cent suggested twenty-five miles, and four per cent recommended one hundred miles per week.

Interval running has a place in the cross country program of many teams. Table XXXIII shows that eighty-eight per cent of the coaches polled use interval running in training their boys. Twelve per cent do not use interval running. The distances most popular with the coaches for interval running are 440 yards, 880 yards, and one mile. Different combinations of these distances are commonly used. The time or interval allowed between each distance may range from one to fifteen minutes. The coaches responding generally use varying intervals determined by the distance used and the number of consecutive

times it is run. Table XXIII indicates the number and per cent of coaches using interval running, relay running, and Fartlek running, or speed play, in their training programs.

TABLE XXIII
NUMBER AND PER CENT OF COACHES USING VARIOUS TYPES
OF RUNNING IN THEIR TRAINING PROGRAMS

Interval Running		Relay Running		Fartlek Running	
Number	Per Cent	Number	Per Cent	Number	Per Cent
60	88	22	32	58	86

Only twenty-two, or thirty-two per cent, of the coaches use relay training in their cross country training programs. Sixty-eight per cent use no relay training.

Fartlek running is used by many schools. Eighty-six per cent of the sixty-eight coaches use Fartlek running, or speed play, in training cross country participants. Ten coaches, or fourteen per cent, do not use Fartlek running in their programs.

Special training equipment of various types is used by some coaches. The Exer-genie is a good example. The coaches responding also named eight other types of equipment which their cross country boys use. Table XXIV illustrates the different types of equipment being used in cross country training programs and the number of teams using each one of them.

TABLE XXIV

SPECIAL EQUIPMENT AND THE NUMBER
OF TEAMS USING EACH ITEM

Special Equipment	Number of Teams
Exer-genie	17
Weight Vest	4
Universal Gym	1
Hills for Climbing	1
Leg Press	1
Chin Bar	2
Arm and ankle weights	2
Sit-up pads	2
Climbing ropes	16

Over half of the participants in cross country run for time once per week. Thirty-one per cent do not run for time weekly. Table XXV indicates the number and per cent of schools running weekly time trials.

TABLE XXV

NUMBER AND PER CENT OF SCHOOLS RUNNING
WEEKLY TIME TRIALS

Time Trials	Number of Teams	Per Cent
Time trial weekly	39	57
Some weekly trials	8	12
No weekly trials	21	31
Total	68	100

Twelve per cent occasionally have weekly time trials. The coaches agreed that weekly time trials are not necessary during the season when participants are attending frequent meets.

The coaches were asked to designate the types of training used in their programs. Table XXVI indicates the five types of training and the rating that the coaches gave each one. They were asked to rate them with the letters A through E in the order of their importance in the cross country program. The methods named were overdistance, interval running, Fartlek running, weight training and isometric exercises.

TABLE XXVI

FIVE TYPES OF TRAINING AND THE ORDER OF THEIR IMPORTANCE IN THE TRAINING PROGRAMS OF THE COACHES

Rating	Over-distance	Interval Running	Fartlek Running	Weight Training	Isometric Training
A	44	15	12		
B	16	29	15	4	6
C	9	19	23	4	16
D		1	5	34	22
E			4	14	12

Some of the coaches rated two of the five equally, while others eliminated one or more of the five which they do not recommend. Forty-four coaches rated overdistance as more important in their programs. Interval running was rated second by twenty-nine coaches. Fartlek running was rated third, weight training rated fourth, and isometric exercises rated fifth.

Are cross country training methods changing rapidly? Eighty-two per cent of the coaches say that their methods are basically the same as they were the year before, as is shown by Table XXVII. One of the respondents was only beginning to coach cross country; therefore, he could not give an answer.

TABLE XXVII

THE NUMBER AND PER CENT OF COACHES MAKING
BASIC METHOD CHANGES FROM
1965 to 1966

Method Changes Made?	Number of Coaches	Per Cent
No	56	82
Yes	11	17
No answer	1	1
Total	68	100

The time of year when each team has its first cross country meet varies. Sixty-two per cent of the teams enter their first cross country meet in October. This allows two months of competition before the University of Texas State High School Cross Country Meet. Table XXVIII indicates the months and the number of schools which have their first meet of the season during each month. It may be noted that twelve per cent of the teams enter no meets until the month of December.

TABLE XXVIII

THE MONTH OF THE FIRST CROSS COUNTRY MEET
OF THE SEASON FOR EACH TEAM

Month of First Meet	Number of Schools	Per Cent
September	6	9
October	42	62
November	12	17
December	8	12
Total	68	100

Many of the teams hold intrasquad competition to give boys an opportunity to compete. Many coaches have these events before the regular meets with other schools begin. Table XXIX indicates the number and per cent of schools holding intrasquad meets and the number and per cent which hold intersquad meets. The table indicates that only thirty-seven per cent of the coaches hold no intrasquad meets, while sixty-three per cent do.

TABLE XXIX

NUMBER AND PER CENT OF SCHOOLS HOLDING INTRASQUAD
AND INTERSQUAD MEETS

Type of Meets Held	Number of Schools	Per Cent
Intrasquad	43	63
Intersquad	42	62

Sixty-two per cent do hold dual or triangular meets at their schools in order to provide competition with other schools. Thirty-eight per cent of the schools do not hold intersquad meets at home.

The number of cross country meets that each team participates in each season and the frequency of the meets may vary greatly. The schools responding indicated that they entered from one to ten meets per season. Table XXX indicates the frequency of competition for the teams polled.

TABLE XXX
FREQUENCY OF COMPETITION FOR THE
CROSS COUNTRY TEAMS BY PER
CENT AND NUMBER

Number of Meets	Number of Teams	Per Cent
2 per week	6	9
1 per week	48	70
1 per 2 weeks	3	5
Occasional Meets	11	16
Total	68	100

Forty-eight of them participate in some type of meet each week. Six of the schools participate in competition twice a week. Three teams participate in one meet every two weeks. The other eleven schools participate in only two or three meets each season.

A school can enter up to seven participants in the University of Texas State Cross Country Meet. Some teams enter fewer than seven boys, but a majority of the schools enter the full allotment of seven. Table XXXI indicates the number of boys each school entered in the 1966 University of Texas State Cross Country Meet. The scores of the four top boys count in the tabulation of team points for the meet.

TABLE XXXI
THE NUMBER OF BOYS ENTERED IN THE
MEET BY EACH SCHOOL

Number of entries	Number of Schools
2	2
3	3
4	4
5	14
6	11
7	34

CHAPTER III

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This was a study of the present methods being used to train boys for the University of Texas State High School Cross Country Meet which is held in December of each year. Chapter I contains a brief introduction to cross country running, the statement of the study, and the purposes of the study.

Chapter II deals with the instrument chosen for the collection of data and contains the presentation of the data. A questionnaire was constructed to collect the data. After careful construction the questionnaire was distributed to eighty-one coaches who train boys for the University of Texas State High School Cross Country Meet. Sixty-eight of the questionnaires were completed and returned. The findings of the study were then tabulated and analyzed.

This chapter presents the summary, conclusions, and recommendations resulting from the study.

Summary of the Findings

The following summary is based on the data which were tabulated and analyzed. These facts were brought forth concerning the training of participants for the University of Texas State High School Cross Country Meet.

1. Fifty-two of the sixty-eight schools responding attend the University of Texas State High School Cross Country Meet every year.

2. A large majority, ninety-one per cent, of the high school cross country teams included in this study have only one coach.

3. Sixty-seven of the sixty-eight responding coaches are also head coach in at least one other sport. Sixty-six of them coach the regular track team.

4. The average cross country coach has from one to ten years of experience, with sixty-five per cent of the coaches having four years of experience or less.

5. September is the month when seventy-two per cent of the schools replying begin cross country training each year.

6. The cross country programs of seventy-six per cent of the schools cover from twelve to sixteen weeks each year.

7. Ninety per cent of the schools require cross country runners to have a physical examination each year.

8. The training methods of eighty-two per cent of the coaches have been basically the same for the last two cross country seasons.

9. Seventy-nine per cent of the coaches keep some type of individual performance records.

10. Unit coaching is used by forty-three per cent of the coaches, and individual coaching is used by twelve per cent. Forty-five per cent use a combination of the two methods.

11. Only forty-two per cent of the schools responding give any type of award for cross country participation.

12. Almost all, or ninety-eight per cent, of the coaches agree that the cross country training program does benefit the regular track season.

13. Fifty per cent of the teams work out six days per week. Forty-five per cent work out five days, and only five per cent work out seven days per week.

14. The number of hours spent in cross country training each week varies from eight hours to twenty hours. Thirty per cent of the teams work out twelve hours each week.

15. Forty-seven per cent of the schools responding have two workouts each day, and twelve per cent have two per day whenever possible. The remaining forty-one per cent have just one workout each day, though many coaches expressed the desire to have two.

16. Fifty-six per cent of the cross country teams involved run from thirty-five to fifty-five miles per week in the process of training.

17. Interval running is used by eighty-eight per cent of the coaches in their cross country programs.

18. Fartlek running is used in the cross country training programs of eighty-six per cent of the coaches polled.

19. In the order of their importance according to the largest percentage of the coaches, overdistance, interval running, Fartlek running, weight training, and isometric programs are the foundations of most high school cross country programs.

20. Sixty-two per cent of the teams have their first cross country meet of the season in October of each year.

21. Seventy-one per cent of the responding teams attend one meet each week during the cross country season.

22. A cross country meet is held at home at least once each season by sixty-two per cent of the schools responding.

23. Sixty-nine per cent of the cross country teams attend from one to ten meets per season at other schools.

24. Fifty per cent of the schools enter seven participants, the maximum number of entries allowed per school, in the University of Texas State High School Cross Country Meet.

Conclusions

On the basis of the information obtained from the study the following conclusions are presented:

1. Cross country coaches generally work alone and have little or no assistance in training participants for the University of Texas State High School Cross Country Meet each year.

2. Cross country training methods are not rapidly changing, but they vary from school to school and from one coach to another.

3. Cross country coaches today use individual and unit coaching to train boys in the many aspects of cross country running.

4. The number of miles per week run by each boy seems to be the most important single factor in cross country training. Interval running and Fartlek running are also quite important.

5. It is indicated that the majority of the cross country coaches have very little experience.

6. The value of a weight training program or an isometric exercise program in cross country training is debatable.

7. Weekly time trials are necessary only in early season before regular and frequent competition begins.

8. The spring track program does receive benefit from the cross country training program.

9. The average cross country team participates in from one to six meets each season.

10. Though cross country participants must work hard and the season is long, cross country as a high school sport is not fully appreciated, as it is not recognized by the University Interscholastic League, and a majority of the participants do not even receive a school award.

Recommendations

As a result of the findings of this study, the following recommendations are made in the interest of cross country as a high school sport. It is recommended that

1. The possibility of cross country being recognized by the University Interscholastic League be investigated.

2. Schools give some consideration to cross country participants in conveying school awards for athletics.

3. Track coaches discuss the possibility of adding the two mile run to the regular spring high school track program.

4. Cross country coaches experiment more with two-a-day workouts and evaluate the results.

Recommendations for Future Studies

The following recommendations are made for future studies in related areas.

1. A study to determine whether or not there is value in weight training and isometric exercises as part of the training program for cross country runners.

2. A comparative study to determine the value of one workout per day and of two workouts per day as related to distance running.

APPENDIX

January 5, 1967

Dear Coach:

I am interested in current training practices for cross country track men. In order to obtain information on this subject, I am conducting a study of present methods being used in the training of participants in the University of Texas State High School Cross Country Meet as partial fulfillment of the requirements for my Master's thesis at North Texas State University. I feel that this study concerning current trends in training should be beneficial to every coach of distance track men.

I shall appreciate your completing the enclosed questionnaire and returning it to me. A self-addressed envelope is enclosed for your convenience. The questions may be answered simply by placing a check in the proper blank. I will be happy to send you a summary of the results of this study if you wish.

Thank you very much for your cooperation in this matter. I shall look forward to hearing from you as soon as possible.

Sincerely,

William Briedwell

QUESTIONNAIRE CONCERNING PRESENT METHODS USED
IN THE TRAINING OF PARTICIPANTS IN THE
UNIVERSITY OF TEXAS STATE HIGH
SCHOOL CROSS COUNTRY MEET

Please complete this questionnaire by placing a check in the proper blank for each question. A few of the questions require a brief written answer.

School Information

1. In which division was your cross country team entered in the University of Texas State High School Cross Country Meet?

Division I___ Division II___ Division III___
Division IV___ Division V___ Division VI___

2. Approximately how many students are enrolled in your high school? _____

3. Does your school enter the University of Texas State High School Cross Country Meet every year? Yes___ No___

4. Does your school hold any state records in cross country? Yes___ No___

Coaching Personnel

1. How many coaches work with your cross country team? _____

2. Are you, as head cross country coach, also head coach for any of the following sports? Football _____
Track _____
Basketball _____
Baseball _____

3. How many years have you coached cross country? _____

4. Did you major in physical education and coaching in college preparation? Yes ___ No ___

5. Have you had experience as a cross country runner or a distance runner in high school? Yes ___ No ___

In college? Yes ___ No ___

Administration of Program

1. What month does your cross country team begin training? September ___ October ___ November ___

2. How many boys reported this season? _____

3. Is each boy given a physical examination prior to beginning cross country training? Yes ___ No ___

4. Approximately how many weeks does your cross country program cover? _____

5. Do you post daily workout plans for the cross country men? Yes ___ No ___

6. Are your training methods basically the same as they were last year? Yes ___ No ___

7. Do you keep a record of daily performances? Yes ___ No ___

8. Are performance records of individuals kept as permanent records in your school? Yes ___ No ___

9. Are participants coached as a unit? Yes ___ No ___

10. Is each boy coached individually? Yes ___ No ___

11. Do you make use of visual aids and demonstrations? Yes ___ No ___

12. Do boys receive any kind of award at the end of the cross country season? Yes ___ No ___

13. Do you feel there is any carry over from your cross country program to the spring track program? Yes ___ No ___

Training Procedures

1. How many days per week does your team work out? _____
2. How many hours per week does your team train? _____
3. Do you have two-a-day workouts? Yes ___ No ___
4. Do you have a weight program for your cross country team? Yes ___ No ___
5. Do you have an isometric exercise program for your cross country boys? Yes ___ No ___
6. How many miles do your cross country boys average each week? 25 ___ 35 ___ 55 ___ 70 ___ 85 ___ 100 or more ___ Other ___
7. Do you use interval running in your program? Yes ___ No ___
8. What repetitions do you use? 220's ___ 440's ___ 660's ___ 880's ___ 1320's ___ 1 mile ___
9. How much time do you allow between each repetition? _____
10. Do you use relay training in your program? Yes ___ No ___
11. Do you use Fartlek running or speed play in your training program? Yes ___ No ___
12. Do team members run stair steps as a part of their training? Yes ___ No ___
13. Do team members climb the rope? Yes ___ No ___
14. Do you use any special equipment in your training program? If so, specify _____ Yes ___ No ___
15. How many times per week do participants run for time exclusive of meets? _____
16. Check the following fundamentals in which you actually illustrate the proper form.

Arm Action	_____
Leg Action	_____
Starting	_____

17. Please rate the following types of cross country training in the order of their importance in your program using letters A through E.

Distance running _____

Interval running _____

Fartlek running _____

Weight training _____

Isometric exercise _____

Meet Information

1. Approximately when is your first cross country meet of the year? _____
 2. Do you hold intrasquad meets? Yes _____ No _____
 3. Do you hold intrasquad meets as often as every week? Yes _____ No _____
 4. How many times per week do participants engage in any type of meet? _____
 5. How many times per season do you hold dual and triangular meets at home? _____
 6. How many meets have you attended at other schools? _____
 7. How many boys did you enter this year in the University of Texas State High School Cross Country Meet? _____
 8. How many boys did you enter last year? _____
- Would you like a summary of the results of this study? Yes _____ No _____
- Any further comment you would care to make would be welcome.

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