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Organizing A Program To Increase Fitness Levels In Fourth Grade Students

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**ORGANIZING A PROGRAM
TO INCREASE FITNESS LEVELS
IN
FOURTH GRADE STUDENTS**

by

Warren A. Bell

A Practicum Report

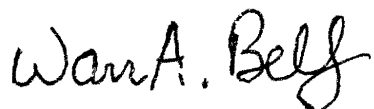
*Submitted to the Faculty of the Center for the Advancement of
Education at Nova University in partial fulfillment of the
requirements for the degree of Master of Science*

*The abstract of this report may be placed in a National
Database System for reference.*

February / 1990

Authorship Statement

I hereby testify that this paper and the work it reports are entirely my own. Where it has been necessary to draw from the work of others, published or unpublished, I have acknowledged such work in accordance with accepted scholarly and editorial practice. I give this testimony freely, out of respect for the scholarship of other workers in the field and in hope that my work, presented here, will earn similar respect.

A handwritten signature in black ink that reads "Warren A. Bell". The signature is written in a cursive style with a large, prominent 'W' and 'B'.

Warren A. Bell

Abstract

Organizing a Program to Increase Fitness Levels in Fourth Grade Students.

Bell, Warren., 1990: Practicum Report, Nova University, The Center for the Advancement of Education.

Descriptors: Physical Fitness/Physical Development/Muscular Strength/Physical Activity Level/Endurance/Elementary Education/Intermediate Education/Grade Four/

A high percentage of students have scored low on health-related fitness tests in the areas of Upper Body Strength and Cardio-Respiratory Endurance. Utilizing the Chrysler/AAU Fitness Program (1989) to screen the students, the author developed a means to supplement physical education classes once or twice per week to improve fourth graders' fitness levels. After developing and implementing a Runners' Club and a Fitness Course that was supervised by the fourth grade classroom teachers on an every-other-day basis for 10 weeks, the author was able to significantly improve health related fitness test scores. Appendices include Turkey Trot Guidelines, Pre-Test Fitness Results, Teacher Attitudes Survey, Attendance Chart, Number-of-Laps Run, and Runners' Club Awards.

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CHAPTER I

PURPOSE

The purpose of the author's practicum study was to provide an efficient means of improving health-related fitness in fourth grade students through the use of recess time and classroom teachers as monitors.

The author currently works in a school with 693 students from predominately middle to upper-middle class families. The school is 30 years old and sits on an 18 acre tract in an upper socio-economic area of the county.

The population of the target school is approximately 89 per cent white, six per cent Black and five percent Hispanic. Almost all of the minority students are bused into the area from another part of town. The Hispanic population fluctuates greatly with the seasonal flow of migrant workers coming in and out of the area for temporary work.

The practicum target population, the fourth grade, includes 110 students divided evenly among four classroom teachers. The student population breakdown of the fourth grade coincides with the overall school averages and percentages listed previously. The fourth grade has returned to self-contained classes this year after many years of changing classes for different areas of subject content.

All four 4th grade teachers have at least 10 years teaching experience in the school district. One teacher is teaching in the target school for the first time this year. All four teachers expressed interest in being involved in the practicum project to help the students improve fitness levels.

The author of this practicum is a physical education teacher with 11 years of teaching experience in the school district and is in the third year of teaching in the target school as the instructor for physical education in kindergarten through the fifth grade.

Since the target school population is so large, the P.E. schedule is designed so the author meets with each student in grades three through five only three times every two weeks for 35 minutes each class. The author conducts 30-minute classes for kindergarten through second grades once per week.

The fourth grade target group has recess each day from 11:30 until 11:55. There is also an extra recess time each Friday from 1:50-2:20 p.m.

In November of 1988 a Fitness Challenge Course was erected on the school grounds with funds raised by the author through a "Turkey Trot" that involved the student population, the staff of the school, and the community (Appendix A:57).

The problem the author faced in the school setting has been documented in many recent studies in periodical literature. In Sport's Illustrated's report "Fat, Not Fit", a grim picture was painted concerning physical fitness levels of United States adolescents and children (Neff, 1989:71).

Results of a ten year Chrysler Fund Amateur Athletic Union Youth Fitness testing program showed that the number of participants who rated "satisfactory" on the test dropped from 43 percent in 1980 to 32 percent in 1989. Because of the great gains in the average weight of the students in the last 10 years, those between the ages of 12 and 17 had added a full minute to the average time in an endurance run.

The large weight gains that students have made in the last 10 years have many fitness leaders and doctors concerned. According to Updyke "The Chrysler-AAU test is proven documentation that insidious weight gain has happened in children due to the emphasis on fast foods and computer games in our society." (1989:30). Updyke stated further that "the creeping problem of under-fit children could be a very serious one for the overall health of our society in the next 30 years" (p. 30).

Exercise physiologists and physical education supervisors believe students should have at least 30 minutes of organized and supervised physical education every day according to Sterne (1987), who also reported that in the early 1980's physical education became an accidental victim of the changes for academic reform brought on by a series of national studies criticizing the overall American education system. Resulting from studies which proposed academic reform, educators were forced to strengthen academics and to schedule additional time for many subjects ranging from remedial reading to foreign languages. In the process of reform, physical education was forced to take a back seat in time scheduling and importance.

In a recent study Kuntzelmen found that four percent of elementary school children have high blood pressure, 10-20 percent have elevated blood fats and 25 percent are overweight and can not pass a bonafide physical fitness test.

More than 60 percent of the students tested have at least one heart disease risk factor and 36 percent have two or more risk factors (1984).

The author researched three fitness tests to determine which one to use as an evaluation tool. The three tests were the American Association for Health, Physical Education, Recreation, and Dance (AAPHERD) Youth Fitness Test; the Fitnessgram Computerized Fitness Test; and the Amateur Athletic Union / Chrysler Fund Physical Fitness Program.

In an evaluation of the AAPHERD Youth Fitness Test, Jackson (1975) lent evidence to some observed weaknesses in the test, finding problems with achievement standards in aerobic capacity areas such as the endurance run. Jackson also noted that some of the tests were not usable in the class setting because more harm than good could occur if the tests were administered as described.

The Fitnessgram, though hailed as the answer to physical

fitness improvement for school-age children by Lacy and Marshall (1984), offered negative feedback to most students tested by listing scores of poor on a print-out to be taken home by each student. The author felt that positive reinforcement would be more effective as a motivational tool for this practicum project.

The evaluation tool that the author chose was the Chrysler / AAU Physical Fitness Program that was updated in 1988-1989. The Chrysler / AAU program offered challenging, but reachable standards of achievement and was the easiest test to apply to a large group. The Chrysler / AAU Program also offered the option of computer software feedback through Apple or IBM computers or written teacher feedback in accordance with the test standards.

In September of 1989, the author tested all of the fourth grade students of the target school using the Chrysler /AAU test to record and evaluate student progress. The test results

indicated that the students performed reasonably well in the following areas: Standing Long Jump (explosive leg strength) with 92 percent scoring satisfactorily or better; Sit-ups (abdominal strength) with 65 percent scoring satisfactorily or better; and the Sit and Reach test (flexibility) with 58 percent scoring satisfactorily or better.

Two sections of the Chrysler / AAU test revealed serious weaknesses in student performance levels. Only 44 percent of the target group were able to perform satisfactorily in the area of upper body strength tested through Pull-ups for the boys and the Flexed-arm Hang for girls. A remarkable weakness was revealed when only one of 110 or one-tenth of one percent of the students were able to pass a half-mile endurance run (cardiorespiratory efficiency) with a score of satisfactory or better (Appendix B:59).

Other physical education teachers consulted by this writer agreed that scheduling of students once or twice per week

in a physical education class is not enough to affect physical fitness levels. One teacher in particular, Rio (1987) agreed that more physical education teachers must be hired to help ease demand on current teachers who try to teach 700 to 800 students as much as possible in short periods of time. As an alternative to hiring more teachers, Rio felt creation of new programs within the school should be considered to develop fitness using student group leaders or classroom teachers as leaders.

Results of a survey the author distributed to the fourth grade teachers revealed that all realized a need for further fitness work for students (Appendix C:64). In particular, the teachers noticed poor endurance levels and tired, seemingly inattentive students in class. One teacher, Wailand (1989) noticed extreme weakness in the students' upper body strength through observation of recess playground activity.

The fourth grade students at the target school

demonstrated lower than average fitness scores in two areas: cardio-respiratory efficiency and upper-body strength. The scores from these two sections of the Chrysler/AAU test were far below the guidelines for satisfactory or better scores. Due to the overall success of the students in the other areas of testing done by the writer, the Sit-Ups, Sit and Reach and Standing Long Jump were omitted from further testing. The author decided to concentrate on the two most glaring weaknesses of the fourth graders in the area of physical fitness and target those two for improvement.

A discrepancy gap of 16 per cent of the fourth grade students was found to exist in the area of upper body strength and a discrepancy gap of 20 per cent existed in cardio-respiratory efficiency as demonstrated by performance on a half mile endurance run. Both discrepancy gaps indicated the difference between what is and what should have been according to the results of the Chrysler/AAU test. The author

chose to address the problem in this practicum.

At the end of the eleven-week implementation period, students in the target group were expected to achieve the following objectives:

- A. After a period of 10 weeks 33 per cent of the students in the target group would improve performance in the area of cardiorespiratory endurance by 20 per cent as measured by comparison of pre and post test scores on the Chrysler/AAU Fitness Test.
- B. After a period of 10 weeks 50 per cent of the students in the target group would improve performances in the area of cardiorespiratory endurance by 10 percent as measured by comparison of pre and post test scores on the Chrysler / AAU Fitness Test.
- C. After a period of 10 weeks 20 percent of the students in the target group would improve performance in the area of upper body strength by 20 percent as measured

by comparison of pre and post test scores on the Chrysler / AAU Fitness Test.

D. After a period of 10 weeks 33 percent of the students in the target group would improve performance in the area of upper body strength by 10 percent as measured by comparison of pre and post tests scores of the Chrysler/AAU Fitness Test.

In addition to the previously listed objectives, 20 percent of the target group were expected to achieve a score of satisfactory or better in the area of cardiorespiratory endurance and 60 percent of the group were expected to achieve a score of satisfactory or better in the area of Upper Body strength. The score improvements would occur after the ten week implementation period and were measured by comparison of the results of the pre and post scores on the Chrysler / AAU Test.

Measurement of group and individual progress was

by comparison of pre and post test scores on the Chrysler / AAU Fitness Test.

D. After a period of 10 weeks 33 percent of the students in the target group would improve performance in the area of upper body strength by 10 percent as measured by comparison of pre and post tests scores of the Chrysler/AAU Fitness Test.

In addition to the previously listed objectives, 20 percent of the target group were expected to achieve a score of satisfactory or better in the area of cardiorespiratory endurance and 60 percent of the group were expected to achieve a score of satisfactory or better in the area of Upper Body strength. The score improvements would occur after the ten week implementation period and were measured by comparison of the results of the pre and post scores on the Chrysler / AAU Test.

Measurement of group and individual progress was

accomplished through the use of the Chrysler / AAU Physical Fitness Program Test as a pre and post test device for score comparisons. The test was administered before and after implementation of the program during the pre-implementation week and week 11. Due to the fact that 70 percent of the target group were nine-year-olds, all the students were tested and evaluated as such.

CHAPTER II

RESEARCH AND SOLUTION STRATEGY

Examining the research available and interviewing colleagues in the field gave evidence that there were many diverse and different ways to tackle the problem of poor fitness levels in elementary school students. The author found several important studies that could be used for this practicum study.

Rio (1987) and Vaughn (1988) utilized fitness clubs to promote increased fitness levels in their schools. Rio's Exercise Club and Vaughn's Jump Rope Club used awards and recognition as motivational tools for voluntary participation. Due to scheduling problems within the schools these two clubs met only once per week. DeSylvestri (1981) developed a Joggers' Club which met once per week and required students' attendance for 20 minutes. As students progressed, awards

were presented for different levels of achievement.

Another successful club found by this author through research was the Century Club. (Romance (1986). The Century Club was offered to third, fourth, and sixth graders. During physical education classes each child was taught the objectives and rules of the club. The club was a fitness organization in which students did exercises on their own and kept records of the exercises. When 100 repetitions or 100 minutes of a designed activity were completed, a student became an official member of the club. Progress was reported on a bulletin board and color coded certificates were awarded as students achieved various levels of performance. The Century Club was viewed as a success due to the rise in physical fitness test scores and the club's popularity. The problems that Romance encountered resulted from the tremendous amount of record keeping necessary for one teacher to keep up with student achievement levels of three

grade groups.

Other studies demonstrated effective means for improving fitness levels of elementary students in the schools in which the studies were undertaken. Duncan (1983) reported on the relative effectiveness of a structured physical fitness program for fifth grade students when compared with the effectiveness of the customary physical education activities. Students in the structured exercise programs showed significant improvement in flexibility, strength, and endurance. The students were also able to maintain the gains over the summer while out of the structured program. Duncan's study, however, was vague in description and rather difficult to follow in procedure.

In a cooperative strength-training program for pre-adolescents, Menson and Partigrew (1988) demonstrated physical educators could teach pre-adolescents safe training methods and help the children to set realistic goals congruent

with their needs and abilities without sophisticated and costly equipment. Menson and Pettigrew's program described means to improve physical fitness without expensive equipment, but if the equipment is available, it should be put to use.

A final related program was a running program developed by Hinkle and Tuckman for fourth, fifth, and sixth grade students (1987). The program was designed to increase cardiorespiratory function in children but did not assess the needs of the children in the areas of flexibility, upper body strength, or abdominal strength. The fourth through sixth graders were led through many different running environments and distances. Motivation for the children was pre-setting goals for achievement and reaching those goals.

The target school already had a fitness club in operation on a strictly voluntary basis. The fitness club had been moderately successful in the past, but only reached about 10

percent of the total school population.

The final portion of the research the author studied dealt with proper techniques for training and fitness improvement. What motivation was necessary for students to improve test scores? What time frames should be followed to elicit proper results from training?

Pollock and Blair (1981) believed health and physical education programs had an important role in our society and should include teaching basic concepts of health-related physical fitness and periodic sessions on proper training procedures. A time period of at least 10-15 minutes per day should be utilized for health-related fitness activities. "Students should be instructed in the importance of regular exercise, taught concepts of fitness development and maintenance, and encouraged to help take the responsibility for their own fitness improvement and maintenance." (p. 37).

Updyke (1988) stated that training for physical fitness improvement must be both specific and progressive. Strength increases only when progressive increases in resistance are encountered. Cardiorespiratory endurance capacity improves with an increase in the intensity and duration of running or swimming. The theory that Updyke described is known as the overload principle. "Physical Fitness tends to improve in direct proportion to how much effort one is willing to expend in training" (p. 27).

After reviewing the current research the writer developed a solution strategy using a mixture of ideas found in the research as well as new creative ideas. The strategy involved the Chrysler / AAU Fitness Program, fitness training through the use of the Fitness Challenge Course and the Runners' Club, and classroom teacher-monitored sessions during recess to implement both.

The actual training of the students included the

components of the Chrysler / AAU Fitness Program, cardiorespiratory function and upper-body strength.

Hamstring flexibility, abdominal strength, and explosive leg strength were possible options if the instructor saw need for testing in other areas.

Due to a lack of time in the physical education schedule, recess was the only available time to implement the solution strategy. Use of recess time did not cause any schedule changes and the supervising classroom teachers did not need to take any time away from an already overloaded classroom curriculum.

Fourth grade teachers were willingly working as supervisors for the fitness program because of the general interest in the practicum project that each fourth grade teacher displayed and because of the three day per week minimal time limit required to implement an effective fitness program. The author / physical education teacher did not see

the classes three times per week and therefore could not lead the sessions.

The physical fitness training involved in the author's practicum study was based on the principles of specificity and progression previously discussed in the research (Updyke, 1988). The previously discussed principles would provide students with a safe yet effective means for fitness development. The training would also be very easy for the fourth grade teachers to chart and follow.

The implementation of the practicum involved 4 fourth grade classes and the 4 fourth grade teachers. The teachers were instructed by the author concerning the proper techniques and procedures for the Fitness Challenge Course. The teachers also received a set of lesson plans to use for the 10 week period during the scheduled recess time.

One fourth grade teacher, a former distance runner, agreed to be coordinator of the Runners' Club. The writer

developed two separate charts for the teacher of each class to monitor attendance and student progress on the Fitness Challenge Course and the Runners' Club (Appendix D:66) and Appendix E:68). The writer was to meet weekly with the teachers to reinforce the necessity to motivate students during each session. The writer also was to certify attendance records and discuss any problems that occurred during implementation.

The writer believed the rapid rate of improvement on the Fitness Challenge Course and its enjoyability would motivate students to achieve at highest possible levels. The Runners' Club, however, needed definite motivational stimuli to get the students excited. The writer developed an award schedule to help students become excited about running for their health. This schedule incorporated local businesses into the program. The award schedule was not only to motivate the students but also served to inform the community about some of the

activities that were going on at the target school (Appendix F:70). Each fourth grade teacher who participated in the project received a special award that acknowledged work in the project as well as the opportunity to see students improve in physical fitness.

Fourth grade students at the target school scored low in certain areas of the Chrysler/AAU Physical Fitness Test because the students had not had successful motivation to maintain a consistent fitness program with organized exercise sessions. The sessions had to occur at least three times per week for 15 to 20 minutes in duration.

The author's practicum project sought to improve test scores in the areas of cardiorespiratory endurance and upper-body strength. The project also helped to teach the students to take responsibility for developing fitness programs and self-actualizing the need for good physical fitness.

CHAPTER III

METHOD

Implementation Plans

The methodology for this practicum was developed by the writer in conjunction with the fourth grade teachers at the target school. Special implementation instructions were developed and discussed to define what should be done in general terms. The 11-week fitness schedule began after the writer pre-tested all the students in the fourth grade and included the total program work and time schedules from week one through the post-test results during week 11. The Chrysler/AAU Fitness Test was used as a measurement tool for pre and post testing.

Each teacher monitored fourth grade class attendance and progress on the Fitness Challenge Course through the use of the chart developed for this purpose (Appendix D:66). One

fourth grade teacher volunteered to monitor the progress of the students during the Runners' Club with another chart developed for the teacher's use (Appendix E:68).

The Week One through Week 11 Fitness Schedules, the Fitness Course Special Implementation Instructions, and the Fitness Course Station Design and Purpose are included in the next 16 pages of the practicum.

Fourth Grade Teachers Week One Fitness Schedule

Monday and Wednesday

Equipment: Elementary Fitness Challenge Course

Activity: Each fourth-grade child will attempt the course unless sick or physically unable

1. Tire Run - One foot in each tire
2. Swinging Bars - Swing from one bar to the next alternating hands
3. Climbing Net - Climb to the top then over and down the opposite side, or climb down the same side
4. Fireman's Poles - Climb as high as possible then slide down
5. Monkey Bars - Same as swinging bars
6. Chin-up Bars - Pull-up until chin is above the bar and hang as long as possible, or pull-up above the bar return to a straight arm position and repeat as many times as possible
7. Parallel Bars - Push up to a straight arm position and swing hips forward as far as possible, repeat until through bars
8. Vault Bar - Swing leg up on top of the bar and swing over or swing both legs over the bar, or put abdomen on the bar and flip over.
9. Balance Beam - Walk across the beam with a heel to toe movement
10. Climbing Fence - Climb to the top of the fence and swing off, or climb down the opposite side

Time: Approximately 20 minutes of recess time (11:30 - 12:00 Monday and Wednesday)

Friday

Equipment: 1/4 mile jogging-running-walking course

Activity: Each Fourth Grade child will walk, jog or run at least 1/4 mile (one lap) but not more than one mile (four laps)

Time: 25 minutes at the end of the day (2:20 - 2:45 Friday)

Fourth Grade Teachers Week 2-5 Fitness Schedule

Monday and Wednesday

Equipment: Elementary Fitness Challenge Course

Activity: Complete the course to the best of each fourth grader's ability

Time: Twenty minutes during recess time

Friday

Equipment: One-quarter mile course set around the playground

Activity: Runners' Club- Walk, jog or run at least one-quarter of a mile but not more than one mile

Time: Twenty-five minutes at the end of the school day.

Fourth Grade Teachers Week 6-10 Fitness Schedule

Monday and Wednesday

Equipment: Elementary Fitness Challenge Course

Activity: Continue the Elementary Fitness Challenge Course as before

Time: Twenty minutes during recess time

Friday

Equipment: One-quarter mile course set around the playground

Activity: Continue the Runners' Club increasing the distance to a mile and a quarter during week six and a mile and a half during week eight

Fourth Grade Teachers Week 11 Fitness Schedule

Activity: Post test all fourth grade students using the AAU Physical Fitness Test and guidelines

Time: One week

FITNESS COURSE SPECIAL IMPLEMENTATION INSTRUCTIONS

1. Each child should participate unless physically unable.
2. Please allow the students to return to recess upon completing the challenge course.
3. Every child may not be successful on each apparatus of the challenge course, but he or she should attempt each one.
4. Please let me know if problems arise that I may help to solve.
5. Please make sure students are allowed plenty of water after recess and after the Runners' Club on Fridays.

FITNESS COURSE

STATION DESIGN AND PURPOSE:

STATIONS ONE THROUGH 10

Station One: Tire Run

Purpose: Agility and balance

Exercise: One foot in each tire



Station Two: Swinging Bars

Purpose: Balance, Upper-body strength particularly the shoulders and biceps

Exercise: Swing from one bar to the next alternating hands



Station Three: Climbing Net

Purpose: Balance, Upper-body strength, confidence, and leg strength

Exercise: Climb to the top, then over and down the opposite side



Station Four: Fireman's Pole

Purpose: Upperbody strength particularly the shoulder and tricep development, and leg strength

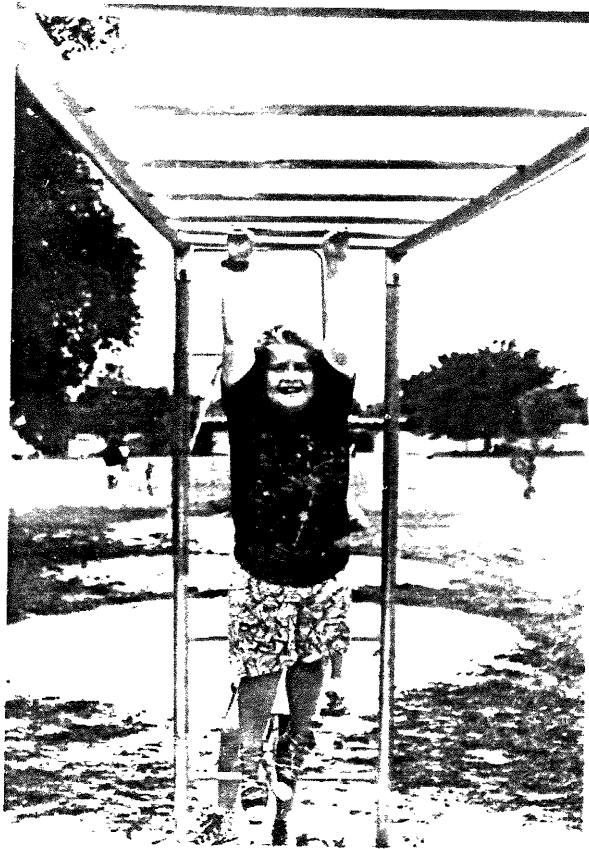
Exercise: Climb as high as possible, pull with the arms and hold with the feet, then slide down



Station Five: Monkey Bars

Purpose: Upper body strength particularly upperback and biceps

Exercise: Swing from one bar to the next alternating hands



Station Six: Chin-up bars

Purpose: Bicep or tricep development, upper back strength

Exercise: Pull-up until chin is above the bar and hang as long as possible or pull-up above the bar return to a straight-arm position and repeat as many times as possible.



Station Seven: Parallel Bars

Purpose: Shoulder strength, flexibility

Exercise: Push up to a straight arm position and swing hips forward as far as possible, repeat until through bars



Station Eight: Vault Bar

Purpose: Explosive leg strength, balance

Exercise: Swing leg up on top of the bar and swing over, or swing both legs over the bar or put abdomen on the bar and roll over



Station Nine: Balance Beam

Purpose: Balance, identification of body mid-line

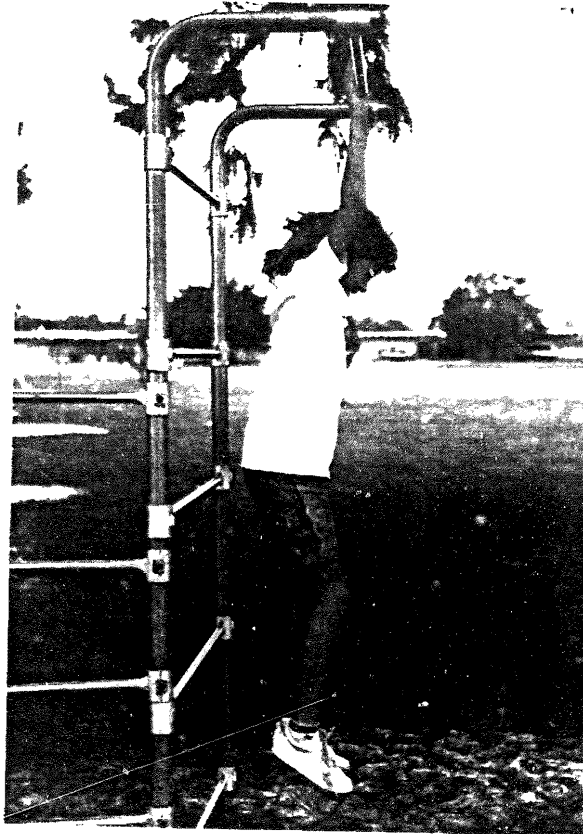
Exercise: Walk across the beam with a heel-to-toe movement



Station Ten: Climbing Fence

Purpose: Upper body strength and flexibility

Exercise: Climb to the top of the fence and swing off, or climb down the opposite side



Monitoring Problems

During implementation the writer and the fourth grade teachers encountered a few minor problems.

Station number two, the Swinging Bars, was designed for children older than nine years of age. Therefore, the bars were out of reach for about half of the students. The problem was brought to the attention of the writer by the fourth grade teachers. A step ladder was utilized to allow the students to reach the swinging bars until a work order could be processed to lengthen the chains one foot each for each bar.

On several occasions fourth graders missed workouts on the Fitness Challenge Course due to field trips or rainy days. The fourth grade teachers and the writer decided to use the day after a scheduled work-out to make up for any missed training. Absences caused by student health problems were not made up.

A final problem arose during implementation. Too long

a time period was necessary to train all 4 fourth grade classes each Monday and Wednesday. The solution proved to be quite easy as the teachers and the writer decided to alternate training by having two classes work-out on Monday and Wednesday and the other two on Tuesday and Thursday. The Runners' Club worked quite well with all four classes at once.

CHAPTER IV

RESULTS

The evaluation of this 11 week fitness program for fourth graders was based on a comparison of pre and post-test scores from the Chrysler/AAU Fitness Test.

The Chrysler/AAU Fitness Program standards were derived from a nationwide random sampling of data collected over several years. The qualification criteria for satisfactory and outstanding achievement have been established at the 45th and 80th percentiles respectively for each event. Over the past year the national pattern of achievement levels was approximately six percent outstanding, 26 percent satisfactory and 68 percent participation only. Page 45 lists the performance criteria for each test from the Chrysler/AAU Fitness Program.

Evaluation

Chrysler/AAU Performance

Criteria

Girls (9-year-olds)

1. Endurance Run (1/2 mile)	Satisfactory	4.57
	Outstanding	4:04
2. Bent-knee Sit-ups (One Minute Time Limit)	Satisfactory	31
	Outstanding	39
3. Sit and Reach (Inches)	Satisfactory	17
	Outstanding	21
4. Flexed-arm Hang (Seconds)	Satisfactory	8.5
	Outstanding	22.0
5. Long Jump (Feet)	Satisfactory	4'2"
	Outstanding	4'11"

Boys (9-year-olds)

1. Endurance Run (1/2 mile)	Satisfactory	4.20
	Outstanding	3.42
2. Bent-knee Sit-ups (One Minute Time Limit)	Satisfactory	34
	Outstanding	43
3. Sit and Reach (Inches)	Satisfactory	15
	Outstanding	18
4. Pull-ups	Satisfactory	2
	Outstanding	4
5. Long Jump (Feet)	Satisfactory	4'7"
	Outstanding	5'3"

The results of the post testing as compared to the pre-test scores are listed in Table I on pages 47-50. The Pull-ups and Flexed Arm Hang results are compared with the percentage of improvement, next to the Pre-test and Post-test results. The Endurance Run results are in the right hand column. Sixty-five of the 105 students tested showed some level of improvement in the area of Upper Body Strength through the Pull-ups or Flexed Arm Hang. Eighty-seven of the 105 students tested showed some level of improvement in the area of cardio-respiratory efficiency through the Endurance Run.

Table I shows that five students were lost to the study due to moving to other schools or injury. There is also a score of DNF (Did Not Finish) listed in the Pre-Test section of the Endurance Run for 11 students in the fourth grade. The score of DNF indicated the students did not finish the one half mile course in 12 minutes or less. When comparing pre and post-test results DNF is equal to 12 minutes.

Table 1
Pre and Post-Test Comparisons
Class A

CLASS A	Pull-Ups/Flexed Arm Hand	Endurance Run
	Pre-Test/Post Test/ % Increased	Pre-Test/Post-Test/% Increased
1	Withdrawn	Withdrawn
2	28.2/42.5 +51%	6:08/4:55 +20%
3	12.8/31.6 +147%	5:28/4:35 +16%
4	8.3/15.3 +84%	DNF/7:15 +40%
5	6/6	8:00/6:27 +19%
6	14.5/21.0 +45%	6:04/7:00 -23%
7	13.9/10.1 -27%	8:12/6:15 +24%
8	11.5/12.3 +7%	8:45/7:15 +17%
9	20.7/26.2 +27%	5:28/6:24 -17%
10	11.0/11.4 +9%	7:32/6:15 +17%
11	11.3/12.5 +11%	6:07/6:15 -2%
12	17.4/22.8 +31%	8:10/7:18 +11%
13	3.0/14.2 +373%	5:55/5:30 +7%
14	3.2/5.3 +66%	9:30/5:31 +42%
15	0/1 +100%	6:44/4:11 +38%
16	1/1	9:35/7:12 +25%
17	3/4 +33%	4:58/4:03 +18%
18	1/1	8:01/5:31 +31%
19	1/1	DNF/7:31 +37%
20	1/1	8:37/8:07 +6%
21	1/1	7:07/7:10 -1%
22	0/1 +100%	10:11/5:50 +43%
23	4/3 -25%	7:58/5:26 +32%
24	2/2	7:50/7:22 +6%
25	2/5 +150%	5:44/4:02 +30%
26	1/1	6:27/4:44 +27%
27	2/3 +50%	8:50/7:35 +14%
28	2/2	5:28/4.52 +9%

Table 1 Cont.
Pre and Post-Test Comparisons
Class B

CLASS B	Pull-Ups/Flexed Arm Hand	Endurance Run
	Pre-Test/Post Test/% Increased	Pre-Test/Post-Test/% Increased
1	34.9/46.1 +32%	6:58/5:10 +28%
2	32.4/28.7 -11%	6:58/8:14 -18%
3	7.9/12 +52%	7:25/7:15 +2%
4	Withdrawn	Withdrawn
5	3.6/4.9 +36%	10:30/9:39 +8%
6	15.7/29.8 +90%	5:06/4:27 +13%
7	45.5/69.7 +53%	6:38/4:55 +26%
8	Injured	Injured
9	7.7/9.1 +18%	10:00/10:20 -3%
10	1/1	9:06/10:23 -14%
11	3.7/8.7 +135%	7:36/7:18 +4%
12	6.8/13.1 +63%	10:33/6:33 +38%
13	.8/1 +25%	10:00/8:44 +13%
14	11.9/21.1 +77%	7:42/4:43 +39%
15	19.1/23.9 +25%	5:38/5:15 +4%
16	18.2/28.7 +58%	4:30/4:51 -8%
17	3/5 +67%	8:00/5:30 +31%
18	0/0	9:38/7:48 +19%
19	1/1	6:16/5:07 +18%
20	1/1	9:18/7:33 +19%
21	3/4 +33%	7:04/6:08 +13%
22	2/1 -50%	9:28/7:48 +18%
23	1/2 +100%	9:38/4:44 +51%
24	1/1	6:05/4:49 +21%
25	2/2	5:37/4:28 +20%
26	1/1	5:43/4:50 +17%
27	1/1	8:27/4:20 +33%
28	1/2 +100%	7:55/6:50 +14%

Table 1 Cont.
Pre and Post-Test Comparisons
Class C

CLASS C	Pull-Ups/Flexed Arm Hand	Endurance Run
	Pre-Test/Post Test/% Increased	Pre-Test/Post-Test/% Increased
1	5.5/19 +245%	5:58/5:03 +15%
2	17.5/31 +77%	DNF/5:32 +54%
3	5.8/15 +159%	7:44/6:42 +13%
4	5.8/13.2 +128%	7:42/6:10 +20%
5	19.3/37.3 +93%	7:39/5:31 +28%
6	10.4/14.2 +37%	7:32/6:41 +11%
7	5.3/10.6 +100%	6:58/6:45 +3%
8	14.1/19.7 +40%	6:05/6:45 -11%
9	51.1/52.8 +3%	5:12/5:28 -5%
10	2/5 +150%	7:38/6:10 +19
11	12/21.2 +77%	6:03/5:49 +4%
12	6.9/9.3 +35%	10:39/7:21 +31%
13	9.1/10.2 +12%	5:49/5:13 +10%
14	1/1	5:04/5:01 +1%
15	5/6 +20%	DNF/3:35 +70%
16	2/4 +100%	4:45/5:13 -10%
17	8/9 +13%	5:20/4:17 +20%
18	8/5 -38%	DNF/DNF
19	0/0	9:47/7:12 +26%
20	5/6 +20%	4:47/4:18 +10%
21	1/1	DNF/DNF
22	3/3	4:54/4:15 +13%
23	3/7 +133%	DNF/5:27 +55%
24	1/1	7:30/6:27 +14%
25	4/5 +25%	DNF/6:42 +44%
26	1/1	7:52/4:53 +38%

Table 1 Cont.
Pre and Post-Test Comparisons
Class D

CLASS D	Pull-Ups/Flexed Arm Hand	Endurance Run
	Pre-Test/Post Test	Pre-Test/Post-Test
1	4.6/13.2 +187%	6:12/5:59 +3%
2	8.4/19.7 +135%	7:34/7:55 -5%
3	13/35.4 +172%	5:08/5:35 -9%
4	14.5/23.3 +61%	6:12/5:59 +3%
5	4.4/4.6 +5%	DNF/6:50 +43%
6	7.7/9.2 +19%	DNF/6:33 +45%
7	1/1.5 +50%	10:34/8:05 +24%
8	43.5/36 -17%	5:47/5:59 -3%
9	8.1/13 +60%	5:08/4:51 +6%
10	1/1	10:34/5:40 +37%
11	5.9/19.8 +236%	5:32/4:47 +14%
12	8/12 +50%	5:13/4:06 +21%
13	4/6 +50%	4:56/4:04 +18%
14	Withdrawn	Withdrawn
15	13/17 +31%	4:45/5:05 -7%
16	1/1	4:54/4:19 +12%
17	0/0	9:08/6:33 +28%
18	0/0	11/8:06 +26%
19	1/1	DNF/10:49 +10%
20	0/0	8:18/6:46 +18%
21	0/2 +200%	5:41/5:16 +7%
22	1/0 -100%	8:15/7:39 +7%
23	1/1	10:34/5:19 +50%
24	1/1	5:42/5:59 -5%
25	0/0	6:55/6:24 +7%
26	0/0	8:16/5:48 +30%
27	Withdrawn	Withdrawn
28	2/3 +50%	9:52/5 +49%^

Table II on Page 52 indicates the objective evaluation by comparing the original outcome objectives of this study and the final results of the post-test done in week 11 of the practicum.

The fourth grade students demonstrated improvement by exceeding expected goals in five out of six categories. The only test in which the students did not reach the author's expected outcome was the Chrysler/AAU standard for satisfactory achievement in a one-half mile run. The fourth graders fell only two percent short of the goal in that area, however.

The improvements made in the areas of upper body strength and cardio-respiratory endurance by the fourth grade students demonstrates the success of the fitness program. The figures in Tables I and II indicate that the program could greatly improve the health related fitness levels of students if administered on a school-wide basis.

Table II
Objective Evaluation

Area: Cardio-respiratory Endurance

Test: One Half Mile Run

Practicum Goal:	% Meeting Goal	Goal Met	Goal Exceeded
1. 33% of students will show 20% improvement	39%	yes	yes
2. 50% of students will show 10% improvement	67%	yes	yes

Area: Upper Body Strength

Test: Pull-Ups/Flexed Arm Hang

Practicum Goal:	% Meeting Goal	Goal Met	Goal Exceeded
1. 20% of students will show 20 % improvement	55%	yes	yes
2. 33% of students will show 10 % improvement	58%	yes	yes

Area: Chrysler/AAU Standards

Test: Chrysler/AAU

	% Meeting Goal	Goal Met	Goal Exceeded
1. 20% of students will score satisfactory or better in Cardio-Respiratory Endurance	18%	no	no
2. 60% of students will score satisfactory or better in Upper Body Strength	63%	yes	yes

CHAPTER V

RECOMMENDATIONS

Many elementary schools have the problem of low fitness test scores and poor health-related fitness of the students. The fitness program that the author has implemented must be utilized to supplement a lack of fitness time in most schools and help solve the nationwide problem of unfit children.

This writer is obviously of the opinion that health-related physical fitness should be a priority in each school. Until the time comes when school administrators agree and provide funding and teachers for fitness programs, special recess, intramurals, and other supplementary programs must take up the slack.

The Runners' Club is currently in use in two other schools in the same county as the author's school due to a

presentation that was conducted on a state-wide inservice day.

Many other teachers in the community have expressed an interest in the Fitness Course as a safe means to develop upper body strength in children aged five to 12. The general feeling among administrators of the schools is the students will develop strength through play on the course.

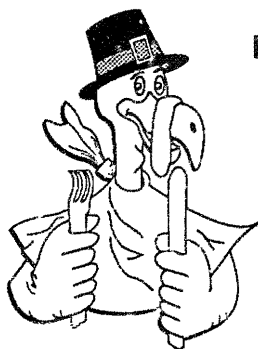
The writer will submit the Runners' Club plans to the Florida Association of Health, Physical Education, and Dance for publication consideration.

Reference List

- DeSylvestri, Richard. Personal Interview. April 6, 1981.
- Duncan, Burriss, et al. "A Controlled Trial of a Physical Fitness for Fifth Grade Students." Journal of School Health, October 1983, pp. 67-71.
- Hinkle, Scott J. and Bruce W. Tuckman, "Children's Fitness -- Managing a Running Program." Journal of Physical Education Recreation and Dance, January 1987, pp. 58-61.
- Jackson, Andrew S. "An Evaluation of the AAHPER Youth Fitness Test." A Research Report Presented at the Annual Meeting of the American Alliance for Health, Physical Education and Recreation, March 1975.
- Kuntzlemen, C.T. "How Fit Are Your Kids?" Shape, December 1984, pp. 119-123.
- Lacy, Ed and Barbara Marshall, "Fitnessgram, An Answer to Physical Fitness Improvement for School Children." Journal of Physical Education, Recreation and Dance, January 1984, pp.18-19.
- Menson, Wayne W., and Frank E. Pettigrew, "A Method for Pre-adolescents Cooperative Strength Training." Journal of Physical Education, Recreation and Dance, February 1988, pp. 61-66.
- Neff, Craig and Wynn F. Updyke, "Fat, Not Fit." Sports Illustrated, October 2, 1989, pp. 27.

- Pollock, Michael L. and Stephen N. Blair, "Exercise Prescription." Journal of Physical Education and Recreation. January 1981, pp. 30-34.
- Rio Michael. Personal Interview. March 13, 1987.
- Romance, Tom. "The Century Club -- Beyond the Fitness Test." Journal of Physical Education, Recreation and Dance. April 1986, pp. 14-15.
- Sterne, Marie L. "Getting Physical Education on Track." National Association of Elementary School Principals. June 1987, Volume 5, p. 6.
- Updyke, Wynn F. "The Role of Practice." Chrysler Fund / Amateur Athletic Union Physical Fitness Program Brochure. January 1989, pp. 2-3.
- Vaughn, Michael. Personal Interview. December 10, 1988.
- Wailand, Beth. Personal Interview. September 12, 1989.

APPENDIX A
TURKEY TROT GUIDELINES



PALMA SOLA ELEMENTARY SCHOOL

November 14, 1989

TURKEY TROT GUIDELINES

The upcoming Turkey Trot scheduled for Friday, November 17 promises to be an exciting day for students and adults. The events will involve all our students. We are also inviting all members of our school community to come and participate by running, walking, or jogging with your children. We will begin the activities at 9:20 A.M. and end by 12:00 noon.

We have scheduled the students and adults, by grade level, as follows:

Kindergarten

9:20 - 9:35

Third Grade

10:35 - 10:55

First Grade

9:45 - 10:00

Fourth Grade

11:05 - 11:25

Transitional K/1 and**Second Grade**

10:10 - 10:25

Fifth Grade

11:35 - 11:55

All students will receive ribbons and Polar Cups for participating in the event. Each child who raises \$10 or more will receive a Turkey Trot T-Shirt and the top six fund raisers will be awarded a \$25 gift certificate from Champs Sports.

Please remember that all Palma Sola students are winners as they will be given the opportunity to advance their fitness through the Turkey Trot and help us provide new equipment for our school.

Thank you for your energy and support.

APPENDIX B
PRE-TEST FITNESS RESULTS

Appendix B	Age	Height	Weight	Situps	Pull-Ups/Flexed Arm	Standing Long Jump	Endurance Run	Sit and Reach
Fitness Test						feet - inches	minutes/seconds	
Class A								
1	9	54	83	20	4.3	4'10"	Did not finish	17
2	9	53	65	31	28.2	5'	6.08	16
3	9	57	87	38	12.8	6'2"	5.28	14
4	9	54	57	38	8.3	4'7"	Did not finish	15
5	9	50	52	32	6	4'8"	8	10
6	9	53	61	38	14.5	4'10"	6.04	21
7	9	56	78	30	13.9	4'6"	8.12	20
8	9	56	82	31	11.5	5'	8.45	18
9	9	57	80	37	20.7	5'1"	5.28	19
10	9	57	78	29	11	5'5"	7.32	17
11	9	58	81	26	11.3	4'11"	6.07	19
12	9	54	81	44	17.4	4'8"	8.1	18
13	9	59	77	8	3	5'2"	5.55	12
14	9	57	70	26	3.19	4'10"	9.3	16
15	9	57	77	32	0	5'6"	6.44	12
16	9	57	97	31	1	5'	9.35	13
17	9	54	7	40	3	5'10"	4.58	18
18	9	55	65	18	1	4'9"	8.01	10
19	9	58	104	40	1	5'5"	Did not finish	11
20	9	53	71	38	1	5'1"	8.37	15
21	9	50	77	45	1	4'9"	7.07	17
22	9	57	69	31	0	5'2"	10.11	8
23	9	59	78	40	4	6'2"	7.58	15
24	9	59	70	35	2	5'1"	7.5	14
25	9	52	57	45	2	5'7"	5.44	18
26	9	60	100	22	1	5'	6.27	14
27	9	57	82	42	2	5'6"	8.5	11
28	9	60	90	51	2	6'7"	5.22	15
29								
30								

Appendix B
Fitness Results Class A

Appendix B	Age	Height	Weight	Situps	Pull-Ups/Flexed Arm	Standing Long Jump	Endurance Run	Sit and Reach
Fitness Test						feet - inches	minutes/seconds	
Class B								
1	9	55	76	38	34.9	4'8"	6:58	17
2	9	50	58	36	32.4	5'1"	6:58	17
3	9	50	71	26	7.9	4'1"	7:25	17
4	9	50	66	35	withdrawn	withdrawn	withdrawn	withdrawn
5	9	55	87	35	3.6	5'3"	10:30	16
6	9	54	59	33	15.7	5'2"	5:06	15
7	9	59	69	43	45.5	6'2"	6:38	17
8	9	59	83		injured	injured	injured	16
9	9	56	68	29	7.7	6'2"	10:00	16
10	9	53	135	11	1	4'10"	9:06	18
11	9	54	68	28	3.7	4'6"	7:36	13
12	9	53	73	36	6.8	5'	10:30	17
13	9	58	106	15	1	4'1"	10:00	14
14	9	60	88	33	11.9	5'2"	7:42	15
15	9	54	59	33	19.1	5'4"	5:38	18
16	9	57	68	34	18.2	5'8"	4:30	17
17	9	53	61	30	3	5'5"	8:00	10
18	9	57	119	30	0	4'10"	9:38	17
19	9	53	67	33	1	5'1"	6:16	15
20	9	57	102	45	1	5'1"	9:18	14
21	9	58	82	47	3	5'9"	7:04	15
22	9	57	92	20	2	5'1"	9:29	14
23	9	61	72	31	1	5'	9:38	12
24	9	60	106	45	1	5'9"	6:05	17
25	9	60	102	39	2	5'8"	5:37	18
26	9	53	75	31	1	5'6"	5:43	15
27	9	54	68	40	1	5'5"	6:27	18
28	9	57	81	20	1	4'5"	7:55	13
29								
30								

Appendix B Cont.
Fitness Results Class B

Appendix B Fitness Test	Age	Height	Weight	Situps	Pull-Ups/Flexed Arm	Standing Long Jump feet - inches	Endurance Run minutes/seconds	Sit and Reach
Class C								
1	9	56	68	37	12.8	4'11"	5:5	17
2	9	57	100	40	5.5	5'3"	5:8	19
3	9	58	72	46	17.5	5'9"	DNF	18
4	9	56	65	22	5.8	4'9"	7:44	15
5	9	54	70	36	5.8	4'9"	7:42	17
6	9	52	56	31	19.3	4'9"	7:39	16
7	9	52	58	25	10.4	4'4"	7:32	21
8	9	55	85	34	5.3	5'	6:58	18
9	9	55	66	32	14.1	4'6"	6:05	17
10	9	56	68	44	51.1	55"	5:12	19
11	9	61	112	7	2	5'2"	7:38	14
12	9	53	67	39	18	5'	6:03	15
13	9	61	84	33	6.9	5'6"	10:39	18
14	9	57	95	40	9.1	4'10"	5:49	13
15	9	52	67	41	1	5'1"	5:04	19
16	9	55	69	38	5	5'7"	DNF	11
17	9	57	76	45	2	5'8"	4:45	19
18	9	56	85	51	8	5'9"	5:20	16
19	9	58	70	53	8	5'9"	DNF	17
20	9	58	113	40	0	4'9"	9:47	17
21	9	55	74	47	5	5'10"	4:47	13
22	9	58	118	31	1	5'1"	DNF	14
23	9	54	66	50	3	5'	4:54	20
24	9	55	73	38	3	5'6"	DNF	16
25	9	57	87	33	1	5'3"	7:30	14
26	9	55	70	35	4	5'8"	DNF	16
27	9	53	74	40	1	4'11"	7:52	16
28	9							
29								
30								

Appendix B Cont.
Fitness Results Class C

Appendix B	Age	Height	Weight	Situps	Pull-Ups/Flexed Arm	Standing Long Jump	Endurance Run	Sit and Reach
Fitness Test						feet - inches	minutes/seconds	
Class D								
1	9	55	85	36	4.6	5'9"	6:12	
2	9	55	83	24	8.4	5'5"	7:34	
3	9	58	90	35	13	5'11"	5:08	
4	9	57	85	33	14.5	5'2"	6:12	
5	9	59	80	0	4.4	5'5"	DNF	
6	9	59	90	24	7.7	6'2"	DNF	
7	9	54	100	36	1	4'5"	10:34	
8	9	56	59	31	43.5	6'	5:47	
9	9	57	65	36	8.1	5'1"	5:08	
10	9	62	112	35	1	4'6"	10:34	
11	9	60	97	55	5.9	5'10"	5:32	
12	9	56	72	34	8	5'9"	5:13	
13	9	59	90	37	4	6'5"	4:52	
14	9	60	86	37	1	5'7"	8:13	
15	9	57	73	45	13	6'3"	4:45	
16	9	56	85	40	1	5'9"	4:54	
17	9	59	106	0	0	4'10"	9:08	
18	9	55	101	49	0	5'8"	11:00	
19	9	55	60	25	1	4'6"	DNF	
20	9	59	129	27	0	5'2"	8:18	
21	9	55	87	30	0	5'6"	5:41	
22	9	57	105	35	1	5'	8:15	
23	9	55	92	31	1	5'1"	10:34	
24	9	58	105	47	1	5'6"	5:42	
25	9	58	106	36	0	5'	6:55	
26	9	58	103	45	0	4'6"	8:16	
27	9	54	80	37	4	5'2"		
28	9	55	66	37	20	5'5"	9:52	
29								
30								

Appendix B Cont.
Fitness Results Class D

APPENDIX C

TEACHER ATTITUDES SURVEY

Teacher Attitudes Survey

1. Do you feel there is a need to increase general fitness levels in fourth grade students at this school? **Circle: yes no**
2. Have you noticed the fourth graders to have poor cardiovascular endurance or weak upper body strength during recess? **yes no**
3. Will the program assist the children to overcome fitness weaknesses? **yes no**
4. Are you willing to oversee the fitness program for your class? **yes no**
5. Will the fourth graders be motivated to give the effort needed in the fitness program to improve their scores? **yes no**
6. Would the program for fitness improvement being offered be successful in grades three and five also? **yes no**
7. Do you consider the administration of pre and post fitness tests to be a fair measurement tool for this study? **yes no**

APPENDIX D

ATTENDANCE CHART

APPENDIX E
NUMBER OF LAPS RUN

APPENDIX F
RUNNERS' CLUB AWARDS

Runners' Club Awards

5 miles or 20 laps	Burger King Hamburger
10 miles for 40 laps	Medium Polar Cup
15 miles or 60 laps	TCBY Frozen Waffle Cone
20 miles or 100 laps	TCBY Frozen Banana Split and an Honorary Runners' Club T-shirt
Over 100 laps	Repeat Award Schedule