

A COMPARISON OF THE COMMAND METHOD AND MOVEMENT
EDUCATION IN DEVELOPING THE PHYSICAL
FITNESS OF ELEMENTARY CHILDREN

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CHAPTER I

INTRODUCTION

The need for physical fitness can be traced back to primitive man. Van Dalen (30) pointed out that physical fitness was a necessity for primitive man as he struggled for food, shelter, and protection against the elements of nature. This need for survival and protection followed through the early civilizations to the present time.

During this early period of history physical fitness was acquired primarily through a father and son relationship. Later, however, schools were available for the sons of the elite, professional, and ruling families, and training for physical fitness was included in the curriculum (30). Van Dalen (30) indicated that formal school education for all children was started after the nations were established in Europe. Since self-preservation and protection from invaders was vital during this era, physical fitness was emphasized in the physical training programs.

When the American colonies were settled, schools did not provide formal physical training; however, making a living and struggling for survival afforded man the necessary training for fitness. With the growth of the United States the necessity to establish schools became evident. One of the subjects that was included in the school curriculum was physical training, which later became physical education. Physical education for the elementary age child during this early education

evolution was found in the academies and private schools, and it remained primarily in these schools until selected state legislatures, such as California in 1866, enacted laws that required physical education in the public elementary schools (30).

From the beginning of physical education in the public schools in the United States, the method of teaching has been consistent and has evolved into what is known as the command method (24). This method remained unchallenged until the 1950's when movement education was introduced into the elementary schools.

Physical educators have traditionally stressed that skills should be taught in a progressive and sequential order. Emphasis is placed on learning the simplest of skills, then progressing to the more difficult movements. The knowledge and acquisition of skills is accomplished by organizing the curriculum into units. A unit of teaching refers to the period of time during which the learning is centered around a particular activity (1). A physical education program for a year would have several units. In a unit of teaching game skills and movement activities, basketball, volleyball, or dancing may be the medium utilized for learning.

When using the command method of teaching a unit, the physical educator selects, explains, and demonstrates the specific skills or movements that the student is to learn. The skills, strategies, and rules are presented in a systematic fashion. The skills are then practiced through organized lead-up games and activities which may be modified to be commensurate with the mental abilities and the physical capacities of the students involved. The student is observed and evaluated by the teacher; also, the student may use self-analysis in

pursuit of the correct performance of the skills or movements.

Movement education is a subject with varying definitions. Gallahue (31) explains that movement education is an indirect method of teaching. Movement education permits the teacher to structure problems or questions that pose a problem-solving situation for the students. The advantage of this method of teaching is that it accepts any reasonable solution as correct. According to Gilliom (13), movement education involves the techniques of having children discover their own mental and physical solutions to stated problems. Schurr (27) indicated that through movement education the learner will be able to understand the why of movement and to acquire proficiency in a wide range of movement skills.

According to Dauer (6), movement education has been defined as learning to move and moving to learn, which was originally expressed by Eleanor Metheny (23) as the primary purpose of physical education. This defined movement education, broadly, as the sum of all the child's experiences in learning.

Learning through movement education may be implemented by the teacher posing problems and tasks that demand the students to figure out how the movement can be performed. In general, these problems will be stated as questions, such as:

1. How can you use your legs to help you cover more space?
2. How high can you toss a bean bag?
3. How can you use your body to make the bean bag go higher?
4. Without moving your hands, can you move a ball along the ground?
5. Can you stop the ball with one foot or with one leg?

6. Can you hide your elbows and your knees?

By reacting to the questions in his or her own way, the child becomes aware of how the body moves and what it can do (16).

Mosston (24) delineated observable teaching styles and suggested how they could be used to develop "teacher-student interaction in the decision-making process." He identified each style by providing its premise, its operational design, and its implications. The construct developed by Mosston was to provide a way for the teacher to lead the student toward independent learning and better performance. Teaching the student to become an independent, creative thinker is an innovative process in which the student no longer just takes information in and studies it, but instead, begins to think creatively. The student begins to ask questions about materials to be learned and begins to establish his own methods of acquiring knowledge.

In his spectrum of teaching styles, Mosston (24) indicated that the first one, and probably the most prevalent style used at present in teaching large physical education classes, is the command method. Command is synonymous with the traditional style of learning where the class is taught by a teacher who completely plans, implements, demonstrates, directs, and evaluates the lesson. There is a limited amount of feedback between the teacher and the student as the student is expected to do exactly as directed without questioning the instructions.

The controversy among physical educators concerns the type of physical education program that best meets the growth and developmental needs of children. The command method, which was traditionally used, is still favored by some physical educators. However, other physical

educators are inclined to believe that movement education provides a more worthwhile learning experience for the elementary school age child. Educators that use the command method and movement education are both in agreement on the criteria for establishing a program of elementary physical education. Their disagreement is in the method used to reach the growth needs of the students. There is sufficient research at the present time to support both methods, but one method has not been shown to be significantly better than the other.

Before a program is implemented a philosophy should be determined, objectives should be established, the content and/or concepts should be defined, methods and learning activities to meet stated objectives should be devised, and the methods of evaluation should be identified. An effective physical education program should work toward the accomplishment of a set of objectives, both general objectives for the total program and specific objectives for a particular phase of the program. All objectives are important, however this paper is primarily concerned with physical fitness in the elementary school, with the emphasis on the components of endurance, flexibility, strength, power, and agility.

Statement of the Problem

The purpose of this study was to determine if there was a statistically significant difference on post scores of selected physical fitness items between two classes of elementary students following exposure to specific physical education programs. One group was instructed in utilizing the command method and the other group was in a movement education program of physical education. The primary objective of both programs was the improvement of physical fitness.

Null Hypothesis to be Tested

There will be no statistically significant difference in physical fitness between the two classes on the several post-test scores when compared by the analysis of covariance. Tests given were as follows: spinal flexion, eight-minute run, standing broad jump, shuttle run, pull ups for boys, and flexed arm hang for girls.

Significance of the Study

Physical fitness is one of the primary objectives of physical education. There appears to be some controversy among physical educators concerning the best method of instruction to be used in elementary physical education classes. Some physical educators are advocates of the command method while others firmly support the movement education method. The results of this study might help teachers make a decision on which method to use.

Limitations of the Study

This study was limited in the following ways:

1. Intact classes were used as subjects.
2. No attempt was made to control the motivation and interest of the students, as physical education was required for the students used in this study.
3. No attempt was made to determine how the students accepted either the command or movement education methods of instruction.
4. Class activities may have been cancelled due to other school activities outside of class.

Delimitations of the Study

This study was restricted in the following ways:

1. The subjects were fifth grade students of the Sedalia, Missouri School District.
2. The classes taught by the command method contained 32 students and the movement education classes contained 49 students. They met for five days a week for nine weeks.
3. The group taught by the command method had three units consisting of tumbling, rhythms, and game skills and activities.
4. The group taught by the movement education method had a comparable program covering the same skills and activities.

Assumptions of the Study

1. Each class would meet an equal number of times during the nine-week quarter.
2. The teachers were well qualified and would teach their classes in a professional manner.
3. Both groups would benefit equally from out of school activity.

Definition of Terms

1. Aerobic Capacity is the maximum amount of oxygen your body can possess during exhaustive work (5).
2. Circuit Training is doing one after the other of all the exercises prescribed (33).
3. Command Method refers to the direct method of teaching because the teacher is in complete control. The teacher selects the activity, determines and demonstrates how it will be performed, directs the

participation, and evaluates the outcome (3).

4. Endurance is the capacity to work over a long period of time (8). In this study, endurance is considered synonymous with aerobic capacity.

5. Flexibility is the range of motion in a joint (28).

6. Interval Training refers to an alternation in work and rest periods (32).

7. Movement Education Method is an indirect method of instruction which provides a chance for the student to develop the processes of exploration, experimentation, problem-solving, and evaluation (27).

8. Physical Fitness is the condition of the body necessary to carry out the daily tasks without undue fatigue (4).

9. Strength is the amount of force that can be exerted in a muscle (7).

10. Total Development refers to the mental, physical, social and emotional growth and development of each child to be acquired through the medium of physical education.

CHAPTER II

REVIEW OF LITERATURE

The foregoing discussion pointed out the need for a philosophy in establishing a physical education program. Educators are concerned about having a good physical education program but are confronted with many different philosophies. Bucher (2) cited the following:

Some school people advocate great amounts of formal exercise, such as calisthenics and push ups, as the way to get children into good physical shape. Other persons say that athletic games are the answer and that league and tournaments should be organized in many different sports. A third group says that physical education should be concerned with more than physical aspects of development. This group advocated that consideration be given also to social and mental development (p. 5).

The modern trend in elementary physical education is to embrace the philosophy of the third group. In devising the curriculum, a philosophy of physical education, the objectives to be accomplished, the content/concepts to be learned, the methods and learning activities, and the methods of evaluation should be determined. The methods and learning activities are devised to assist the children in accomplishing the objectives of the program (35).

Kirchner (18) tells us there is a general agreement among supervisors and teachers of physical education that the basic objectives of physical education are (1) to develop and maintain maximum physical efficiency, (2) to develop useful physical skills, (3) to act in socially useful ways, and (4) to enjoy wholesome physical recreation.

Physical educators who support movement education have determined the following as the basic aims:

1. To assist children to become physically fit and skillful in a variety of situations. This requires the teacher to help children increase their coordination and flexibility of mind as well as body.
2. To teach children to understand movement so they can build movement sequences from their ever-increasing understanding of what, where, and how the body can move.
3. To encourage self-discipline and self-reliance so children can work on their own ideas individually, in pairs, or in a group.
4. To provide maximum enjoyment and opportunities for creative expression (19, pp. 4-5).

When studying and comparing the objectives of physical education, it appears that there is some compatibility in what both groups are trying to accomplish. The overall objective for both groups is total development of the child through a well planned program of physical education which offers a variety of learning activities. However, the movement education group seems to place more emphasis on coordination of physical and mental development through problem-solving and creative thinking. One aspect of total development is physical fitness. It should be developed within the same aspects as the other factors of total development.

Methodology

Rhudy (26) conducted a research study that compared the effectiveness of the small-group method and the command method of teaching a physical education course. The subjects for the study were male and female students in a beginning swimming class at the University of New

Mexico. The study consisted of measuring changes in seven different variables: (1) attitude toward the physical activity, (2) attitude toward the instructor of the course, (3) self-esteem, (4) personal-self, (5) physical-self, (6) social-self, and (7) skill acquisition. The results showed no significant differences in any of the tested variables by either method of instruction.

A study by Grande (14) compared the changes in physical fitness levels of first grade boys and girls enrolled in a conventional physical education program with boys and girls enrolled in a physical education program of movement experiences with or without small equipment. The subjects for this study were first grade children enrolled in the Hewlett-Woodmere School District in Nassau County, New York. The results of this six month study concluded that the conventional program was not more effective than the movement experiences for fitness levels.

The purpose of a research study by Eichstaedt (10) was to compare two specific adapted physical education programs with two controlled groups using a traditional and comprehensive physical education curriculum. This study proposed to determine what effect two specific adapted physical education programs would have on negative attitudes toward physical education, physical fitness, and motor skill development. The study also determined if a change in attitude would alter the physical fitness achievement and motor skill achievement. The study involved ninth grade males and was nine months in length. The results indicated that each group improved in each area tested, but the two specific adapted physical education program were significantly more beneficial than the traditional and comprehensive physical education programs designed for the controlled groups. Also, results showed that

when the physical fitness achievement levels were improved, the negative attitudes toward physical education were improved.

Values of Physical Fitness

According to Dauer (6), the values of physical fitness for children are as follows:

1. Regular activity stimulates growth and development and can give the body an efficient and suitable musculature.
2. A physically fit person is able to maintain his general postural alignment better than one with weak musculature.
3. Strong and well developed lower back muscles can be an aid to preventing lower back pain in later life, provided the development started in the elementary school is continued.
4. Fitness improves general health and is essential for full and vigorous living.
5. The physically fit child feels more alert and eager to do things.
6. Fitness is a factor in weight control.
7. The efficiency and capacity of organic systems, particularly the heart and lungs, are increased through regular, vigorous exercise.
8. If one is to develop and use his mental powers fully, he must have an abundance of good mental and physical health.
9. Good physical fitness can be a factor in good peer relationships.
10. Regular physical exercise contributes to the ability to relax and is a factor in reducing tension.
11. A basis for adequate physical fitness is needed for efficient acquisition of movement competency (p. 10).

Need for Physical Fitness

Kraus (20) administered a series of physical fitness tests to

children between 6 and 19 years of age from suburban and small urban communities. The same tests were given to European children from Italy and Austria. The results showed the incidence of failure of the American children on the total number of tests was 78.3 percent. This compared to an 8.3 percent incidence of failure with the European children. This test also determined that children coming into the first grade were already seriously deficient in physical fitness.

A research study by Espenschade (11) involved 14 elementary schools, Berkeley, California. In the study, the Kraus-Weber Test of Fitness and the California Physical Performance Test indicated the importance of strength and flexibility in both locomotor and non-locomotor activities. This study showed that children who failed one strength item or any two or more items on the Kraus-Weber Test made lower scores on the average in running, jumping, throwing, and sit-ups than those who passed all Kraus-Weber items. The failure of one strength item affected the boys in running, jumping, and sit-up ability.

The difference was significant in all events for boys, but only in throwing for the girls. Lack of flexibility in boys resulted in a lower score on the dash and sit-ups. The summary of this study is shown in Tables I, II and III.

According to Wallis (32), the results of the Kraus test became a subject of great interest with the American people and the Federal Government. The findings caused President Eisenhower to establish the President's Council on Physical Fitness. This council instituted a pilot program in 1961 on fitness and tested elementary school children in several states. The results of this program showed that (1) almost one-half of the children in grades 4 through 12 failed minimum physical

achievement tests, (2) only about 28 percent of the schools had adequate physical education and health programs, and (3) 50 percent of the children had no daily physical education period.

TABLE I
KRAUS-WEBER TEST RESULTS FROM VARIOUS STUDIES:
PERCENTAGE FAILURE OF NINE-YEAR-OLDS

K-W Items ¹	Number of Cases						
	Boys and Girls ² Eastern U.S. (9)	Boys and Girls		Boys and Girls		Boys and Girls	
		100	100	88	103	161	133
		Oregon (7)		Indiana(12)		This Study	
Item 1 _____				4.5	3.8	.6	3.7
Item 2 _____				22.5	13.6	8.1	10.5
Item 3 _____				2.3	1.9	2.5	1.5
Item 4 _____				0.0	0.0	0.0	0.0
Item 5 _____				0.0	1.0	0.0	0.0
Item 6 _____	39.0			51.1	23.3	31.0	12.0
Failure (1 or more):	54.0	40.0	34.0	55.7	28.2	39.9	24.9

¹1, 2, 3 designed to measure abdominal and/or psoas strength. 4, 5 designed to measure back strength. 6 designed to measure flexibility.

²4264 boys and girls 6-16 inclusive. Number of nine-year-olds unstated.

Source: Anna Espenschade, "Fitness of Fourth Grade Children," The Research Quarterly (1958).

TABLE II
RESULTS ON CALIFORNIA PHYSICAL PERFORMANCE TESTS
ACCORDING TO KRAUS-WEBER TESTS RECORDS

K-W Test Record	Standing Broad Jump (Feet)		Softball Throw Distance (Feet)		50 Yard Dash (Seconds)		Sit Ups (No.)	
	Mean	Sigma	Mean	Sigma	Mean	Sigma	Mean	Sigma
<u>Boys</u>								
Pass _____	4.7	.5	81	18.2	8.2	.7	12.6	4.1
Fail: Flexibility	4.1	.9	77	8.2	8.7	.6	7.6	4.0
Fail: One Strength or Multiple	3.7	.7	63	6.7	9.6	1.1	5.3	4.4
City Median Class A*	4.7		73		8.5		12	
<u>Girls</u>								
Pass _____	4.3	.6	45	5.1	8.9	1.1	9.4	4.2
Fail: Flexibility	3.9	.3	46	4.9	8.9	.9	7.3	3.7
Fail: One Strength or Multiple	4.1	.7	36	3.0	9.4	.8	3.8	3.5
City Median Class A*	4.3		36		8.8		10	

*Children are classified by age, height, and weight.

Source: Espenschade, The Research Quarterly (1958).

TABLE III
 PERCENTAGE OF FOURTH GRADE PUPILS PASSING OR FAILING
 THE K-W TEST ACCORDING TO RACE AND SEX

Fourth Grade Pupils	No.	Percent Pass	Percent Fail Flexibility	Percent Fail Strength or Multiple Failure
Boys				
White	88	52	36	11
Negro	66	68*	24	8
Oriental	7	71	28	0
Girls				
White	73	71	14	15
Negro	49	81	12	6
Oriental	11	82	0	18

*Significantly greater than percentage of white boys passing. No other differences are significant.

Source: Espenschade, The Research Quarterly (1958).

The outcome of this pilot program caused the President's Council on Youth Fitness to publish a book entitled Youth Fitness (17). One recommendation published and stressed by the council was that all pupils in elementary school should have a minimum of 15 minutes of vigorous activities daily. Some schools implemented this recommendation by using calisthenics as the means of meeting the physical fitness needs of elementary students.

Taddonio (29) conducted an experimental physical education program in Ferndale, Michigan, involving a 15 minute daily period of calisthenics. The calisthenics included exercises to strengthen the arms, shoulder-girdle, trunk and legs. The subjects for the study were fifth grade boys and girls. A pre-test was given, using the AAHPER Youth

Fitness Test. After implementing the program for four months, the fitness level of the students was determined by a post-test using the AAHPER Youth Fitness Test. The results showed that a 15 minute period for elementary physical education, regardless of what activity is used, does not tax or overload the student sufficiently to contribute significantly to physical fitness. The exercise needs of fifth grade boys and girls are so great that 15 minute daily periods of calisthenics, regardless of intensity, constituted only a fraction of their usual daily activity pattern. Therefore, the program was insufficient as a single factor in influencing physical fitness.

Owens (25) explained that the fitness failures that confronted a number of elementary students was caused by programs which resulted in the process of elimination of the participant. This elimination was the penalty for being hit by a ball or caught during a game. Once the child was eliminated, he or she would have to sit out until all but one was eliminated. Then all the students would start the activity again. It was shown by her study that it was usually the same child that was eliminated each day and several times during the competition. This resulted in this child not acquiring maximum use of time toward physical development.

Other types of programs that may have contributed to these fitness test failures are those that set standards of achievements too high for certain students to obtain. Examples of these are a certain number of push-ups, climbing a rope to a certain height, and running a designated distance in a specified time. These requirements discouraged certain individuals such as the obese and atypical children.

The solution to this problem, according to Owens (25), was a program of movement education which emphasized totality of the movement potential of the human body. The goals of this type of program permitted the students, whatever their physical or athletic endowments or interests, to develop their full potential at their own level and their own pace. She advocated developing movement for everyday use rather than development of specific physical skills, such as those used in athletic games and sports. She placed some concern on those skills based on the innate desire of children to participate in playing games. However, she preferred that students play and practice the movement in the way they desire to perform the skill.

Gilliom (13) supported Owens and stressed movement education as a supplement to the existing program of physical education. She believed a program of physical education should not direct all children toward the same behavioral outcomes. The program she advocated placed emphasis on movement and understanding how and why the movement was performed.

According to Masche (22), the decision to use a structured program of physical education or a program of low organization play and movement exploration should be determined by the objectives of physical education. One of the primary objectives of physical education has been to develop motor skills. An examination of the mean gain and the within-group scores in her study indicated that the structured program showed extensive improvement in motor skills from the pre-test to the post-test on four of five events while the other group made very little improvement. Based on these results, she concluded that a structured program was more effective than a program of low organization play and movement exploration for developing motor skills.

Program for Physical Fitness

A major problem that confronts elementary physical educators is the amount of time allotted for the physical education classes. To alleviate the problem, Wallis (32) suggested that physical fitness activities should constitute five minutes of the daily physical education classes for elementary children. He explained how endurance can be improved with interval training by reorganizing relays three ways, such as: (1) extending the length of the race, (2) increasing the number of times a child runs, and (3) reducing the number of children on each team, which in turn reduces the time of the rest period before the child runs again. Strength could be intensified by circuit training with the student completing a set number of activities in a minimum amount of time. The types of activities for circuit training are dependent upon the equipment that is available and the number of repetitions, not to exceed three. Flexibility can be enhanced with a repetition of exercises that are performed: (1) by starting with five repetitions to a maximum number of 10, (2) by adding some form of resistance to the exercise, and (3) by performing exercises to maximum repetitions. These exercises should be allotted five minutes in every physical education period and should be included with the other activities of the program. For elementary children, one or more exercise should be selected from each category. If time is short, there should be one exercise for flexibility, two exercises for strength, and one exercise for endurance. There is justification, however, for including a limited number of calisthenics in a physical education program for elementary school students.

An example of the value of this type of program was set forth in a

study by Fabricius (12). She conducted the study in Corvallis, Oregon, using fourth grade boys and girls. This study involved two different types of elementary school physical education curricula. One was a normal physical education program with a standard pattern of calisthenic type activities. The other was a physical education curricula which contained additional emphasis on calisthenic activities. Aside from the calisthenics, both programs were identical and included games and relays, rhythms, and self-testing activities. These classes met for 30 minute periods, four times a week.

Curriculum

The curriculum followed was that adopted for physical education by the Corvallis School Board in 1960, based largely on Physical Education in the Oregon Elementary Schools, published by the State Department of Education.

Curriculum Plan for the Year (36 Weeks)

	<u>Control Group</u>	<u>Experimental Group</u>
Fall--1st 8 weeks	Warm-up run	Same
	Two calisthenics for warm-up and stretching each day	Six calisthenics each day
	Dodgeball and variations	Same
	Relays involving locomotor skills and ball handling	Same
	Line Soccer and variations	Same
2nd 8 weeks (before Christmas)	Two weeks testing	Same
	Run two laps around the gym	Same
	Two calisthenics for warm-up and stretching each day	Six calisthenics each day
	Stunts and tumbling	Same
	Prison Dodgeball	Same
3rd 8 weeks (after Christmas)	Ball handling skills	Same
	Run three laps around the gym	Same
	Two calisthenics for warm-up and stretching each day	Six calisthenics each day
	Basketball skills	Same

<u>Control Group</u>	<u>Experimental Group</u>
Basketball lead-up game	Same
Ball handling skills	Same
Next 4 weeks--Immediately before and after spring vacation. Activities this period depend upon the weather and the need to make up activities from the tumbling and rhythms unit which were not completed previously.	
Two weeks testing	Same
These calisthenics are designed to exercise all parts of the body--arm and shoulder, trunk and abdomen, leg, foot and ankle, and general endurance. The breakdown of time spent on calisthenics in control and experimental groups is shown below:	

	<u>Time used for calisthenics per class period (sec.)</u>
All Classes--control and experimental	
1. Run three laps around gym	65
2. "Airplane" (20 times)	23
3. "Jumping Jack" (20 times)	20
Total time	1 min., 48 sec.
Experimental Classes only	
4. Arm circling (50 times)	52
5. Burpee-squat kick (10 times)	25
6. Push-ups (10 to 15 times)	28
7. Sit ups (10 to 20 times)	36
8. Squat bend (10 times)	26
9. Heel-toe (10 times)	
Total additional time for experimental group	3 min., 9 sec.
(12, pp. 136-137).	

Oregon Motor Fitness Test

The Oregon Motor Fitness Test and norms were used to measure fitness. This is a test of maximum achievement as contrasted to a screening test, pass or fail test, or minimum achievement test such as the Kraus-Weber test and the Youth Fitness Test recommended by the President's Council on Youth Fitness. The first test, given in September 1962, and the second test (retest), given in March 1963, were administered in accordance with sound test administration procedures.

After 24 weeks, both groups improved significantly in physical fitness with the experimental group improving significantly more than the control group. The level of fitness was measured by the Oregon Motor Fitness Test.

Conclusions of this study were as follows:

1. Fourth grade boys and girls improved in physical fitness as one result of participation in an elementary school physical education curriculum.

2. Fourth grade boys and girls improved in fitness to a greater degree when five or six calisthenics were added to the elementary school physical education curriculum than when calisthenics were limited.

3. Five or six calisthenics can be added to the elementary school physical education curriculum in a very limited amount of time and without gross loss of instructional time. It is not necessary to eliminate any part of the instructional program in order to include up to six calisthenics in each lesson.

Stressing Physical Fitness in the Program of Activities

A child profits and gains in physical fitness in relation to the activity demands which he experiences. Certainly, a wide variety of big-muscle activities which extend and challenge the child should be included. In addition, the inclusion of special developmental activities is important. These are activities which can be carried on for short periods of time and provide fitness developmental values. Calisthenics, circuit training, running, other endurance activities, and rope skipping are examples of special activities included in the

program because they can develop fitness. It should be recognized that, while activities of this nature have good potential in developing fitness, sound methodology is important in reaching this potential.

Another problem that may confront the elementary physical education teacher is poor facilities. If facilities are poor, the possibility for circuit training is still available (32). Circuit training affords the students the opportunity to develop at their own speed and at their own level. It affords the students an opportunity to pursue their activity at their own pace and with a minimum of direction from the teacher. This method allows the child to compete against himself. If a student is capable of doing only three push-ups, he should not be expected to do 10 poorly executed push-ups (21). If the goal for the student is 10 push-ups, he should be allowed to strive for it through a progressive sequential method. He should not be subjected to undue embarrassment by being required to do more push-ups than he is capable of completing.

Circuit training is valuable to teachers who use the command method or movement education. Teachers using their own method work from the simple movement or skill to a more complex level. Circuit training is consistent with this type of teaching as described by Whitlow (33) when he states:

Circuit training, adapted for use in the elementary physical education program, need not be elaborate or complex. Many of the traditional elements of circuit training, such as target times, fixed loads, fixed time limits, and red, white, and blue circuits, may be eliminated. The important thing is to give the students a circuit with simple goals to begin. Then make the goals more difficult for students as you see their enthusiasm develop (p. 26).

A study by Whittle (34), involving 12 year old boys from nine schools in Oregon, pointed out the value of a good physical education

program in the development of physical fitness. The good physical education program was based on LaPortes 12 Item Score Card. On the basis of points scored on this card, four schools were classified as having a good physical education program and five schools were found to have a poor physical education program.

For the good schools, the points varied from 40 to 48 out of a possible 60, with a median of 42. The poor schools had scores with a range from 18 to 26, with a median of 23. This showed a median difference of 19 points.

Pre-tests and post-tests were given, using the Rogers Strength Index and the Indiana Physical Fitness Tests. The results from the post-tests were: (1) students from the schools with good physical education programs showed a superiority in strength on the Rogers Strength Tests and (2) the same students produced a greater mean on the Indiana Physical Fitness Tests.

This study, as did another by Drowatzsky (9), showed that boys who participated in physical activities outside the regular physical education classes were significantly more physically fit than those who had little outside class participation.

The value of circuit training was shown by Whitlow (33) in an experiment in the Edwardsville, Illinois School District in the elementary grades. There were four stations in the circuit, with each station having two duties. One was called an activity and the other an exercise. All students were allowed to keep moving and working at all times by having one student use a piece of equipment while another did exercises. Crowding was avoided by assigning two or three students to each station. All students started at the same time and worked until

each had finished the entire circuit. Once the student reached the maximum work level required at all stations, the number of repetitions were increased at each station.

This program developed so much enthusiasm in the students that it was incorporated into and was established as part of the Edwardsville elementary physical education program.

Grieve (15) conducted an experiment using a circuit training program aimed exclusively at physical fitness. Eight stations were utilized to practice push-ups, sit-ups, dips (parallel bars), squat thrusts, agility test (New York State), pull-ups, rope climbing, and vertical jumps. Each exercise period lasted 15 minutes of each 45 minute period. The experiment went on for five months. The results of this program were meaningful and showed a positive result toward physical fitness development.

Summary of Literature

Physical educators are concerned with providing a physical education program to our society that encompasses the development of physical fitness along with the mental, emotional, and social development of the whole person. Many areas of study such as health, outdoor education, and physical, mental, and social development are included in physical education. Activities covering locomotor and non-locomotor skills and game skills are implemented into a program of physical education. Different curricula for primary and upper elementary grades, junior and senior high schools, and colleges use a variety of methods of instruction in physical education programs. The acquisition of physical fitness is one of the important objectives of physical education. It stimulates

growth and development, improves the general health, provides for more mental alertness, strength, balance, and movement, and is essential for vigorous living.

Physical fitness tests have been constructed to obtain results of fitness of elementary children. The results of these tests, along with other research projects, led to the establishment of the President's Council on Physical Fitness. This council has attempted to create an awareness of the importance of physical fitness for our elementary students.

The creation of awareness of the need for good physical fitness programs for elementary students led to other research projects. The command method of teaching physical education, such as demonstration, explanation, participation, and evaluation by the teacher while the students executed the teacher's orders, has been challenged by proponents of movement education, who stress problem-solving and individualization whereby the students are expected to think, to be creative, and to discover their own answers.

Circuit training has been explored and found to be of value to physical educators using either the command method or movement education. Taddonio (29) found that a 15 minute daily intense program of calisthenics, alone, would not improve physical fitness sufficiently. An integration of both programs, with a wide scope of activities, would appear to be of value to a good physical fitness program in the elementary schools.

CHAPTER III

PROCEDURES

The Subjects

The subjects for this study were 81 fifth grade students from the Sedalia, Missouri School District. There were four classes of physical education. Two classes were taught by the command method and two classes were instructed using movement education. Each class met 30 minutes each day, five days per week, for nine weeks, and the classes were taught by public school teachers. The instructors were allowed to use their own methods of instruction within the framework of the command and movement education methods. The command method classes were taught by Mr. Tom Hunter; they met in two different schools, 15 students in the class at Jefferson Elementary School and 17 students in the class at Striped College Elementary School (Appendix A). The combined classes contained 16 boys and 16 girls. The instructor for the movement education classes was Mr. Don Reynolds; the classes were taught at Whittier Elementary School. There were 24 students in one class and 25 students assigned to the second class (Appendix B). The combined classes contained 27 boys and 22 girls. Both teachers were physical education specialists with over 10 years of experience in the Sedalia, Missouri School District.

The principals of the respective schools assisted the investigator

in supervising the program of study. Mrs. Imogene Peoples, Principal of Jefferson and Stripped College Elementary Schools, assisted with the command method program. Mr. John Hays, Principal of Whittier Elementary School, aided in supervising the movement education program.

These schools were selected for the study as each facility had inside and outside teaching stations. The children were basically from the same economic backgrounds. The classes were co-educational and all students in the classes were included in the study.

Design of the Study

At the beginning of the study, each student was given the following tests: spinal flexion, a measure of flexibility in inches from a standing base; an eight minute endurance run; the standing broad jump, a measure of power; the shuttle run, used to measure agility; pull ups for boys to demonstrate strength; and the flexed arm hang for girls to demonstrate strength.

Selection of Tests

Dr. Kenneth Cooper (5) recommends a 12-minute run as a field test for endurance. He indicates in his book that this type of aerobic capacity test is the best indicator of general fitness and physical capacity. However, he makes no recommendation for the eight minute run for elementary school as test norms have not been established for this grade level. The eight minute run was used to test endurance in this study as tentative research at Oklahoma State University has shown this to be a valid test of endurance for elementary school children (36). The 1976 AAHPER Convention in Milwaukee agreed upon the nine minute run

as a test for endurance.

A lack of flexibility at the elementary school level was shown by Kraus (20) to be a forerunner of many of the backache problems found in adults. Flexibility was measured by seeing how far down the students could touch with their fingertips while in a standing position with their knees straight. This was used for the purpose of denoting spinal flexion.

The AAHPER test for strength using pull-ups for boys and flexed arm hang for girls, the shuttle run for agility, and the standing broad jump for power was implemented. The AAHPER test items were selected because of their wide acceptance and usage to determine fitness (17).

Administering the Tests

The pre-tests for fitness were given during the week of September 8 through 12 and the same post-tests were administered at the close of the nine week study. The post-tests were given during the week of November 17 through 21 (Appendixes A and B).

The investigator supervised the administering of the pre-tests and post-tests.

The Tests

Pre-Tests

The Eight Minute Run. Both groups ran on a surface of blacktop. The command method group ran around a marked volleyball court measuring a distance of 60 yards. The movement education group ran around a marked area measuring 80 yards. This test was new to the students so its purpose and procedure was explained to them. Prior to taking the test, the

students were allowed to select or were given a partner to assist the instructor with the test. The partner's duty was to count the laps completed for the person he was assigned.

The test was started by the instructor telling the students they were to run or keep moving for eight minutes. When the eight minutes was completed, the students were told to stop immediately and wait until the laps they ran were determined. The final tabulation was made to the nearest one-eighth lap of the course. The laps were converted to yards.

The Spinal Flexion Test. A platform that was four and one-half feet in length, one foot wide, and with a height of one foot was designed for this test. Two measuring sticks, measuring eight inches above and 12 inches below the top of the platform, were tacked to the front side of the platform. This enabled two students to be tested simultaneously. The students were instructed to step upon the platform and with feet together and knees straight see how far down they could touch with their fingertips. The scoring of this test was as follows: (1) all measurements above the platform were determined to be minus (-), (2) if the fingertips touched the platform it was measured as zero (0), and (3) if their fingertips were below the base of the platform it would be marked plus (+). The measurements were taken to the nearest quarter inch. The students were given one trial for determining flexibility.

The tests used to determine strength, power, and agility were designed and established by the AAHPER (17).

The Pull-Up for Boys. A permanent horizontal bar, one inch in diameter, three feet in length and six feet from the floor was used for this test. Each boy was instructed to use the overhand grasp, the grip on the bar to be with the palms of the hands pointing away from the body

and toward the bar. Each subject was told to extend his arms fully and not to allow his feet to touch the floor. While performing the test, the student was instructed to pull his body upward until the chin was above the bar. Then the student was instructed to lower his body until the arms were fully extended and then repeat the same procedure. No swinging of the body was allowed and the legs remained fully extended throughout the test. One trial was allowed and a running count was used to determine the number of successful trials. Each subject was allowed one trial.

The Flexed-Arm Hang. The same bar apparatus that was used by the boys was utilized for the test of strength for the girls. A chair was used by the girls as the bar was permanent and could not be lowered.

The girls were told to stand on the chair and grip the bar in the same manner as the boys using the overhand grasp. On the command of the instructor, the girls raised their bodies until their chins were above the bar. A stop watch was started as soon as the subject reached this position. The time was recorded to the tenth of a second as long as the subject's chin remained above the bar. Each subject was allowed one trial.

The Standing Broad Jump. This test was administered on the gymnasium floor. A tape measure was placed on a mat at right angles to the take off line. The students were instructed to jump parallel with the tape.

Prior to performing the test, the instructors explained and demonstrated the positions of the feet, legs, and arms; then demonstrated the test by performing it for the students. Each subject was given

three trials and the best distance of the three trials was recorded in inches to the nearest inch.

The Shuttle Run. This test was performed on the gymnasium floor. Two parallel lines, 30 feet apart, were marked on the floor. Two blocks of wood, two inches x two inches, were placed behind one of the lines. The instructors explained and demonstrated the procedure of the test to the students. Each subject, on the signal to go, would run to one line, pick up a block of wood, and return to the starting line, placing the block behind that line. This procedure was followed by the subject in retrieving the second block. This explanation was followed with a demonstration by the instructors of the test procedure.

When a subject was positioned at the starting line, he or she would start on the go signal, and would follow the test procedure until both blocks were behind the starting position. Each subject was given two trials, not simultaneously, and the time of each trial was determined by a stop watch. The better time of the two trials was recorded and used for the study.

It was suggested by the investigator and agreed upon by the instructors that no warm ups would precede any of the tests taken by the subjects.

Program of the Study

Prior to the start of the program, a meeting was held by the investigator with the teachers and the principals of the respective schools. During this meeting, the purpose of the study was explained. The types of fitness tests to be used were discussed. During their meeting, the teachers were asked that three units of activities be

included in the nine week program. The instructors agreed upon the following units: soccer, stunts and tumbling, and rhythms. The length of each unit would be three weeks in length. No attempt was made to determine what skills or activities would be taught in each unit. That decision was left to the discretion of the respective teachers. However, each instructor desired and was granted permission to use the first five minutes for calisthenics and running two or three laps around a volleyball court. Both instructors selected the same type of calisthenics for their classes. The instructors agreed upon presenting four calisthenics each day. All classes would perform the same calisthenics each day. Calisthenics offered each day were parallel in the program and were decided upon at this meeting. The volleyball court was selected for running laps because of the standardization of the measurements of its circumference. The purpose of this decision concerning the calisthenics and running laps was to make certain that none of the components of physical fitness would be overemphasized by the instructors.

The Command Method Program

The units of soccer, stunts and tumbling, and rhythms were presented to the classes in the above stated chronological order. The specific skills taught, the class procedures followed, and the equipment utilized for instructors in the three units are found in Appendix C.

For the soccer unit, the classes were organized into squads. During the class meeting, the instructor explained and demonstrated or had a class member demonstrate the skill or skills the students were to practice during this period. The students were allowed to practice the

skills with designated drills and modified games.

The stunts and tumbling unit was taught by the same method of explanation and demonstration.

The rhythm unit emphasized a number of rhythmic patterns for the student to perform individually and included square dance basic positions and maneuvers. The individual dances presented were choreographed with certain steps and maneuvers the students were to learn. A demonstration by the instructor or a student was used during the presentation. The instructor was assisted with the square dance portion of the unit by the Honor Your Partner Square Dance record albums (38).

The content of this program was based on a syllabus compiled by the instructor. This compilation was established from the experience of the instructor through textbooks, observations, and participation in professional meetings.

The Movement Education Program

The units implemented in this program were soccer, stunts and tumbling, and rhythms. They were presented in the same order as in the command method program. The skills presented, the class procedures followed, and the equipment utilized is presented in Appendix D.

In presenting the different skills and maneuvers for these classes, the instructor used a question-problem solving approach. He would question the students about different parts of the body and how they might be used to perform a skill or groups of skills. During the soccer unit, the students were asked to use different parts of the feet to pass and trap a ball and to determine the parts of the body they could use to

stop or block a ball. The students practiced passing and trapping skills and were allowed to work out their own problems in performing skills. The instructor assisted the students by rewording and/or rephrasing the question about the skill performance.

During the stunts and tumbling unit, the students were asked to perform skills with and without equipment. They practiced locomotor and non-locomotor movements by moving on and off balance across the floor on mats and by moving over an obstacle course placed on the gymnasium floor.

During the performance of these activities, the students were questioned about the different parts of the body and how they might be used in performing the maneuvers. After they performed a movement one way, they were asked to work out other ways to accomplish the maneuver. They were then allowed to practice as many different ways as time permitted in performing these maneuvers and the students selected and practiced what they wanted to use.

Rhythms were presented to allow the students to move different parts of the body and to move the body through space. They were asked to move to different tempos, levels, and directions. They were encouraged to use a variety of locomotor skills. These movement changes were performed with or without equipment. The Wigman hand drum and the following records: (1) Clap, Snap, and Tap (37), (2) And the Beat Goes On (39), and (3) Honor Your Partner Album 7 (38) were used during this portion of the unit.

The content was based on the previous experience of the instructor and the movement education resources of Gilliom (13), Hackett (16), and Kirchner (19).

Post-Tests

The same procedures that were established during the pre-tests were used when the post-tests were administered. Each test was explained to the subjects and a demonstration was performed by the instructors. The results of the post-tests are shown in Appendixes A and B.

In administering the post-tests, the same surface, same equipment, and same spaces were utilized as those used on the pre-tests. This decision was made by the investigator in order to make the tests as compatible as possible. No pre-trials or warm ups were allowed prior to performing the pre-tests and post-tests.

Methods of Analysis

A t-test was used to determine if there was a gain in fitness between the pre-test and the post-test of each test item for each group. Post-tests means of each test were compared with an analysis of covariance to determine if there was a significant difference between the two groups. The covariance was used to statistically equalize the beginning fitness level of the two groups based on pre-tests scores. The level of confidence was established at .05.

CHAPTER IV

RESULTS

The students in this study were fifth graders enrolled in physical education classes. Thirty-two were taught by the command method and 49 were instructed with the movement education method.

The purpose of this study was to determine if either the command method or the movement education method was more appropriate for improving the fitness level of the students. This was ascertained by giving a pre-test and post-test on the spinal flexion, the eight minute run, the shuttle run, the standing broad jump, pull ups for boys, and the flexed arm hang for girls.

The experimental procedure used in this study consisted of obtaining pre- and post-test measures on each of the dependent variables listed above for each of the treatment groups. Two of the three analyses used for each dependent variable consisted of determining the difference between the pre- and post-test score (post-test minus pre-test) for each subject. These differences are referred to as gain scores and reflect the amount of change in performance that occurred during the treatment period.

The initial analysis for each dependent variable consisted of comparing the mean gain made by the subjects within each treatment group. The t-test was used to determine if the difference in mean gain made by the two groups was statistically significant. A statistically

significant difference was considered as evidence that the group with the larger mean gain followed the superior procedure for instruction for the type of physical performance measured by the dependent variable under analysis.

A second analysis was carried out on each treatment group separately to determine if there was a significant difference between the mean pre-test and post-test scores. While this analysis was not central to this study, it was considered desirable because of the possibility that both methods might produce significant changes in performance, but neither method would be better. Such an outcome would have been observed by the comparison of the mean gains by each group in the first analysis.

A third type of analysis consisted of an analysis of covariance for each of the dependent variables. This analysis, to some extent, is redundant of the first analysis in that it compares the effectiveness of the two treatment procedures. Both analyses have been included in this study for the following reasons: (1) The comparison of mean gains made by the two groups in the first analysis is easier to interpret. If one group makes greater improvement than the other, this is easy to detect. (2) The analysis of covariance is a more powerful procedure and can detect differences between the two treatment groups that would not be detected by a gains score approach. The analysis of covariance also has the advantage of allowing a more complex analysis. In this study, a two-way analysis of covariance was possible with treatment and sex as main effects. This design has the advantage of allowing tests for differences in treatment, sex, and for possible differences in the relative effectiveness for each of the sexes. In this analysis, the pre-test was employed as the covariate and multiple regression

procedures were used. Because there were unequal numbers in the cell, an "experimental" model was used. That is, the adjusted sum of squares for each dependent variable was computed with the other independent variable partialled out and the interaction adjusted sum of squares was computed with both independent variables partialled out.

This form of analysis was used for all measures given to both boys and girls. A one-way analysis of covariance was used for those measures given to either boys or girls.

The following data was tabulated and analyzed from the procedures used in this study.

Table IV presents the mean gain in flexibility made by both groups. The command method group made a gain of 1.8907 inches while the movement education group only gained .2960 inches. The resulting t for this difference in mean gain of 4.35 indicates that the command method of teaching was superior to the movement education method with respect to the spinal flexion performance.

TABLE IV
MEAN GAIN t RATIO--SPINAL FLEXION (INCHES)

Method	Command N = 32	Movement Education N = 49	df	t
Pre-Test Mean	.6406	.3367		
Post-Test Mean	2.5313	.6327		
Mean Gain	1.8907	.2960	79	4.35

p < .05.

In determining if there was any improvement through a well organized, instructed class of physical education, the t test was used. The means from each pre-test and post-test of the test items were utilized. A t ratio was calculated to determine what effect each of the methods of instruction had on the tested components of physical fitness.

Table V represents the t ratio of both groups for the spinal flexion. The t of 7.90 shows a significant gain for the command method group between the pre-test and the post-test. There was not a significant gain between the pre-test and post-test for the movement education group as shown by a t of 1.07.

TABLE V
t RATIO--SPINAL FLEXION (INCHES)

Group	Pre-Test	Post-Test	Gain	df	t
Command Method*	.6406	2.5313	1.8907	31	7.90
Movement Education Method**	.3367	.6327	.2960	48	1.07

*t = 7.90, p < .05.

**t = 1.07, p > .05.

Table VI presents the analysis of covariance from the two treatment groups for the spinal flexion. A calculated F of 16.73 for the treatment factor was obtained from the collected data. This was far above the

tabled F of 3.98 that was needed to be statistically significant at the .05 level of significance. The resulting F for the treatment factor confirms the analysis using the t test to compare the group mean gains reported in Table IV. The analysis of covariance also shows that there was a statistically significant difference between the sexes in performance on the spinal flexion variable ($F = 7.27$). The interaction between treatment and sex was clearly not significant ($F = .58$).

TABLE VI
ANALYSIS OF COVARIANCE OF THE COMMAND AND MOVEMENT
EDUCATION METHODS--SPINAL FLEXION (INCHES)

Source of Variation	Adjusted Sum of Squares	Degrees of Freedom	Mean Sum of Squares	F
Treatment	47.026	1	47.026	16.73*
Sex	20.445	1	20.445	7.27*
Treatment by Sex	1.643	1	1.643	.58
Error	213.604	76	2.811	

* $p > .05$.

Table VII shows the data from the mean gain of both groups for the eight minute run. A t ratio of 2.13 indicates that there was a significant difference in the amount of gain made by the two groups. The movement education group showed a gain of 121.8366 yards while the

command method group only showed a gain of 15.9063 yards. The movement education group showed a statistically significant gain over the command method group.

TABLE VII
MEAN GAIN t RATIO--EIGHT MINUTE RUN (YARDS)

Method	Command N = 32	Movement Education N = 49	df	t
Pre-Test Mean	1407.4375	1441.0203		
Post-Test Mean	1423.3438	1562.8569		
Mean Gain	15.9063	121.8366	79	2.13

$p < .05$.

Table VIII presents the t ratio of both groups from the pre-test and post-test for the eight minute run. The t of .47 shows there was no significant improvement between the pre-test and post-test for the command method group. The movement education group shows a t of 3.63 which indicates a significant gain was made between the pre- and post-tests.

Table IX summarizes the analysis of covariance for the eight minute run. The resulting F of 8.93 for treatment was statistically significant at the 5% level of confidence and confirms the findings reported in Table VII. There was also a significant sex difference in performance of this variable, however, the non-significant treatment by sex

interaction indicates that there was no difference in effectiveness of the two methods with respect to sex.

TABLE VIII
t RATIO--EIGHT MINUTE RUN (YARDS)

Group	Pre-Test	Post-Test	Gain	df	t
Command Method*	1407.4375	1423.3438	15.9063	31	.47
Movement Education Method**	1441.0203	1562.8569	121.8366	48	3.63

*t = 47, p > .05.

**t = 3.63, p < .05.

TABLE IX
ANALYSIS OF COVARIANCE OF THE COMMAND AND MOVEMENT
EDUCATION METHODS--EIGHT MINUTE RUN (YARDS)

Source of Variation	Adjusted Sum of Squares	Degrees of Freedom	Mean Sum of Squares	F
Treatment	262313.20	1	262313.20	8.93*
Sex	459688.94	1	459688.94	15.65*
Treatment by Sex	60935.45	1	60935.45	2.08
Error	22322.03	76	29371.092	

*p < .05.

Table X reports the mean gain made by these two groups respectively on the standing broad jump performance. The mean gain for the command group and movement education group respectively were 4.9063 inches and 4.9388 inches yielding a t of .02. Both treatments were equally effective in producing change on this variable.

TABLE X
MEAN GAIN t RATIO--STANDING BROAD JUMP (INCHES)

Method	Command N = 32	Movement Education N = 49	df	t
Pre-Test Mean	51.2500	47.5714		
Post-Test Mean	56.1563	52.5102		
Mean Gain	4.9063	4.9388	79	.02

p > .05.

Table XI gives the t ratio of both groups from the pre-test and post-test for the standing broad jump. A t of 4.46 for the command method group and a t of 5.05 for the movement education group indicates that both groups made a significant gain between the pre- and post-tests, but, as shown in Table X, neither gained significantly over the other.

Table XII summarizes the results from the analysis of covariance for performance on the standing broad jump. The treatment variable F of .61 was not statistically significant at the 5% level indicating that one method was not superior to the other. The F ratios resulting from

both sex and the treatment by sex variables were also not statistically significant.

TABLE XI
t RATIO--STANDING BROAD JUMP (INCHES)

Group	Pre-Test	Post-Test	Gain	df	t
Command Method*	51.2500	56.1563	4.9063	31	4.46*
Movement Education Method**	47.5714	52.5102	4.9388	48	5.05**

*t = 4.46, p < .05.

**t = 5.05, p < .05.

TABLE XII
ANALYSIS OF COVARIANCE OF THE COMMAND AND MOVEMENT
EDUCATION METHODS--STANDING BROAD JUMP (INCHES)

Source of Variation	Adjusted Sum of Squares	Degrees of Freedom	Mean Sum of Squares	F
Treatment	24.14	1	24.14	.61
Sex	61.07	1	61.07	1.55
Treatment by Sex	1.51	1	1.51	.04
Error	2996.83	76	39.43	

Table XIII presents the mean gain made by the two experimental groups for the shuttle run. The gain made by the command method group was $-.6750$ seconds and by the movement education group was $-.7245$ seconds. A negative value represents an improvement in performance because performance is the time required to run a specified distance. The resulting t of $.33$ indicates that one group did not improve significantly more than the other.

TABLE XIII
MEAN GAIN t RATIO--SHUTTLE RUN (SECONDS)

Method	Command N = 32	Movement Education N = 49	df	t
Pre-Test Mean	11.9968	11.8326		
Post-Test Mean	11.3218	11.1081		
Mean Gain	$-.6750$	$-.7245$	79	$.33$

$p > .05$.

Table XIV presents the t ratio of both groups from the pre-test and post-test for the shuttle run. The command method group shows a t of 5.04 and the movement education group displays a t of 8.49 . This shows that both groups made a significant gain between the pre- and post-tests.

Table XV presents the analysis of covariance summary for the shuttle run data. The resulting F ratio of $.74$ indicates that one

method of physical education was not superior to the other in teaching the shuttle run. This analysis also shows that after adjustment for initial performance there were no sex differences or interaction effects.

TABLE XIV
t RATIO--SHUTTLE RUN (SECONDS)

Method	Pre-Test	Post-Test	Gain	df	t
Command Method*	11.9968	11.3218	-.6750	31	5.04*
Movement Education Method**	11.8326	11.1081	-.7245	48	8.49**

*t = 5.04, p < .05.

**t = 8.49, p < .05.

TABLE XV
ANALYSIS OF COVARIANCE OF THE COMMAND AND MOVEMENT
EDUCATION METHODS--SHUTTLE RUN (SECONDS)

Source of Variation	Adjusted Sum of Squares	Degrees of Freedom	Mean Sum of Squares	F
Treatment	.227	1	.227	.74
Sex	.019	1	.019	.06
Treatment by Sex	.759	1	.759	2.48
Error	23.213	76	.305	

Table XVI shows the mean gain made by each treatment group in pull ups. The resulting t ratio of .19 shows that the amount of improvement made by the two groups was not significantly different.

TABLE XVI
MEAN GAIN t RATIO--PULL UPS (BOYS)

Method	Command N = 16	Movement Education N = 27	df	t
Pre-Test Mean	1.8125	1.9259		
Post-Test Mean	1.9375	1.9630		
Mean Gain	.1250	.0371	41	.19

$p > .05$.

Table XVII represents the t ratio of both groups of boys from the pre-test and post-test for the pull ups. The command method group had a t of .44 and the movement education group had a t of .12. This indicates that there was no significant improvement for either group between the pre- and post-tests.

Table XVIII presents the analysis of covariance of both groups of boys for the pull up test results. The data shows the calculated F to be .03 which was far below the tabled F of 4.08 that was needed to be statistically significant at the .05 level of confidence. The results of the analysis of covariance shows that neither method of instruction was better than the other for improving pull up strength for boys.

TABLE XVII
t RATIO--PULL UPS (BOYS)

Method	Pre-Test	Post-Test	Gain	df	t
Command Method*	1.8125	1.9375	.1250	15	.44
Movement Education Method**	1.9259	1.9630	.0371	26	.12

*t = .44, p > .05.

**t = .12, p > .05.

TABLE XVIII
ANALYSIS OF COVARIANCE OF THE COMMAND AND MOVEMENT
EDUCATION METHODS--PULL UPS (BOYS)

Source of Variation	Adjusted Sum of Squares	Degrees of Freedom	Mean Sum of Squares	F
Treatment	.070	1	.070	.03
Error	83.69	40	2.092	

Table XIX gives the mean gain made by the two treatment groups on the flexed arm hang for girls. The resulting t ratio of .17 indicates that one method was not more effective than the other for the improvement of flexed arm hang for girls.

Table XX represents the t ratio of both groups of girls for the flexed arm hang. The data shows that neither group gained significantly

between the pre- and post-tests. This is shown by a t of 1.09 for the command method group and a t of 1.20 for the movement education group.

TABLE XIX
MEAN GAIN t RATIO--FLEXED ARM HANG (GIRLS--SECONDS)

Method	Command N = 16	Movement Education N = 22	df	t
Pre-Test Mean	7.7750	6.7318		
Post-Test Mean	9.4375	8.8091		
Mean Gain	1.6625	2.0773	36	.17

$p > .05$.

TABLE XX
 t RATIO--FLEXED ARM HANG (GIRLS--SECONDS)

Method	Pre-Test	Post-Test	Gain	df	t
Command Method*	7.7750	9.4375	1.6625	15	1.09
Movement Education Method**	6.7318	8.8091	2.0773	21	1.20

* $t = 1.09$, $p > .05$.

** $t = 1.20$, $p > .05$.

Table XXI represents the analysis of covariance of both groups of girls for the flexed arm hang. A calculated F of .04 shows that neither method of instruction was better for improvement in the flexed arm hang. The tabled F of 4.11 was needed to indicate a statistically significant difference in improvement of the two groups at the .05 level of confidence.

TABLE XXI
ANALYSIS OF COVARIANCE OF THE COMMAND AND MOVEMENT
EDUCATION METHODS--FLEXED ARM HANG
(GIRLS--SECONDS)

Source of Variation	Adjusted Sum of Squares	Degrees of Freedom	Mean Sum of Squares	F
Treatment	2.08	1	2.08	.04
Error	1934.47	35	55.27	

Table XXII is a summary of the t and F ratios for the groups in this study.

TABLE XXII
SUMMARY OF t AND F RATIOS

Test	t Command Method	t Movement Education Method	t Between	F
Spinal Flexion	7.9*	1.07	4.35*	16.7*
Eight Minute Run	.47	3.63*	2.13*	8.95*
Standing Broad Jump	4.46*	5.05*	.02	.61
Shuttle Run	5.04	8.49*	.33	.74
Pull-Ups (Boys)	.44	.12	.19	.03
Flexed Arm Hang (Girls)	1.09	1.2	.17	.04

*Significance > .05.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

It may be concluded that both the command and movement education methods of instruction were effective in improving the fitness level of the subjects involved in this study. The improvement in fitness level was tested by requiring students to demonstrate certain skills. The skills tested and the results of these tests are:

1. Spinal flexion--The mean gain and t ratios showed that the command method group made a significant gain over the movement education group in the spinal flexion. In the opinion of the investigator, this difference in gain may have resulted because more students in the command method class participated in outside activities such as the community Recreation Department's program of tumbling and gymnastics which was open to elementary school youngsters. This may have made a difference in the overall gain in the spinal flexion.

2. Eight minute run--The t ratios showed that the movement education group made a significant gain over the command method group in the eight minute run. This gain may have resulted from the method of instruction during the daily class period. The movement education method used smaller groups thus allowing each student to move continuously during every class period.

3. Standing broad jump--On the standing broad jump, the t test showed that both groups made a significant gain but the analysis of covariance showed that neither group gained significantly over the other.

4. Shuttle run--The t ratio showed that both groups made a significant gain in the shuttle run, but neither group gained significantly over the other.

5. Pull ups and flexed arm hang--In the pull ups for boys and the flexed arm hang for girls, the mean gain and analysis of covariance showed there was no statistically significant improvement for subjects in either method of instruction. The t test indicated that both groups gained but neither gained significantly over the other. This may have been because no rope climbing, no work on parallel bars, or no other arm and shoulder girdle strengthening activities, except some occasional push ups during the daily calisthenics, were included in the program of activities.

Conclusions

The purpose of this investigation was to determine whether there was a statistically significant difference on post scores of selected physical fitness tests between two classes of fifth grade students, following exposure to specific physical education programs. One class was instructed by the command method program and the other class was instructed in a movement education program of physical education.

Based on the data, the following conclusions were formulated:

1. Spinal flexion--The command method resulted in significantly greater ($p > .05$) improvement in spinal flexion as shown by the analysis

of covariance. The null hypothesis was therefore rejected on the spinal flexion.

2. The eight minute run--The movement education method resulted in significantly greater ($p > .05$) improvement in the eight minute run as shown by the analysis of covariance. The null hypothesis was therefore rejected on the eight minute run.

3. The standing broad jump--Neither method of instruction was superior in the standing broad jump as shown by the analysis of covariance. The null hypothesis was therefore accepted on the standing broad jump.

4. The shuttle run--Neither method of instruction was superior in the shuttle run. The null hypothesis was therefore accepted in the shuttle run.

5. Pull ups for boys--Neither method of instruction was superior in the pull ups for boys. The null hypothesis was therefore accepted in the pull ups for boys.

6. Flexed arm hang for girls--Neither method of instruction was superior in the flexed arm hang for girls. The null hypothesis was therefore accepted in the flexed arm hang for girls.

Recommendations

Two methods of teaching elementary physical education classes were investigated in regard to their contribution to physical fitness. These methods of instruction are recognized by physical educators as command and movement education. Each of these methods seemed to be efficient, however, the following suggestions might be in order:

1. A combination of both command and movement education methods

of instruction should enhance the quality of instruction in elementary physical education classes.

2. Studies similar to this should be made with other elementary age groups.

3. Similar studies could be made to show the effects of both programs in producing improvement in motor ability.

4. A wide variety of activities should be included in the elementary physical education programs.

5. Future research could be made to compare with the results of this study.

6. Further study, using both methods of instruction with similar programs with the exception of calisthenics, might be pursued.

7. The physical fitness tests found in this study could be used to test physical fitness for upper elementary grade students.

Discussion

The results of this study showed that both methods of instruction were beneficial in improving the level of specific areas of physical fitness.

The resulting improvement in fitness may have been the result of the total program or of one specific part of the program, such as daily calisthenics. For instance, one study by Fabricius (12) involved fourth grade boys and girls who met for 30 minutes per day for four days a week. The classes had identical programs of activities, including calisthenics. However, the experimental group improved their fitness level more than did the control group.

The average level of fitness may have been improved through total participation of the students. Total participation means that no student was eliminated from any of the activities and each student was given equal time to participate in every class. A previous reference by Owens (25) was in agreement that total participation helped to improve physical fitness. Her study showed that students who were allowed daily full-time participation in physical education programs improved in their physical fitness development.

The variety of activities offered and the amount of time allotted for physical education classes may have been determining factors in the improvement of physical fitness. Other literature, previously cited, dealt with different types of elementary physical education programs which emphasized the development of physical fitness. These programs varied in the activities offered in the amount of time allotted for physical education classes. Taddonio (29) did a study that involved a daily 15-minute program of calisthenics. The result of his study showed that a daily program of 15-minute duration does not contribute significantly to physical fitness development. In contrast, the subjects in the present study met 30 minutes each day for five days.

Classes used in this study were intact. There was no competition between groups. The students were aware of and willing to participate in the study. There was no interference with the program of study of the physical educators. The study was compatible with curriculum objectives of the participating school district. No student teachers or teacher aides participated in the study. Excellent rapport was achieved with everyone involved in the study. Compromises, reached in

an agreeable manner, did not affect the program or the study adversely. The investigator achieved stated objectives for the study through cooperation of the participating staff and students.

Since both the command method and movement education method seemed to increase fitness levels, it would seem advisable to integrate the best of both methods of instruction into the elementary physical education program. For such integration to be beneficial, emphasis should be placed on a variety of activities and daily total participation of the class members.

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APPENDIXES

APPENDIX A

PRE- AND POST-TEST SCORES--COMMAND

METHOD PROGRAM

COMMAND METHOD PROGRAM

Name	Sex	Spinal Flexion (Inches)		Eight-Minute Run (Yards)		Standing Broad Jump (Inches)		Shuttle Run (Seconds)		Pull Up (Boys) (Number)		Flexed Arm Hang (Girls) (Seconds)	
		Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test
1. Buckley, Kim	F	+2	+3	1673	1339	45	48	12.7	12.8			21.2	23.7
2. Buford, Marcus	M	+4	+6	1763	1830	63	82	10.8	10.0	6	7		
3. Butler, Rodney	M	+2	+3	1673	1395	63	64	10.9	10.6	5	2		
4. Crouch, Steve	M	+1	+1	1440	1350	51	57	12.4	12.3	2	3		
5. Davis, Janet	F	+1	+2	1260	1305	50	45	13.9	12.0			0.4	4.3
6. Engles, Keri	F	+1	+4	1343	1155	46	48	12.4	11.4			0.4	1.5
7. Hayward, Gary	M	+4	+6	1440	1414	63	65	11.0	11.2	0	1		
8. Jett, Janet	F	0	+4	1140	1313	44	55	14.2	12.8			0.8	1.5
9. Landon, Mary	F	0	+1	1146	1290	48	48	11.6	11.3			12.2	10.8
10. Ramey, Phillip	M	-2	+1	1725	1710	53	48	12.2	11.4	4	3		
11. Scott, Steve	M	-1	0	1146	1328	40	46	16.0	13.8	0	0		
12. Sommers, Tammy	F	0	+2	1350	1414	51	56	13.6	10.4			2.2	2.2
13. Todd, David	M	+1	+3.5	1575	1519	49	63	12.7	12.3	0	0		
14. Thompson, Bobby	M	-1	+1	1375	1298	41	40	14.7	13.9	0	0		
15. Tullis, Diane	F	-3	+1	1350	1320	50	58	11.7	10.7			11.2	8.0
1. Anderson, Stacy	F	+0.5	+2	1295	1170	43	45	11.8	11.5			2.0	0.7
2. Arth, Julie	F	+2	+2.5	1590	1305	61	63	10.8	10.6			6.2	7.7
3. Block, Debbie	F	+6	+7.5	1660	1395	56	60	11.0	11.0			7.3	11.4
4. Cable, Julie	F	+4	+6	1548	1583	61	66	10.1	10.3			16.4	38.0
5. Couhig, Tony	M	-2	+1	1620	1403	53	60	11.4	10.7	2	1		
6. Franken, Cheryl	F	0	+1	1680	1688	43	49	12.9	11.2			11.1	17.0
7. Horn, Eddie	M	+1	+2	1770	1868	55	67	10.0	9.7	1	3		
8. Kempf, Mike	M	0	0	1245	1613	45	54	11.5	10.8	2	3		
9. McCown, Mark	M	+3	+4	1470	1354	55	64	11.2	10.3	3	3		
10. O'Brian, Tim	M	0	+2	1080	1523	49	61	11.6	11.4	0	0		

Name	Sex	Spinal Flexion (Inches)		Eight Minute Run (Yards)		Standing Broad Jump (Inches)		Shuttle Run (Seconds)		Pull Up (Boys) (Number)		Flexed Arm Hang (Girls) (Seconds)	
		Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test
11. Parr, Michelle	F	+3	+4	1428	1571	49	62	11.3	10.9			1.2	1.1
12. Petree, Mitch	M	-3	0	1485	1635	52	60	11.0	10.6	4	5		
13. Petty, Susan	F	-3	+3.5	1320	1463	58	53	12.2	10.9			12.0	12.0
14. Price, Lisa	F	+2	+5	1200	1268	48	61	11.5	10.9			14.0	8.1
15. Reiter, Donna	F	+3	+5	1043	1245	56	57	10.7	10.6			5.8	3.0
16. Robinson, S.	M	+2	+4	1350	1283	54	54	11.5	11.6	0	0		
17. Stratton, D.	M	-7	-7	855	1200	45	38	12.6	12.4	0	0		

Note: Physical fitness pre-test--September 8-12, 1975; physical fitness post-test--November 17-21, 1975.
 - = above base, 0 = touching base, + = below base.

APPENDIX B

PRE- AND POST-TEST SCORES--MOVEMENT
EDUCATION PROGRAM

MOVEMENT EDUCATION PROGRAM

Name	Sex	Spinal Flexion (Inches)		Eight Minute Run (Yards)		Standing Broad Jump (Inches)		Shuttle Run (Seconds)		Pull Ups (Boys) (Number)		Flexed Arm Hang (Girls) (Seconds)	
		Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test
1. Arwine, John	M	-2	-3	1920	1800	48	54	10.9	10.4	2	1		
2. Bass, Troy	M	+1	-1	1420	1720	53	60	12.0	11.0	0	0		
3. Bolling, Lesli	F	+2.5	+3.5	1160	1260	45	49	11.4	11.1			12.0	12.0
4. Buckner, Avis	F	-4.75	+0.5	1280	1160	65	67	12.4	10.4			6.5	5.6
5. Callis, Shelley	F	+3	+2.5	1280	1480	43	43	12.4	11.4			3.5	3.4
6. Connell, Lillie	F	+1	+1.25	1020	1160	41	45	12.6	12.0			2.1	0.0
7. Dawson, David	M	0	+0.5	1460	1800	58	65	11.1	10.4	7	6		
8. Dejarnette, J.	M	+2.5	+2.5	1560	1640	53	57	11.4	12.1	0	0		
9. Freeze, Lisa	F	+1	+1.5	1040	1360	43	52	11.7	11.1			12.6	31.3
10. Frisbie, Stacey	F	+0.5	+2	1460	1480	48	54	11.5	11.1			23.4	30.6
11. Lorenz, Janice	F	+0.5	+1	1500	1200	42	57	12.1	11.8			6.5	7.4
12. Marker, Jeff	M	+1.5	+1.5	1960	2080	22	61	10.3	10.2	1	1		
13. Matchael, Mary	F	-1	+0.5	1440	1380	36	48	13.4	13.7			4.0	3.9
14. Ragar, Russell	M	-1	-2	1440	1600	41	42	12.9	11.9	0	0		
15. Regue, Cindy	F	-3.5	-6	1280	1480	40	49	12.4	11.6			21.4	8.4
16. Southers, Rodney	M	+3	+0.5	1420	1820	40	48	10.7	10.7	0	0		
17. Sprinkle, M.	F	+0.5	-5	1160	1200	45	44	12.6	11.6			1.0	1.6
18. Staten, Dwight	M	+3	+1	1480	1660	58	63	11.6	10.3	1	0		
19. Stetzenbach, B.	F	+2.5	+2.5	820	1220	39	36	12.5	12.2			1.5	0.8
20. Swope, John	M	-2.5	-5.5	1460	1380	50	43	12.0	11.4	0	0		
21. Thomas, Gregory	M	+3.5	+3.5	1580	2020	48	54	10.4	10.4	5	6		
22. Trout, Jimmy	M	+1	+1	1600	1620	39	50	11.6	10.5	0	2		
23. Ulmer, Shane	M	-2	-6	1140	1360	39	47	12.1	11.9	0	0		
24. Williams, T.	M	+2	+1.5	1460	1320	51	58	10.7	10.9	0	1		
1. Barnes, Julie	F	+1	+4	1340	1480	47	43	11.9	11.5			5.0	8.4
2. Beeney, Jamie	F	-4	-3	1660	1780	63	64	11.8	10.2			9.5	18.2

Name	Sex	Spinal Flexion (Inches)		Eight Minute Run (Yards)		Standing Broad Jump (Inches)		Shuttle Run (Seconds)		Pull Ups (Boys) (Number)		Flexed Arm Hang (Girls) (Seconds)	
		Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test
		3. Bishop, Ray	M	+0.75	+0.5	1290	1440	56	52	11.8	11.5	1	1
4. Buckner, Mary	F	-2	-2	1320	1520	35	47	12.4	11.7			1.5	5.4
5. Buckner, Stevie	M	-1	-0.5	1340	1600	43	43	11.8	11.2	2	0		
6. Campbell, Kim	F	-2.5	+1	1400	1440	46	52	12.0	11.2			2.0	0.0
7. Crystal, Kerry	M	-1	+0.5	1680	1160	39	48	12.5	11.3	0	0		
8. Curry, William	M	+1.5	+3.75	1540	1960	51	60	11.5	10.7	0	0		
9. Davis, Danny	M	-0.5	-1	1140	1380	46	46	13.2	11.6	0	0		
10. Dawson, Mark	M	+3	+4.5	1920	1620	43	39	12.0	11.1	1	1		
11. Deuel, Tracy	F	-2.5	-2	1660	1480	49	52	11.9	11.2			2.0	3.3
12. Green, Alan	M	+4	+4.5	1740	1740	57	63	11.6	10.2	2	2		
13. Hardy, Charles	M	+1.5	+2.5	1400	1920	53	60	10.5	9.8	5	10		
14. Marcum, Roger	M	-1	+0.5	1560	1760	53	56	12.0	10.9	1	1		
15. Martin, John	M	+2	+1	1860	2120	56	61	10.0	10.1	7	7		
16. McCreery, J.	F	0	+2	1120	1440	54	59	11.8	10.1			6.0	5.9
17. Musslin, Chris	M	-5	-5	1320	1880	51	52	13.0	11.1	0	0		
18. Phillips, Linda	F	0	+1.25	1680	1520	50	53	11.4	10.4			7.6	4.7
19. Pohl, Floyd	M	+2	+2	1620	1800	69	68	10.8	9.9	10	12		
20. Schrader, Tammy	F	+4.5	+9	1820	1480	53	57	12.0	10.9			6.0	5.6
21. Shapley, Carol	F	-1.5	+1.5	1580	1520	34	42	11.9	11.9			2.5	30.3
22. Shull, Brian	M	+2.5	+3	1520	1960	52	62	11.4	10.1	7	2		
23. Shull, Theresa	F	+1	+1.5	1340	1480	52	51	12.5	11.9			1.5	0.0
24. Watson, Jeana	F	0	+1	900	1340	50	54	13.9	12.2			10.0	7.0
25. Woolery, R.	M	+1.5	+1.75	1520	1560	42	43	11.5	11.5	0	0		

Note: Physical fitness pre-test--September 8-12, 1975; physical fitness post-test--November 17-21, 1975.
 - = above base, 0 = touching base, + = below base.

APPENDIX C

NINE WEEKS DAILY LOG--COMMAND METHOD PROGRAM

NINE WEEKS DAILY LOG--COMMAND METHOD PROGRAM

During the first five minutes of each daily class period, the students performed four calisthenics and ran two or three laps around the volleyball court.

These activities were used to develop endurance, strength, flexibility and agility.

Pre-Tests
September 8-12

1. Spinal Flexion
2. Eight Minute Run
3. Standing Broad Jump
4. Shuttle Run
5. Pull Up (Boys)
6. Flexed Arm Hang (Girls)

UNIT I--SOCCER
September 15-October 3

Lesson One--September 15

Equipment: Four soccer balls

Procedure:

1. Calisthenics
 - a. Toe risers
 - b. Running in place
 - c. Sit ups
 - d. Push ups
 - e. Running two laps
2. Talked about basic rules
3. Explained, demonstrated, and practiced skills of:
 - a. Dribbling
 - b. Passing
 - c. Shooting
4. Played modified games for five minutes

Lesson Two--September 16

Equipment: Four soccer balls

Procedure:

1. Calisthenics
 - a. Sit ups
 - b. Push ups
 - c. Trunk bounce
 - d. Bunny hopping
 - e. Running two laps
2. Reviewed rules and talked about how field is marked
3. Explained, demonstrated, and practiced heading skill
4. Played modified game

Lesson Three--September 17

Equipment: Four soccer balls

Procedure:

1. Calisthenics
 - a. Windmill
 - b. Hopping on one foot (alternating)
 - c. Push ups
 - d. Trunk bounce
 - e. Running two laps
2. Reviewed passing, shooting, and heading skills
3. Played modified game

Lesson Four--September 18 (inside)

Equipment: Cage ball

Procedure:

1. Calisthenics
 - a. Windmill
 - b. Bunny hopping
 - c. Toe risers
 - d. Sit ups
 - e. Running two laps
2. Explained rules and format of Crab Soccer
3. Played Crab Soccer

Lesson Five--September 19 (inside)

Equipment: Four soccer balls

Procedure:

1. Calisthenics
 - a. Jumping jacks
 - b. Hopping on one foot (alternating)
 - c. Running in place
 - d. Trunk bounce
 - e. Running two laps
2. Reviewed rules and format of Crab Soccer
3. Played Crab Soccer

Lesson Six--September 22

Equipment: Four soccer balls

Procedure:

1. Calisthenics
 - a. Bear walk
 - b. Inch worm
 - c. Sit ups
 - d. Toe risers
 - e. Running three laps
2. Demonstrated passing, shooting, dribbling, and heading skills
3. Practiced and reviewed skills

Lesson Seven--September 23

Equipment: Four soccer balls

Procedure:

1. Calisthenics
 - a. Trunk bounce
 - b. Sit ups
 - c. Jumping jacks
 - d. Inchworm
 - e. Running three laps
2. Reviewed passing and shooting skills
3. Played modified game

Lesson Eight--September 24

Equipment: Four soccer balls

Procedure:

1. Calisthenics
 - a. Push ups
 - b. Sit ups
 - c. Bear walk
 - d. Running in place
 - e. Running three laps
2. Reviewed skills of passing, shooting and dribbling
3. Explained, demonstrated, and practiced throw ins and penalty kicks
4. Played modified game

Lesson Nine--September 25 (inside)

Equipment: Cage ball

Procedure:

1. Calisthenics
 - a. Windmill
 - b. Squat thrust
 - c. Inchworm
 - d. Toe risers
 - e. Running three laps

Lesson Ten--September 26

Equipment: Cage ball

Procedure:

1. Calisthenics
 - a. Sit ups
 - b. Trunk bounce
 - c. Hopping on one foot (alternating)
 - d. Jumping jacks
 - e. Running three laps
2. Reviewed passing, dribbling, shooting and heading
3. Played modified game

Lesson Eleven--September 29 (inside)

Equipment: Cage ball

Procedure:

1. Calisthenics
 - a. Bunny hopping
 - b. Inchworm
 - c. Trunk bounce
 - d. Push ups
 - e. Running three laps
2. Played Crab Soccer

Lesson Twelve--September 30

Equipment: Four soccer balls

Procedure:

1. Calisthenics
 - a. Running in place
 - b. Squat thrust
 - c. Trunk bounce
 - d. Windmill
 - e. Running three laps
2. Played modified game

Lesson Thirteen--October 1

Equipment: Four soccer balls

Procedure:

1. Calisthenics
 - a. Jumping jacks
 - b. Toe risers
 - c. Sit ups
 - d. Push ups
 - e. Running three laps
2. Played modified game

Lesson Fourteen--October 2

Equipment: Four soccer balls

Procedure:

1. Calisthenics
 - a. Trunk bounce
 - b. Bear walk
 - c. Push ups
 - d. Running in place
 - e. Running three laps
2. Played modified game

Lesson Fifteen--October 3

No school: District Teacher's Meeting

UNIT II--TUMBLING

October 6-24

Lesson One--October 6

Equipment: Two mats

Procedure:

1. Calisthenics
 - a. Toe risers
 - b. Running in place
 - c. Sit ups
 - d. Push ups
 - e. Running two laps
2. Talked about tumbling stunts and spotting
 - . Explained, demonstrated, and practiced simple rolls
 - a. Forward
 - b. Backward
 - c. Log roll

Lesson Two--October 7

Equipment: Two mats

Procedure:

1. Calisthenics
 - a. Sit ups
 - b. Push ups
 - c. Trunk bounce
 - d. Bunny hopping
 - e. Running two laps
2. Reviewed spotting techniques
3. Reviewed simple rolls
 - a. Forward
 - b. Backward
 - c. Log roll

Lesson Three--October 8

Equipment: Two mats

Procedure:

1. Calisthenics
 - a. Windmill
 - b. Hopping on one foot (alternating)
 - c. Push ups
 - d. Trunk bounce
 - e. Running two laps
2. Reviewed simple rolls
3. Explained, demonstrated, and practiced cartwheels

Lesson Four--October 9

Equipment: Two mats

Procedure:

1. Calisthenics
 - a. Windmill

- b. Bunny hopping
 - c. Toe risers
 - d. Sit ups
 - e. Running two laps
2. Reviewed rolls and cartwheels

Lesson Five--October 10

Equipment: Two mats

Procedure:

1. Calisthenics
 - a. Jumping jacks
 - b. Hopping on one foot (alternating)
 - c. Running in place
 - d. Trunk bounce
 - e. Running two laps
2. Reviewed rolls and cartwheels
3. Explained, demonstrated, and practiced cartwheels

Lesson Six--October 13

Equipment: Two mats

Procedure:

1. Calisthenics
 - a. Bear walk
 - b. Inchworm
 - c. Sit ups
 - d. Toe risers
 - e. Running three laps
2. Reviewed simple rolls
3. Concentrated on cartwheels for individual progression

Lesson Seven--October 14

Equipment: Two mats

Procedure:

1. Calisthenics
 - a. Trunk bounce
 - b. Sit ups
 - c. Jumping jacks
 - d. Inchworm
 - e. Running three laps
2. Practiced simple rolls and cartwheels
3. Concentrated on headstand for individual progression

Lesson Eight--October 15

Equipment: Two mats

Procedure:

1. Calisthenics
 - a. Push ups
 - b. Sit ups
 - c. Bear walk

- d. Running in place
- e. Running three laps
- 2. Skills practice was repeat of Lesson 7

Lesson Nine--October 16

Equipment: Two mats

Procedure:

- 1. Calisthenics
 - a. Windmill
 - b. Squat thrust
 - c. Inchworm
 - d. Toe risers
 - e. Running three laps
- 2. Review of rolls, cartwheels, and headstand
- 3. Individual concentration and conference--practiced on skills in which they were weak

Lesson Ten--October 17

Equipment: Two mats

Procedure:

- 1. Calisthenics
 - a. Sit ups
 - b. Trunk bounce
 - c. Hopping
 - d. Jumping jacks
 - e. Running three laps
- 2. Practiced previous skills for self improvement

Lesson Eleven--October 20

Equipment: Two mats

Procedure:

- 1. Calisthenics
 - a. Bunny hopping
 - b. Inchworm
 - c. Trunk bounce
 - d. Push ups
 - e. Running three laps
- 2. Demonstrated and practiced back bends
- 3. Practiced according to individual progression
- 4. Practiced on dual stunts
 - a. Eskimo roll
 - b. Twister
 - c. Chinese get up

Lesson Twelve--October 21

Equipment: Two mats

Procedure:

- 1. Calisthenics

- a. Running in place
 - b. Squat thrust
 - c. Trunk bounce
 - d. Windmill
 - e. Running three laps
2. Reviewed back bends
 3. Performed stunts according to needs for individual progression

Lesson Thirteen--October 22

Equipment: Two mats

Procedure:

1. Calisthenics
 - a. Running in place
 - b. Toe risers
 - c. Sit ups
 - d. Push ups
 - e. Running three laps
2. Simple rolls and stunts review (student's choice)

Lesson Fourteen--October 23

No class

Lesson Fifteen--October 24

Equipment: Two mats

Procedure:

1. Calisthenics
 - a. Trunk bounce
 - b. Bear walk
 - c. Push ups
 - d. Running in place
 - e. Running three laps
2. Skill tests
 - a. Forward rolls
 - b. Backward rolls
 - c. Headstands
 - d. Cartwheels
 - e. Backbends

UNIT III--RHYTHMS October 27--November 14

Lesson One--October 27

Equipment: Record player and records

Procedure:

1. Calisthenics
 - a. Toe risers
 - b. Running in place
 - c. Sit ups

- d. Push ups
- e. Running two laps
- 2. Activities to music
 - a. Bunny hop
 - b. Sawing wood
 - c. Bear walk
 - d. Lame dog walk

Lesson Two--October 28

Equipment: Record player and records

Procedure:

- 1. Calisthenics and running
 - a. Sit ups
 - b. Push ups
 - c. Trunk bounce
 - d. Bunny hopping
 - e. Running two laps
- 2. Reviewed lesson on activities to music
- 3. Activities to music
 - a. Crab walk
 - b. Trees in the wind
 - c. Pollywog
 - d. Frog jump

Lesson Three--October 29

Equipment: Record player and records

Procedure:

- 1. Calisthenics
 - a. Jumping jacks
 - b. Knee bends
 - c. Trunk bounce
 - d. Squat thrusts
 - e. Running two laps
- 2. Reviewed activities of lesson one and two

Lesson Four--October 30

Equipment: Record player and records

Procedure:

- 1. Calisthenics and running to music
 - a. Trunk bend with no touch
 - b. Leg scissors
 - c. Jumping jacks
 - d. Trunk stretch
 - e. Running two laps
- 2. Reviewed lessons one and two activities
- 3. Added inchworm and ostrich maneuvers to activities

Lesson Five--October 31

Equipment: Record player and records

Procedure:

1. Calisthenics and running to music
 - a. Trunk bend with toe touch
 - b. Shoulder pull
 - c. Single and double arm swinger
 - d. Leg swing
 - e. Running two laps
2. Guess and do other things to music

Lesson Six--November 3

Equipment: Record player and records

Procedure:

1. Calisthenics and running
 - a. Windmill
 - b. Hopping on one foot (alternating feet)
 - c. Push ups
 - d. Trunk bounce
 - e. Running three laps
2. Introduced square dancing
 - a. Formed sets
 - b. Skills: do-sa-do-promenade-swing

Lesson Seven--November 4

Equipment: Record player and records

Procedure:

1. Calisthenics and running
 - a. Windmill
 - b. Bunny hopping
 - c. Toe risers
 - d. Sit ups
 - e. Running three laps
2. Reviewed skills presented in lesson one
3. Introduced and performed sides 2 and 3 of album 1 (Honor Your Partner Square Dance Series)

Lesson Eight--November 5

Equipment: Record player and records

Procedure:

1. Calisthenics and running
 - a. Jumping jacks
 - b. Hopping on one foot (alternating feet)
 - c. Running in place
 - d. Trunk bounce
 - e. Running three laps
2. Reviewed sides 2 and 3
3. Introduced side 4 (couples visitation)

Lesson Nine--November 6

Equipment: Record player and records

Procedure:

1. Calisthenics and running
 - a. Toe risers
 - b. Sit ups
 - c. Bear walk
 - d. Push ups
 - e. Running three laps
2. Reviewed sides 2, 3, and 4
3. Introduced side 5 (outside and swing)

Lesson Ten--November 7

Equipment: Record player and records

Procedure:

1. Calisthenics
 - a. Windmill
 - b. Hopping on one foot (alternating feet)
 - c. Push ups
 - d. Trunk bounce
 - e. Running three laps
2. Reviewed sides 2, 3, 4, and 5
3. Introduced side 6 (ladies cross over)

Lesson Eleven--November 10

Equipment: Record player and records

Procedure:

1. Calisthenics and running
 - a. Windmill
 - b. Bunny hopping
 - c. Toe risers
 - d. Sit ups
 - e. Running three laps
2. Reviewed all of album 1
3. Introduced side 1, album 2
 - a. Right hand star
 - b. Right and left grand

Lesson Twelve--November 11

Equipment: Record player and records

Procedure:

1. Calisthenics and running
 - a. Jumping jacks
 - b. Hopping on one foot (alternating feet)
 - c. Running in place
 - d. Trunk bounce
 - e. Running three laps
2. Reviewed sides 5 and 6 of album 1 and side 1 of album 2
3. Introduced side 3 of album 2 (allemade left with grand right and left)

Lesson Thirteen--November 12

Equipment: Record player and records

Procedure:

1. Calisthenics and running
 - a. Toe risers
 - b. Running in place
 - c. Sit ups
 - d. Push ups
 - e. Running three laps
2. Reviewed on 5 and 6 of album 1
3. Reviewed on 3 of album 2
4. Introduced side 4, album 2 (ladies chain)

Lesson Fourteen--November 13

Equipment: Record player and records

Procedure:

1. Calisthenics and running
 - a. Sit ups
 - b. Push ups
 - c. Trunk bounce
 - d. Bunny hopping
 - e. Running three laps
2. Reviewed on 6, album 1 and sides 1, 3 and 4 of album 2
3. Introduced side 5, album 2

Lesson Fifteen--November 14

Equipment: Record player and records

Procedure:

1. Calisthenics and running
 - a. Windmill
 - b. Hopping on one foot (alternating feet)
 - c. Push ups
 - d. Trunk bounce
 - e. Running three laps
2. Reviewed on side 3, album 1 through side 5, album 2

Post-Tests
November 17-21

APPENDIX D

NINE WEEKS DAILY LOG--MOVEMENT

EDUCATION PROGRAM

NINE WEEKS DAILY LOG--MOVEMENT

EDUCATION PROGRAM

During the first five minutes of each daily class period, the students performed four calisthenics and ran two or three laps around a volleyball court. These activities were used to help develop endurance, strength, flexibility, and agility.

Pre-Tests
September 8-12

1. Spinal Flexion
2. Eight Minute Run
3. Standing Broad Jump
4. Shuttle Run
5. Pull Up (Boys)
6. Flexed Arm Hang (Girls)

UNIT I--SOCCER
September 15-October 3

Lesson One--September 15

Equipment: Fourteen soccer balls

Procedure:

1. Calisthenics and running
 - a. Toe risers
 - b. Running in place
 - c. Sit ups
 - d. Push ups
 - e. Running two laps
2. Explained the skills of and purposes of passing and trapping a soccer ball
3. Passed ball with foot to partner
4. Trapped and/or stopped ball with foot
5. Explained different parts of foot and questioned students about parts of foot and how to use the foot in passing and trapping a ball
6. Practiced and discovered how to use instep, top of foot, side, heel, and toe in controlling and maneuvering ball
7. Practiced same skills with other foot

Lesson Two--September 16

Equipment: Fourteen soccer balls

Procedure:

1. Calisthenics and running
 - a. Sit ups
 - b. Push ups
 - c. Trunk bounce
 - d. Bunny hopping
 - e. Running two laps

2. Practiced some skills presented in lesson one
3. Practiced on their own and were questioned about skills and how to use different parts of the feet

Lesson Three--September 17

Equipment: Fourteen soccer balls

Procedure:

1. Calisthenics and running
 - a. Windmill
 - b. Hopping on one foot (alternating feet)
 - c. Push ups
 - d. Trunk bounce
 - e. Running two laps
2. Reviewed passing and trapping skills
3. Worked with partners on moving about floor, controlling ball, and passing to partners
4. Discussed and questioned students about how ball is kicked and where to contact the ball
5. Practiced kicking ball, contacting the ball at center, below, and above center

Lesson Four--September 18

Equipment: Fourteen soccer balls

Procedure:

1. Calisthenics and running
 - a. Windmill
 - b. Bunny hopping
 - c. Toe risers
 - d. Sit ups
 - e. Running two laps
2. Moved across floor with partner and reviewed skills of passing, trapping, and kicking
3. Practiced using different parts of feet while performing skills

Lesson Five--September 19

Equipment: Fourteen soccer balls

Procedure:

1. Calisthenics and running
 - a. Jumping jacks
 - b. Hopping on one foot (alternating feet)
 - c. Running in place
 - d. Trunk bounce
 - e. Running two laps
2. Moved across floor at faster speed and reviewed passing, trapping, and kicking skills
3. Emphasized control of ball and purpose of control

Lesson Six--September 22

Equipment: Fourteen soccer balls

Procedure:

1. Calisthenics
 - a. Bear walk
 - b. Inchworm
 - c. Sit ups
 - d. Toe risers
 - e. Running three laps
2. Reviewed passing, trapping, and kicking skills
3. Explained purpose of blocking ball with body
4. Bounced and threw ball to partner
5. Used different parts of the body to block ball
6. Emphasized body control and worked on body trapping
7. Practiced heading ball

Lesson Seven--September 23

Equipment: Fourteen soccer balls

Procedure:

1. Calisthenics
 - a. Trunk bounce
 - b. Sit ups
 - c. Jumping jacks
 - d. Inchworm
 - e. Running three laps
2. Reviewed all skills with emphasis placed on body blocking and heading of ball
3. Explained tackling skill and practiced same

Lesson Eight--September 24

Equipment: Fourteen soccer balls

Procedure:

1. Calisthenics and running
 - a. Push ups
 - b. Sit ups
 - c. Bear walk
 - d. Running in place
 - e. Running three laps
2. Reviewed all soccer skills, moving across floor by changing tempos and using different parts of body during review practice sessions

Lesson Nine--September 25

Equipment: Fourteen soccer balls

Procedure:

1. Calisthenics and running
 - a. Windmill
 - b. Squat thrust
 - c. Inchworm
 - d. Toe risers
 - e. Running three laps
2. Reviewed skills
3. Played circle soccer

Lesson Ten--September 26

Equipment: Fourteen soccer balls

Procedure:

1. Calisthenics and running
 - a. Sit ups
 - b. Trunk bounce
 - c. Hopping on one foot (alternating feet)
 - d. Jumping jacks
 - e. Running three laps
2. Reviewed skills
3. Played soccer dodgeball

Lesson Eleven--September 29

Equipment: Fourteen soccer balls

Procedure:

1. Calisthenics and running
 - a. Bunny hopping
 - b. Inchworm
 - c. Trunk bounce
 - d. Push ups
 - e. Running three laps
2. Played pin ball soccer

Lesson Twelve--September 30

Equipment: Fourteen soccer balls

Procedure:

1. Calisthenics
 - a. Running in place
 - b. Squat thrust
 - c. Trunk bounce
 - d. Windmill
 - e. Running three laps
2. Played line kick soccer

Lesson Thirteen--October 1

Equipment: Fourteen soccer balls

Procedure:

1. Calisthenics and running
 - a. Jumping jacks
 - b. Toe risers
 - c. Sit ups
 - d. Push ups
 - e. Running three laps
2. Played long base soccer

Lesson Fourteen--October 2

Equipment: Fourteen soccer balls

Procedure:

1. Calisthenics and running
 - a. Trunk bounce
 - b. Bear walk
 - c. Push ups
 - d. Running in place
 - e. Running three laps
2. Played line soccer

Lesson Fifteen--October 3

No school--District Teacher's Meeting

UNIT II--STUNTS AND TUMBLING
October 6-12

Lesson One--October 6

Equipment: None

Procedure:

1. Calisthenics
 - a. Toe risers
 - b. Running in place
 - c. Sit ups
 - d. Push ups
 - e. Running two laps
2. Discussed movement vocabulary of balance; on-balance, off-balance, stability, and gravity, and base of support; wide, narrow, big, and little
3. Discussed and questioned students about moving on-balance and off-balance
4. Practiced moving across floor on-balance (one point, two points, three points, and four points touching floor)

Lesson Two--October 7

Equipment: None

Procedure:

1. Calisthenics
 - a. Sit ups
 - b. Push ups
 - c. Trunk bounce
 - d. Bunny hopping
 - e. Running two laps
2. Continued discussing movement vocabulary
3. Practiced moving across floor with different number of points touching floor
4. Practiced off-balance from these different positions by learning different directions, forward, backward, and sideward; then returning to on-balance positions using different parts of body for base

Lesson Three--October 8

Equipment: None

Procedure:

1. Calisthenics
 - a. Windmill
 - b. Hopping on one foot (alternating feet)
 - c. Push ups
 - d. Trunk bounce
 - e. Running two laps
2. Continued on-balance and off-balance movement, changing to different levels
3. Practiced rolling different directions and completing rolls to different on-balance positions

Lesson Four--October 9

Equipment: Table, bench, and desk (one each) and mats

Procedure:

1. Calisthenics
 - a. Windmill
 - b. Bunny hopping
 - c. Toe risers
 - d. Sit ups
 - e. Running two laps
2. Practiced on-balance and off-balance from table, moved over bench, landed on mats, and assumed different on-balance position
3. Vaulted over desk, landed on mats, and assumed different on-balance position

Lesson Five--October 10

Equipment: Table, bench, desk (one each) and mats

Procedure:

1. Calisthenics
 - a. Jumping jacks
 - b. Hopping on one foot (alternating feet)
 - c. Running in place
 - d. Trunk bounce
 - e. Running two laps
2. Continued on-balance and off-balance movement; off table, over bench, and desk

Lesson Six--October 13

Equipment: Two tables (side by side) used as parallel bars, table (tunnel to crawl through), balance beam, desk for vaulting box, inflated inner tubes, and bench with mat over the top

Procedure:

1. Calisthenics
 - a. Bear walk
 - b. Inchworm
 - c. Sit ups
 - d. Toe risers

- e. Running three laps
2. Equipment placed across floor to represent an obstacle course
3. Explained purpose of the obstacle course and discussed how movement over obstacles could be accomplished
4. Moved across obstacle course, creatively
 - a. Used table as parallel bars and walked on hands
 - b. Crawled under the table tunnel
 - c. Walked across balance beam
 - d. Vaulted over desk
 - e. Moved through inner tubes by stepping to inside circle
 - f. Crawled over the matted bench

Lesson Seven--October 14

Equipment: Same as lesson six

Procedure:

1. Calisthenics
 - a. Trunk bounce
 - b. Sit ups
 - c. Jumping jacks
 - d. Inchworm
 - e. Running three laps
2. Repeated movement over obstacle course
3. Moved over obstacle course, and practiced different types of balances

Lesson Eight--October 15

Equipment: Same as lessons six and seven

Procedure:

1. Calisthenics
 - a. Push ups
 - b. Sit ups
 - c. Bear walk
 - d. Running in place
 - e. Running three laps
2. Moved over obstacles, used other methods, different parts of the body, and changed directions
 - a. Walked across parallel bars backward, swinging body side to side
 - b. Crawled through tunnel using different parts of the body and at different levels
 - c. Walked sideward across balance beam leading with left foot and then right foot
 - d. Vaulted over desk using one hand, and cartwheel method
 - e. Moved through inner tubes, hopping on one foot and leaping
 - f. Crawled over mat using different points for balance

Lesson Nine--October 16

Equipment: Same as other three previous lessons

Procedure:

1. Calisthenics
 - a. Windmill
 - b. Squat thrusts
 - c. Inchworm
 - d. Toe risers
 - e. Running three laps
2. Continued work on obstacle course using different methods of locomotion and different parts of the body
3. Assumed different points of balance when completing a movement over obstacle course

Lesson Ten--October 17

Equipment: Same as lessons six, seven, eight and nine

Procedure:

1. Calisthenics
 - a. Sit ups
 - b. Trunk bounce
 - c. Hopping on one foot (alternating feet)
 - d. Jumping jacks
 - e. Running three laps
2. Moved across obstacle course and reviewed different methods of locomotion

Lesson Eleven--October 20

Equipment: Four mats

Procedure:

1. Calisthenics
 - a. Bunny hopping
 - b. Inchworm
 - c. Trunk bounce
 - d. Push ups
 - e. Running three laps
2. Explained how different parts of the body can be used to perform different stunts
3. Questioned students about what parts of the body to use to perform the forward and backward rolls and cartwheel
4. Practiced the rolls and cartwheel

Lesson Twelve--October 21

Equipment: Four mats

Procedure:

1. Calisthenics
 - a. Running in place
 - b. Squat thrusts
 - c. Trunk bounce
 - d. Windmill
 - e. Running three laps
2. Continued work on rolls and cartwheel emphasizing use of different parts of body for take off and balance

3. Asked students to balance on three parts of body and then three different parts (for head stand)
4. Practiced on seal slap

Lesson Thirteen--October 22

Equipment: Four mats

Procedure:

1. Calisthenics
 - a. Jumping jacks
 - b. Toe risers
 - c. Sit ups
 - d. Push ups
 - e. Running three laps
2. Reviewed balancing on three points
3. Suggested ways of balancing on three points, then asked students to use head and hands for head stand
4. Practiced head stand

Lesson Fourteen--October 23

Equipment: Four mats

Procedure:

1. Calisthenics
 - a. Windmill
 - b. Trunk bounce
 - c. Push ups
 - d. Bunny hopping
 - e. Running three laps
2. Worked on balance maneuvers; individually and with head stand and angle balance
3. Selected partners and practiced balancing with mercury, box, and shoulder stand

Lesson Fifteen--October 24

Equipment: Four mats

Procedure:

1. Calisthenics
 - a. Trunk bounce
 - b. Bear walk
 - c. Push ups
 - d. Running in place
 - e. Running three laps
2. Practiced rolls, cartwheel, and balance activities individually and with partners

UNIT III--RHYTHMS
October 27--November 14

Lesson One--October 27

Equipment: Hula hoops, Wigman drum, record player and records

Procedure:

1. Calisthenics to music and running
 - a. Toe risers
 - b. Running in place
 - c. Sit ups
 - d. Push ups
 - e. Running three laps
2. Discovered how to use hula hoops
3. Moved across floor and rolled hoops to different tempos
4. Changed directions and level while moving with hoops
5. Rolled hoops and solved problem of having hoop return to sender

Lesson Two--October 28

Equipment: Hula hoops, Wigman drum, record player and records

Procedure:

1. Calisthenics to music and running
 - a. Sit ups
 - b. Push ups
 - c. Trunk bounce
 - d. Bunny hopping
 - e. Running three laps
2. Continued hula hoop activities; letting students figure out, individually, different ways to move with and around hoop
3. Rolled hoops, jumped through, jumped over, and ran around them

Lesson Three--October 29

Equipment: Hula hoops, Wigman drum, record player and records

Procedure:

1. Calisthenics to music and running
 - a. Jumping jacks
 - b. Knee bends
 - c. Trunk bounce
 - d. Squat thrust
 - e. Running three laps
2. Hula hoops activities continued
3. Stepped in and out of hoops spread out on floor; changed tempo, direction, and level

Lesson Four--October 30

Equipment: Hula hoops, Wigman drum, record player and records

Procedure:

1. Calisthenics
 - a. Windmill
 - b. Bunny hopping
 - c. Toe risers
 - d. Sit ups
 - e. Running three laps
2. Reviewed hula hoops activities as in previous lesson

3. Moved hoops in circle around body
4. Explored creative ways to maneuver hoops with hands and other parts of body
5. Moved around hoops spread on floor by walking, hopping, jumping, and crawling

Lesson Five--October 31

Equipment: Hula hoops, Wigman drum, record player and records

Procedure:

1. Calisthenics to music and running
 - a. Jumping jacks
 - b. Hopping on foot (alternating feet)
 - c. Running in place
 - d. Trunk bounce
 - e. Running three laps
2. Reviewed hula hoops activities, individually, on hula hoop maneuvers

Lesson Six--November 3

Equipment: Wigman drum, record player and records

Procedure:

1. Calisthenics to music and running
 - a. Bear walk
 - b. Inchworm
 - c. Sit ups
 - d. Toe risers
 - e. Running three laps
2. Practiced different locomotor movements across floor to beat of Wigman drum with different rhythms
3. Changed directions, levels, shapes, and sizes
4. Practiced nonlocomotor movement to rhythm, changed shapes, changed levels, and twisted bodies

Lesson Seven--November 4

Equipment: Wigman drum, record player and records

Procedure:

1. Calisthenics to music and running
 - a. Trunk bounce
 - b. Sit ups
 - c. Jumping jacks
 - d. Inchworm
 - e. Running three laps
2. Reviewed movement skills introduced in lesson six

Lesson Eight--November 5

Equipment: Wigman drum, record player and records, parachute

Procedure:

1. Calisthenics to music and running
 - a. Push ups
 - b. Sit ups

- c. Bear walk
- d. Running in place
- e. Running three laps
- 2. Parachute activities
 - a. Ripple and waves
 - b. Mountain
 - c. Popcorn
 - d. Performed locomotor movements such as walking, sliding and skipping to different tempos while holding parachute

Lesson Nine--November 6

Equipment: Wigman drum, record player and records, parachute

Procedure:

- 1. Calisthenics to music and running
 - a. Windmill
 - b. Squat thrust
 - c. Toe risers
 - d. Inchworm
 - e. Running three laps
- 2. Parachute activities
 - a. Popcorn
 - b. Merry go round
 - c. Mountain
 - d. Practiced locomotor movements of walking, skipping, sliding, and hopping with tempo and direction changes

Lesson Ten--November 7

Equipment: Wigman drum, record player and records, parachute

Procedure:

- 1. Calisthenics to music and running
 - a. Sit ups
 - b. Trunk bounce
 - c. Hopping on one foot (alternating feet)
 - d. Jumping jacks
 - e. Running three laps
- 2. Reviewed and practiced previous parachute activities
- 3. Performed different locomotor movements while crossing inside and outside of mountain formed by parachute

Lesson Eleven--November 10

Equipment: Records and record player

Procedure:

- 1. Calisthenics to music and running
 - a. Bunny hopping
 - b. Inchworm
 - c. Trunk bounce
 - d. Push ups
 - e. Running three laps
- 2. Practiced nonlocomotor movements to different rhythms
 - a. Hand Jive
 - b. Pound and resound use of hands and wrists

c. Patty Cake

Lesson Twelve--November 11

Equipment: Record player and records

Procedure:

1. Calisthenics to music and running
 - a. Running in place
 - b. Squat thrusts
 - c. Trunk bounce
 - d. Windmill
 - e. Running three laps
2. Reviewed movement presented in lesson eleven
3. Worked on response of beat, speed, mood (sad or gay), and volume (loud and soft)

Lesson Thirteen--November 12

Equipment: Record player and records

Procedure:

1. Calisthenics to music and running
 - a. Jumping jacks
 - b. Toe risers
 - c. Sit ups
 - d. Push ups
 - e. Running three laps
2. Reviewed nonlocomotor movements
3. Reviewed working on response to change of tempo, beat, mood, and volume

Lesson Fourteen--November 13

Equipment: Record player and records

Procedure:

1. Calisthenics to music and running
 - a. Trunk bounce
 - b. Bear walk
 - c. Push ups
 - d. Running in place
 - e. Running three laps
2. Practiced locomotor movements of walking, skipping, hopping, and marching, while changing tempo, directions, levels, and mood
3. Practiced ball handling activities alone and with partners
 - a. Throwing
 - b. Catching
 - c. Bouncing
 - d. Moved forward, backward, and sideward

Lesson Fifteen--November 14

Equipment: Record player and records

Procedure:

1. Calisthenics
 - a. Windmill
 - b. Hopping on one foot (alternating feet)
 - c. Push ups
 - d. Trunk bounce
 - e. Running three laps
2. Continued ball handling activities, alone and with partners
3. Performed mirror image movement to different rhythms
 - a. Performed nonlocomotor movements, partners facing each other, while partner performed maneuver with opposite part of body
 - b. Moved hands, arms, legs, head, shoulders, etc., making different shapes which partner imitated

Post-Tests
November 17-21

VITA

Donald Warren Donath

Candidate for the Degree of

Doctor of Education

Thesis: A COMPARISON OF THE COMMAND METHOD AND MOVEMENT EDUCATION
IN DEVELOPING THE PHYSICAL FITNESS OF ELEMENTARY CHILDREN

Major Field: Higher Education Minor Field: Health, Physical Education
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Personal Data: Born in Sedalia, Missouri, November 30, 1923, the
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Education: Attended Smith-Cotton High School, Sedalia, Missouri;
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