

THE DEVELOPMENT, IMPLEMENTATION AND EVALUATION OF AN  
EXPERIMENTAL ACTIVE HEALTH PROGRAM  
FOR GRADE ELEVEN WOMEN STUDENTS

by

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B. Ed., University of British Columbia, 1974

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF ARTS (EDUCATION)  
in the Faculty  
of  
Education

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SIMON FRASER UNIVERSITY

April 1980

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Title of Thesis/Dissertation:

THE DEVELOPMENT AND EVALUATION OF AN ACTIVE HEALTH PROGRAM

IMPLEMENTED FOR GRADE ELEVENT WOMEN STUDENTS

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## ABSTRACT

This study was designed to compare two different approaches to teaching physical education to grade eleven women in a lower-mainland senior secondary school. The experimental program, developed for the purpose of this study, and entitled Active Health program, consisted of a variety of learning experiences which allowed students to explore and develop a personal approach to fitness. The Activity program was the title given to the traditional program which is part of the regular physical education curriculum. The two programs were compared with respect to learning outcomes of (a) physical fitness (including self-improvement in cardiovascular endurance, strength and flexibility); (b) dietary habits; (c) activity habits; and (d) knowledge.

Sixty-four students were involved in the Active Health program, and twenty-five were enrolled in the Activity program. Both programs constituted the grade eleven physical education requirements for the semester and each involved daily periods of one hour and fifteen minutes, lasting over the eighteen week semester.

Standard physical fitness tests were used to compare cardiovascular endurance, strength and flexibility, in pre- and post-test measures of both groups. Self-reports were employed to compare dietary and activity habits. A written test was used to provide data on each group's knowledge of principles of physical fitness. In addition, taped interviews were made with all subjects at the end of the semester by a trained interviewer.

The t-test of uncorrelated means was used to compare the data from the experimental group with the comparison group in pre and post measures of physical fitness and knowledge. The Mann-Whitney U-test for rank mean comparison was used to examine the data collected in the self-reports of dietary and activity habits of both groups.

The results of the data analysis showed significant differences in favor of the students enrolled in the Active Health program on measures of cardiovascular endurance, strength and knowledge. Flexibility post-test measures revealed a tendency toward higher scores for the Active Health students, but the difference in scores was not significant. On self-reports of dietary and activity habits, the data analysis showed no significant difference between groups. The data support the conclusion that students enrolled in the Active Health program functioned at significantly higher fitness levels and had more knowledge of principles of fitness than did the control group.

Based upon these findings implications were drawn regarding the appropriateness of implementing Active Health programs into the physical education curriculum.

Suggestions for further research included the need for cross-validation studies with students in other settings, an evaluation of the individual Active Health program components in the areas of diet and activity and longitudinal studies which examine the durability of the gains over time.

#### ACKNOWLEDGEMENTS

To Selma Wassermann, friend and advisor, for her patience, endless encouragement, constructive comments and wisdom throughout my masters program, I extend my sincerest appreciation.

To my family and friends who gave much encouragement and support throughout the writing of this thesis, I extend my sincere thanks.

I am especially indebted to my committee: Selma Wassermann, Glen Kirchner and Ian Andrews for their humanistic approach, personal interest and helpful guidance during my thesis project.

## TABLE OF CONTENTS

	Page
Examining Committee Approval . . . . .	ii
Abstract . . . . .	iii
Acknowledgements . . . . .	v
Table of Contents. . . . .	vi
List of Tables . . . . .	viii
CHAPTER 1. The Problem Setting . . . . .	1
Introduction. . . . .	1
Background and Need for the Study . . . . .	2
The Purpose of the Study. . . . .	5
Definition of Terms . . . . .	6
Limitations of the Study. . . . .	8
CHAPTER 2. Related Research and Theory. . . . .	10
Introduction. . . . .	10
The Nature of Current Physical Education Programs . . . . .	10
Physical Education Programs and Physical Fitness. . . . .	14
Innovative Approaches to Physical Education . . . . .	18
The Contract Approach . . . . .	19
The Conceptual Approach . . . . .	20
The Humanistic Approach . . . . .	21
The Conditioning Approach . . . . .	23
The Psychophysical Approach . . . . .	25
CHAPTER 3. Research Design and Methodology. . . . .	27
The Design of the Study . . . . .	27
Description of the Sample . . . . .	29
The Experimental Program. . . . .	29
The Comparison Group Program. . . . .	32
Implementation of the Programs. . . . .	32
Instruments Used in Data Collection . . . . .	35
Procedures Used in Data Collection. . . . .	40
Data Analysis . . . . .	41
Summary . . . . .	42
CHAPTER 4. Results and Discussion . . . . .	43
Results . . . . .	43
Additional Results. . . . .	64
Summary of Findings . . . . .	65

TABLE OF CONTENTS (continued)

	Page
Conclusions . . . . .	67
Implications of the Study . . . . .	67
Suggestions for Further Research. . . . .	69
BIBLIOGRAPHY . . . . .	71
APPENDICES . . . . .	79
A. Guidelines for an Active Health Program: A Personal Fitness Approach. . . . .	80
B. Physical Education 11 Curriculum: Activity Group . .	149
C. Assessing Your Own Fitness and Nutritional Needs. . .	153
D. Functional Fitness Assessment: Data Sheet. . . . .	155
E. Knowledge Test. . . . .	157
F. External Interviews . . . . .	160



## LIST OF TABLES

	Page
I. Active Health Testing Schedule: Experimental Group ..	30
II. Active Group Testing Schedule: Comparison Group ....	31
III. Pre- and Post-Test Scores for the Aerobic Twelve Minute Test .....	45
IV. Pre- and Post-Test Scores for Strength: Grip 1 (Dominant Hand) .....	47
V. Pre- and Post-Test Scores for Strength: Grip 2 (Non-Dominant Hand) .....	48
VI. Pre- and Post-Test Scores for Flexibility: Sit and Reach .....	51
VII. Pre- and Post-Test Scores for Flexibility: Back Extension .....	52
VIII. Pre- and Post-Test Scores for Flexibility: Shoulder Extension .....	53
IX. Pre- and Post-Test Mann-Whitney U-Wilcoxon Sum W-Test: Daily Activity .....	56
X. Pre- and Post-Test Mann-Whitney U-Wilcoxon Sum W-Test: Daily Breakfast .....	57
XI. Pre- and Post-Test Mann-Whitney U-Wilcoxon Sum W-Test: Daily Lunch .....	58
XII. Pre- and Post-Test Mann-Whitney U-Wilcoxon Rank Sum W-Test: Activities .....	60
XIII. Pre- and Post-Test Table Scores for Knowledge .....	62

## CHAPTER 1

The Problem SettingIntroduction

The main objective of most physical education programmes is to develop lifelong attitudes and skills to promote good health. In British Columbia, physical education is compulsory for eleven of the twelve years of a student's school life. In most cases, the last opportunity to influence a student's attitude toward a positive approach to physical activity is the course, physical education eleven.

Instructors address the teaching of girls physical education for the most part by teaching skills and strategies designed to improve some aspect of performance. An activity is frequently presented in a sequence of explanation, demonstration and practice. The class proceeds in a formal manner practicing one part before proceeding to the next sequence or skill. The approach has been successful in that students have learned what has been set out as an objective for them. Have traditional approaches to teaching physical education promoted positive attitudes towards fitness? In an American Alliance for Health, Physical Education and Recreation (AAHPER) publication, Delbert Oberteuffer (1977) states,

Physical education, like any other essential activity curriculum, needs a carefully drawn set of principles as guides to its development. Without them there is danger of losing sight of what the activities are for. There is danger of picking the activities without much concern for their bearing upon the student. (p. 167)

Do students learn to direct themselves to become self-contained, self-motivated towards fitness after leaving a curriculum dominated by myriad pre-determined objectives and teaching methods? Oberteuffer (1977) maintains,

There are far too many students who find physical education a terminal experience. When they are finally released from the requirement, they give away their sneakers. We (Physical Educators) had better quit boring people to death with stupid exercises and activities repeated ad nauseum and get down to the business of teaching a programme that is intrinsically interesting and that will prepare for lifelong participation. (p. 156)

A recent study of attitudes and physical fitness (O'Neill, 1976, 192) showed that female students of grades nine and twelve disliked excessive repetition of the same activities in physical education. In addition, their attitude and fitness scores were below the fortieth percentile (below average). It would seem that instructors of physical education would be highly concerned with improving the attitude of female students toward self-exercise and fitness.

#### Background and Need for the Study

The learning environment plays a major role in developing student attitudes. Most physical educators are confronted with the task of encouraging the development of positive health attitudes as well as changing already existing negative ones. Unless this occurs, there is little chance that school learning will carry over into lifelong health practices. Moreover, physical educators are remiss if they do not determine how programmes and methods contribute to the self-esteem

of students. Seidentrop (1976) has stated:

The universal objective in physical education is to create a learning environment that will not cause students to hate the very things that they are learning and the process of learning; to create strong approach tendencies toward physical education and physical activities. (p. 24)

Piaget explains how abstract ideas although difficult to learn, can be fostered in a learning environment,

Individuals should be provided with educational opportunities that will enable them to experiment and to discover, since these experiences foster the acquisition of abstract ideas and creative abilities. (Bedworth, 1978, 127)

Changes are beginning to emerge in physical education particularly in the area of curriculum development. George Leonard describes the new physical education,

Lifetime sports rather than the usual team sports in Secondary Schools; movement education in Elementary Schools and in addition, individualized instruction and the inculcation of a strong self-concept all along the way. (p. 139)

These emerging programmes are not so much a new kind of physical education but a new approach to learning. Physical educators are examining the learning process and as a result personalizing the learning experience. The programmes are emphasizing experiential learning to develop positive health concepts.

In developing curriculum, it is essential that emphasis is not on what the teachers can do for learners, but what learners can do for themselves. (Bedworth, 1978, p. 261)

Experiential learning takes place when a physical education programme<sup>\*</sup> is "active", in that the students are performing; as well

as creating opportunities for the development of positive "health" attitudes. "Active Health" programs are seen as making a major contribution to student interest in Physical education. Moreover, they help students relate learned principles to everyday living experiences. As such, this approach differs from current physical education programmes in that,

In tradition physical education, the activity itself (volleyball, track and field or folk-dancing) provides the structural basis for developing a curriculum. Skills within each area are arranged from the simple to the complex and presented to students in accordance with their physical maturity and general readiness. (Kirchner et al., 1970, p. 14)

Active Health programmes differ from traditional physical education programmes in the following ways:

- (1) The Active Health programme aims to take the individual through a graduated exercise programme emphasizing basic fitness principles. For example, students learn how to begin, how to develop and how to evaluate their own fitness programme.
  - (2) Lessons are designed for students to be continually reviewing and discussing the components of their fitness programme. It is important that each student find a programme suited to his/her level and need.
  - (3) Teaching a personal approach to fitness involves getting students to discuss and contribute to the learning situation.
- This will involve teaching in a quiet area for fifteen to

twenty minutes where films, discussions, questions, articles and labs can be presented to the class (by either instructor or student)

- (4) Participation is emphasized. Activities are aimed toward lifetime sports, such as: tennis, racquetball, badminton, soccer.

It is important that the selection of approaches or methodologies for physical education answer the question, "Has each student completing this course had many opportunities to develop lifelong positive attitudes towards good health?". If the answer to that question is "no" or even if the student leaves the programme with ambiguous or unformed attitudes then perhaps much of the time spent in class has been wasted. If physical educators are to claim that their programmes influence behaviour development, at least some objective evidence of this influence must be provided.

#### The Purpose of the Study

This study has been designed to compare two different approaches to teaching Physical Education to Grade Eleven women students through an Active Health programme and an Activity oriented programme, particularly with respect to learning outcomes of:

- (a) physical fitness: cardiovascular endurance,  
strength and flexibility
- (b) dietary habits
- (c) activity habits
- (d) knowledge

The study was designed to test the following null hypotheses:

- (1) There will be no significant difference in post-test mean scores on cardiovascular endurance levels of students in the Active Health program and those in the Activity program.
- (2) There will be no significant difference in post-test mean scores on strength level of students in the Active Health program and those in the Activity program.
- (3) There will be no significant difference in post-test mean scores on flexibility levels of students in the Active Health program and those in the Activity program.
- (4) There will be no significant difference in post-test dietary habits of students in the Active Health program and those in the Activity program.
- (5) There will be no difference in post-test activity levels of students in the Active Health program and those in the Activity program.
- (6) There will be no significant difference in post-test mean knowledge scores of students in the Active Health program and those in the Activity program.

#### Definition of Terms

For the purpose of clarification, the following definitions or explanations of terms were established for use in the study.

### Activity Program

This term is used to describe the traditional program of studies undertaken by the comparison group, as part of their normal Grade 11 physical education. The activities offered in this program range from leisure activities, such as square dancing and skating to team and individual sports such as soccer, volleyball and tennis. The main feature of the program is on participation with a lesser emphasis on skill development. This program in which Grade 11 girls enroll at Carson Graham Secondary School is outlined in the Appendix.

### Active Health Program

This term is used to describe the experimental program developed for this study. This program focuses on the development of physical fitness through individualized programs and activities that promote lifetime interest, for example, tennis, racquetball, soccer. The program takes the individual through a graduated exercise program emphasizing basic fitness principles. Students are involved in planning, performing and evaluating a fitness program designed for their individual abilities. This program is based upon the concept of a total integrative approach towards physical education with application of principles and practices to lifelong health and fitness habits.

### Physical Fitness

The capacity of an individual to perform given physical tasks involving muscular effort. The components of physical fitness include muscular strength, endurance, power, flexibility and cardiovascular fitness.



### Cardiovascular Endurance

The ability of the heart to supply oxygen to the tissues of the body by increasing the amount of blood pumped by the heart per minute.

### Muscular Strength

The amount of tension which can be extended in a single contraction.

### Flexibility

The range of motion possible above the joint, measured in degrees.

### Dietary Habits

Information collected on students' personal eating habits. This includes not only meals, but food eaten between meals and consumption of liquids.

### Activity Habits

Information collected on students' personal fitness habits. This includes how students perceive their fitness level and how often students exercise out of class.

### Limitations of the Study

1. The sample was restricted to a group of Grade 11 women students enrolled at Carson Graham Secondary School in North Vancouver, B.C.

2. The study was quasi-experimental as the groups were not randomly assigned.
3. The study measured results as limited by the instruments designed for this study.
4. The study was limited to one semester (five months).
5. The Activity group was studied during the spring semester and the Active Health group was studied during the fall semester.
6. The study was limited to the extent that the investigator taught both groups.

Chapter 1 has included the statement of the problem, definition of terms, hypotheses and the background of the study. The related literature is reviewed in Chapter 2. Chapter 3 presents the instruments and procedures used in the collection and treatment of data. The findings, conclusions and recommendations are found in Chapter 4.

## CHAPTER 2

### Related Research and Theory

#### Introduction

There are several areas of research that have been thought to be influential in giving direction to physical education programs. The study of physiology of exercise has shown that regular exercise is a necessary condition for the maintenance of a healthy body. Foundation research has contributed to the knowledge of how students are affected by learning environments.

The literature review will examine several areas of physical education in an attempt to shed light on program objectives, teaching methods, activities and their relation to learning in physical education. The literature review will be examined in three sections:

1. The nature of current physical education programs
2. Physical education programs and physical fitness
3. Innovative approaches to physical education.

#### The Nature of Current Physical Education Programs

Programs in physical education today are dominated by what is called the "command style" of teaching. In most physical education courses, there is an emphasis on teacher-directed activity, recreational play and excellence in student performance. Mosston (1966) points out that physical education programs are highly structured, teacher-centered, or teacher-directed with an emphasis on recreational play.

Historically, physical educators have emphasized sport skills as the criterion for becoming a physically educated individual. Most materials available for categorizing physical education objectives deal largely with the psychomotor domain (Harrington and Enberg, 1978). Leonard (1975) suggests that physical education programs have for too long neglected the concept of the integration of the body and mind as the key components of a physical education program.

Research and training for coaches and physical education instructors focuses highly on performance at the expense of experience. Instructors ask how many times a boy or girl can chin but not how it feels to chin, how it is. (p. 20)

Little research concerning attitudes of high school students towards physical education has been carried out. Those existing studies seem to indicate a favourable attitude toward physical education. However, it is difficult to make generalizations about attitude findings because of limited sample size and the diversity of measurement techniques. Campbell (1968) in a study of attitude reported students having a favourable attitude toward physical education. However, it is to be noted that Campbell used only the Wear attitude inventory and his sample was limited to college males. Young (1970) concluded that there was a positive relationship between fitness and attitude toward physical education. In this study, the sample was limited to junior girls at one high school. Possibly, more substantial results could have been reported had there been a larger number of schools and a larger sample. Anderson (1966) and

Beter (1970) both reported positive attitudes towards physical education from students surveyed in their studies. However, both studies were limited in sample size and while many correlations indicated significant changes, most were not high enough for predictive purposes.

Neale, Sonstroem and Metz (1969) also reported a positive relationship between fitness and attitude toward physical education. It is to be noted that this study of adolescent boys failed to provide evidence of a substantial relationship between fitness and extent of participation in voluntary physical activity. The measure of participation was a self-report form and it is possible that it does not give a true picture of actual participation. Miguel (1969) in a study of the carry-over value of physical activities of high school graduates found that, generally, the male and female respondents to a questionnaire, enjoyed high school physical education programs. Of the 150 subjects, only 11% of the women and 9% of the men expressed dislike for physical education. However, the results were not significant to be generalizable as no cause and effect relationship was found in the results of this study.

In spite of studies showing positive student attitudes there is, nevertheless, evidence of growing concern regarding teacher-dominated methods in physical education programs. An examination of the texts in the field indicate a strong emphasis on the development of excellence in student performance as well as a concentration on tests and scores, rather than on experience. An American Alliance of Health, Physical Education and Recreation (AAHPER) publication (1976) states:

The typical physical education class in its organization and processes still reflects the old belief that all children should learn the same thing at the same rate and in the same manner. (p. 6)

Several authorities have indicated a concern over programs which do not recognize the individual needs, learning styles and learning states of each learner. For example, Bruner (1961), Holt (1976), Rogers (1969) and Silberman (1970) strongly support the idea that educational programs and learning opportunities should be determined by an assessment of the needs of each student. Moreover, the most current research in the area of pupil learning, points to the need for emphasis on the individual learner, the teacher's growing awareness of the learner's "cognitive style" and learning for individual mastery (Bloom, 1978). These researchers suggest re-examination of teaching methodology in which teachers teach the same thing to all children at the same time and the expectations that each student will achieve mastery at the same time. Jewett (1974) and Buchner (1974) see physical education curriculum as emphasizing large group instruction, excellence of performance and a high degree of teacher direction. Educators like Oberteuffer (1977), Hellison (1978), Leonard (1975) and Gallway (1976) advocate there is a great need and concern for the individual learner and an integration of mind and body philosophy. Part of the problem may lie in the lack of attention given to planning physical education programs for future needs. Zeigler (1974), Welsh (1977) and Carter (1971) indicate physical education teachers seem simply to be perpetuating past curriculum content and teaching methods.

In summary, writings and research findings suggest that current practices in physical education need re-evaluation. While some studies show positive attitudes about physical education, more research is needed to identify teaching practices in physical education which effect attitude changes that carry over into later life. Educators developing physical education curricula need to give greater attention to the individual learner in their plans and show more concern with future long range plans.

#### Physical Education Programs and Physical Fitness

In spite of the recent rise in Canada of fitness activities such as jogging, tennis, squash, and others, the data on levels of physical fitness and health seem to suggest marginal fitness and health in a substantial portion of the Canadian population. Some critics suggest a relationship between these marginal fitness and health conditions and the quality of current traditional physical education which, they claim, neglects to emphasize fitness and health in secondary and post-secondary life. (Kraus, L and Raab, W. 1961)

The fitness level of Canadians has been described as very poor in a number of well-documented investigations (Bailey, 1974; Shephard, 1965; Kannel, 1967). Bailey (1973) in a definitive study on the cardiovascular fitness of Canadians showed that 47% of teenage girls fell into the low to fair fitness category. In the Saskatchewan Child and Growth Development Study (1972) a group of boys and girls was followed for a ten year period, from the ages of 7 - 16. It was discovered that the cardiovascular fitness of girls continued to decrease from the age

of 12 on. In addition, at all ages, girls performed at lower fitness levels than boys. In British Columbia, O'Neill (1976) studied the fitness levels of high school students and found that by grade nine, female students had declined in fitness levels to the fortieth percentile (below average). This trend was maintained through the grade twelve level. Quinney (1974) studied 686 male and female subjects ranging in age from 14 to 49 years, in an attempt to discover the relationship between high and low aerobic capacity and physical activity level, obesity and smoking. He found that subjects with a high aerobic capacity showed higher activity levels, less obesity and smoked less.

The research of Taylor (1967), Kannel (1967), Bailey (1974), Shephard (1965) and Quinney (1974) established a cause and effect relationship between low level physical fitness and the higher incidence of coronary disease found in the Canadian population. To be more precise, these researchers have shown coronary disease to be a multi-dimensional disease not only involving physical activity level but as well, smoking, age, diet, stress level and heredity.

Recent data from the Canadian Heart Foundation (1974) also show the increase of health disease in the general Canadian population.

Krass and Raab (1961) suggest a relationship between low physical activity and mental health. They stated that:

A proper interaction of various components form personality. Inadequate physical activity, by creating emotional imbalance and tension through curtailment of outlets, may be a direct factor impairing emotional and mental health. (p. 151)



The data discussed above are sufficiently alarming as indicators of the marginal levels of physical fitness in the general Canadian population.

Low fitness levels of Canadians seems to arise from concerns related to physical education teaching. One concern is the lack of emphasis in many current physical education programs on the inter-relationship between health, fitness and exercise. Another concern deals with the lack of adequate carry-over of physical activity into later adult life.

Many studies seem to suggest that current health and fitness programs need reconstruction and reorganization to provide a more meaningful physical education experience. Locke (1969) stated:

It is a misunderstanding of ends and means when children are trained to be physically fit and yet learn simultaneously to hate physical education and physical activity. (p. 83)

Cureton (1969) in describing the physiological effects of exercise programs on adults suggests that to make headway in convincing people to exercise regularly, it is important to both explain the need and to include a strong sampling of activities that affect daily existence. Current literature on physical education programs indicates that educators are more concerned in teaching the "hows" of fitness rather than the "whys".

An American Alliance for Health, Physical Education and Recreation publication states:

- The need for teaching a body of knowledge in physical education appears indisputable, then if the school

accepts its responsibility to assist the individual to develop his potential, by giving him not only the skills but the background for knowing "how" and "why", so that he may continue to grow throughout his lifetime. (p. vii).

Seidentop (1972) cautions that in developing physical education programs, it is important to examine the quality and types of exercises to be included. He says that all physical exercise should not be seen as "a pancea for all of man's ills" and that physical educators should not make claims for the benefits of exercises that cannot be verified (p. 101).

In the earlier section of the literature review, criticism was voiced against programs which do not give sufficient attention to individual needs. The writings of Hellison (1973), Seidentop (1976), Leonard (1975) and Sheehan (1976) reveal that the development of personal fitness programs must emphasize understanding and clarification of basic principles if they are to encourage participation on a long term basis.

Hellison (1973) and Oberteuffer (1977) also point to the problem of lack of emphasis on the individual in physical education programs. They suggest that physical educators have been remiss in not involving students in the planning, designing and evaluating of their fitness programs. Moreover, Hellison (1973) and Oberteuffer (1977) are critical of teachers who impose the same educational goals and objectives for all students rather than being attentive to the possibility that different students may have entirely different goals and objectives. Oberteuffer (1977) states that it is time educators begin to carefully

construct health and fitness programs that provide quality and meaning to the participating student.

Not just any activity as long as it produces sweat and strength is educative in the rational interpretation of that word. From modern physical education programs we expect lasting values in continuous participation... an accumulation of fitness scores is not only insignificant compared to this but may actually be defeating this goal. (p. 250)

In summary, the literature reviewed points to a concern for the marginal level of physical fitness and health in the general Canadian population and the concern that physical education programs are not playing a sufficiently major role in increasing these levels.

#### Innovative Approaches to Physical Education

This section of the literature review will discuss some of the innovative practices currently seen in physical education programs.

The teaching approaches that will be described include the:

1. Contract approach
2. Conceptual approach
3. Humanistic approach
4. Conditioning approach
5. Psychophysical approach

Each of these teaching approaches has a high degree of emphasis on the individual participant. Moreover, while these teaching approaches are discussed separately, it will be seen that there are overlaps in principles and in methodology.

During this past decade, many changes have been made in secondary

school physical education. Some of the changes have involved improved instructional technology and some have involved the scope, structure and sequence of the curriculum (Loughrey, 1978, p. 34). It has been stated previously that emerging programs are not so much a new kind of physical education but a new approach to learning (Leonard, 1975).

### The Contract Approach

One teaching technique which contains the potentiality to individualize the education process and allow students to pursue self-selected goals and objectives, is course contracting. Anderson (1974) defines contract teaching,

... as an agreement between the student and instructor that defines the learning objectives, learning activities, evaluation criteria and other factors deemed necessary for conducting the educational program.  
(p. 37)

Contract teaching has been used to individualize the physical education learning experience. Parchman (1974), Annarino (1974) and Mundy (1974) describe contracts that give students a choice of programs. This kind of contract approach to instruction is designed by the teacher. At the beginning of a unit, the instructor identifies the competencies to be acquired in the course and the students contract the goals and grades they wish to achieve. A variation in contract teaching is discussed by Foster (1974), Anderson (1974) and Geadleman (1971). Students are directed to develop personal objectives using resources such as films, charts, books and video-tapes to assist them in developing goals. A review of the literature has substantiated that contract

teaching as packaged systems of instructions has been accepted as well as abandoned by educators and students. The opinions of instructors utilizing course contracting are represented by Dash (1970), Fast (1971), and Parchman (1974) who support contract teaching because "it generally fulfills educational objectives for individualized instruction." In addition, Kraft (1974) describes contract teaching as effective in developing skills, knowledges and attitudes by involving the students in setting their own goals and grades. A critical review of contract teaching was outlined by Anderson (1974) and Mundy (1974). This review suggested that while the failure to direct students toward realistic goals has hindered the success of many contracts, most reports pointed favorably to contract teaching as a viable alternative to traditional instruction.

#### The Conceptual Approach

This approach involves the lecture-laboratory practices with emphasis on conceptual understanding related to health and fitness.

Terry (1977) and Seidentop (1972) described the conceptual approach as one which helps students to understand and evaluate the physiological, sociological and emotional effects of physical activity.

Corbin and Laurie (1978) write about a program where students develop personal fitness programs through a lecture-laboratory or individual prescription program. Seidentop (1972) identified the various conceptual approaches to physical education as divided into two main goal groups: (1) appraisal goals: and (2) awareness and under-

standing goals (p. 176). Corbin (1970), outlined the specific objectives of basic knowledge, understandings and values of physical activity in a conceptual approach course as follows:

1. to briefly acquaint the student with the human organism, its structure, function, capabilities, and limitations in relation to physical activity.
2. to present information concerning the values of exercise in developing each of the many aspects of physical fitness.
3. to aid the individual in becoming aware of personal fitness needs through a testing program to evaluate physical fitness status.
4. to help the student learn to perform exercise correctly.
5. to provide counselling and guidance in the selection of activities for immediate and future needs. (p. 176)

Corbin and Laurie (1978) see the concepts approach as having greater potential for encouraging exercise for a lifetime (p. 52).

It is seen that few empirical investigations are found supporting the conceptual approach. However, there is sufficient interest in the literature to warrant further research on this health-oriented methodology.

#### The Humanistic Approach

There is a growing body of literature describing and supporting a humanistic approach to physical education. An American Alliance for Health, Physical Education and Recreation defines the humanistic approach as follows:

Humanistic instruction often involves substantial student participation in the selection of learning content as well as learning method. The assumption is made that individual students have a positive tendency towards self-development and personal fulfillment. (Locke and Lambdin, 1976, p. 34)

Hellison (1978) describes the humanistic physical education concept as being supportive of the trend in education to concentrate more on individualization of teaching rather than package learning for all. Adler (1972) in a study of inclusion and exclusion in the secondary physical education class found that classes that involved the students (inclusion) in planning and discussing objectives provided greater opportunity and more incentive to participate. On the other hand, the exclusion classes were primarily structured by the teacher and it was found that classes were less personal and students less inclined to participate.

Hellison (1978) writes that humanistic physical education methodology is based on the assumption that the student is in the best position to determine what and how he/she should learn. He describes four goals that should influence students to develop through physical activity: (a) self-esteem, (b) self-actualization, (c) self-understanding, (d) interpersonal relationships (p. 1). In this approach the student moves progressively from a structured style of teaching (command approach) to a more self-directed individualized approach.

The literature describing the humanistic approach reveals the great diversity in the way this type of program's principles are applied to classroom practices. While the emphasis is on personalizing

and individualizing programs, there seems to be varying degrees of teacher domination throughout as defined by Heitman and Kneer (1976) and Cassidy and Caldwell (1974).

O'Hanlon (1978), in describing leadership for physical education sees the traditional roles of both teacher and student needing to change in order to adjust to the methods of individualized or personalized instruction.

Further investigation by Kneer and Neuman (1977) suggests that just as individualized instruction or techniques are designed for personal learning, so must various strategies be individualized in order to implement humanistic concepts in physical education (p. 87).

The literature points to varying interpretations of this approach as well as varying degrees of individualization. Additional studies on this approach would help shed light upon this method as a viable alternative in the physical education curriculum.

#### The Conditioning Approach

The conditioning approach initiated by Cooper (1968) emphasizes the importance of high aerobic capacity and its relationship to effective cardiovascular functioning. In recent years, aerobics has received a great deal of attention in the general population. This decade has seen an increase in jogging, fun-runs, and in running marathons all of which are linked with aerobic exercise. Leonard (1978) has stated that more people are becoming interested in the potential of their own bodies which helps to account for "the explosive growth of the current



fitness movement and the lively interest in holistic health." (p. 158).

Leonard (1975), Sheehan (1978), Welsh (1977) and Helison (1978) emphasized the importance of aerobic conditioning as part of the physical education curriculum.

Conditioning involves the building up of the body's endurance to physical fitness and exercise. Weesner (1971) studied a program emphasizing conditioning and found no difference between teacher-directed and student-centered methods in increasing levels of physical fitness and knowledge about conditioning.

Sheehan (1978) and Leonard (1975) have criticized a number of aerobic approaches in physical education programs. For example, Sheehan (1978) suggests the same programs have been too prescriptive on their emphasis on forestalling heart attacks. Moreover, Sheehan has written that there has been inadequate attention to the importance of mental and spiritual energies, suggesting with "a new body, people can put on a new person and build a new life." (p. 53).

Greene and Osness (1978) and Petal (1978) however, described physical education programs with aerobic emphasis which they consider to be effective in realizing the important goals of this approach.

However, it should be noted that there is a dearth of empirical evidence supporting this alternative and the literature points to a concern for further inquiry into the development of more effective methods for conditioning programs.

### The Psychophysical Approach

The psychophysical approach is described by Jean Houston (1978) as an interface of mind and body. Some educators see this approach as a possible catalyst for bringing about an entirely new program of physical education. Seidentop (1972), Brown and Cassidy (1963) and Metheny (1977) see this approach as calling for the reorganization of the content of physical education as human movement as the central focus. Brown and Cassidy (1963) have suggested that physical education be seen as human movement:

Physical education has the same designation as movement, as human movement. Throughout history, movement has been the central core of the meaning attached to what has been called physical education, physical training or physical culture.  
(p. 33)

Hope (1968) suggests that to undertake this approach to physical education requires new methods, new content, and new programs.

She says:

Consider, then, all the things we have not learned about physical activity, for example, very few of us know that certain ways of approaching the learning of a new activity are far more effective than others, that selecting certain sensory information to attend to is important for improving performance, that our socio-cultural environment affects the way in which we use space-time with our bodies.... (p. iv-v)

Sheehan (1978), Leonard (1978), and Houston (1978) all suggest that to understand the psychophysical approach requires a new way of looking at sports, dance and games. Leonard (1975) further states:

Any psychology of learning theory, to be complete, must include the body -- what we eat, how we move, how we live. (p. 148)

Huxley (1961) was also concerned with the direction of physical education. He wrote about one of Spinoza's findings:

Teach the body to do many things, which will help you to perfect the mind and to come to the intellectual level of thought...if we substitute the word "body" the word "organism" and for the word "mind" the word "mind-body", this could be made the motto of an entirely new branch of education, the deliberate training of the mind-body, which then has to make use of its concepts and its words.  
(Whiting et al., 1973, p. 60)

Huxley (1961), Leonard (1978), Sheehan (1978), Hellison (1978) and Houston (1978) have emphasized that the physical education of the future needs to become a part of a total process to help every student find a meaning and purpose in life.

Leonard (1978) stated that the acceptance of personal health will come through a critical re-examination of the curriculum with educators taking responsibility "toward a de-emphasis on competing and winning, along with a re-emphasis on participating and experiencing." (p. 177).

It is clear that additional research is needed to substantiate the claims of educators like Huxley (1961), Leonard (1978), Houston (1978) with respect to their views of a total human movement curriculum that would be radically different from anything seen in physical education. However, the writings of these educators is sufficiently intriguing to substantiate such additional investigation.

Chapter 2 has presented the literature related to this study. Chapter 3 will present the instruments and procedures used in the collection and treatment of the data.

## CHAPTER 3

Research Design and Methodology

This chapter presents descriptions of the design of the study and the methods and procedures which were employed in carrying out the design. The chapter includes discussions of the study sample, the study design, descriptions of the experimental and comparison programs, instruments used, data collecting procedures and the data analysis procedures.

The Design of the Study

This study was designed to compare two different approaches to teaching Physical Education to Grade Eleven women students -- an Active Health program and an Activity oriented program, particularly with respect to learning outcomes of:

- a. physical fitness: cardiovascular endurance, strength and flexibility
- b. dietary habits
- c. activity habits
- d. knowledge.

The study tested the following null hypotheses:

1. There will be no significant difference in post-test mean scores on cardiovascular endurance levels of students in the Active Health program and those in the Activity program.
2. There will be no significant difference in post-test mean scores on strength level of students in the Active Health

- program and those in the Activity program.
3. There will be no significant difference in post-test mean scores on flexibility levels of students in the Active Health program and those in the Activity program.
  4. There will be no significant difference in post-test dietary habits of students in the Active Health program and those in the Activity program.
  5. There will be no significant difference in post-test activity levels of students in the Active Health program and those in the Activity program.
  6. There will be no significant difference in post-test mean knowledge scores of students in the Active Health program and those in the Activity program.

Because of the difficulty in controlling variables of scheduling in the social setting of the secondary school context, the study was quasi-experimental in nature, adhering to the form of pre-test, post-test control group design outlined by Kerlinger (1973). The comparison group consisted of students who received instruction by a traditional Activity approach. The experimental group received a more personalized Active Health program. The investigator was the teacher for both groups.

### Description of the Sample

The population for this study consisted of ninety-nine Grade eleven students from Carson Graham Senior Secondary School in North Vancouver. There were sixty-four subjects in the experimental and twenty-five subjects in the comparison group. Carson Graham is situated in a middle-class neighbourhood in North Vancouver.

The experimental and comparison groups adhered to the form of pre-test and post-test design but the membership of these groups was not determined by random assignment. The groups used in this study were naturally assembled and self-selected classes. The assignment treatment to classes was determined by the course content.

On the first day of both courses, each group was given an outline of the focus of the program. Students could, if they wished, transfer to other physical education classes at that time. However, there were no transfers.

Tables I and II show the testing schedule for both groups.

### The Experimental Program

The experimental program was developed by the investigator. Entitled Active Health, it consisted of daily periods of one hour and fifteen minutes which lasted for an entire semester (18 weeks). The program was designed to take each student through a graduated exercise program which included emphasis upon flexibility, muscular endurance and stamina-building activities. The program also included student discussions, demonstrations, readings, guest speakers, films and videotapes which dealt with the principles of fitness. The structure of the pro-

TABLE I

Active Health Testing Schedule

Experimental Group

N=64

Fitness Profile	Pre-Test	Re-Test	Post-Test
1. Aerobic 12 Minute Run	Sept. 1978	Nov. 1978	Jan. 1979
2. Flexibility			
a. Back Extension	Sept. 1978		Jan. 1979
b. Sit and Reach	Sept. 1978		Jan. 1979
c. Shoulder Extension	Sept. 1978		Jan. 1979
3. Grip Strength	Sept. 1978		Jan. 1979
4. Sit-Ups	Sept. 1978		Jan. 1979
Assessment of Fitness and Nutritional Needs	Sept. 1978		Jan. 1979
Knowledge Test	Sept. 1978		Jan. 1979
External Evaluation			Jan. 1979

TABLE II

Activity Group Testing Schedule

Comparison Group

N=25

Fitness Profile	Pre-Test	Re-Test	Post-Test
1. Aerobic 12 Minute Test	Feb. 1978	April 1978	June 1978
2. Flexibility			
a. Back Extension	Feb. 1978		June 1978
b. Sit and Reach	Feb. 1978		June 1978
c. Shoulder Extension	Feb. 1978		June 1978
3. Grip Strength	Feb. 1978		June 1978
4. Sit-Ups	Feb. 1978		June 1978
Assessment of Fitness and Nutritional Needs	Feb. 1978		June 1978
Knowledge Test	Feb. 1978		June 1978
External Evaluation			June 1978



gram was intended to provide a variety of learning experiences and to create a framework in which students could explore and develop a personal approach to fitness. The program is found in its entirety in the Appendix.

#### The Comparison Group Program

Students in the comparison group were enrolled in physical education 11, the traditional physical education course required for female students at Carson Graham Senior Secondary School. This course also consisted of daily periods of one hour and fifteen minutes, lasting over an 18 week semester. The emphasis of the physical education course was on activities, team and individual sports, dance and recreational games.

#### Implementation of the Programs

To control for a differential Hawthorne effect and for the differential effect of compliant subjects, the writer taught both experimental and comparison classes and all cases were informed that they were involved in a Master's degree study. (Hawthorne Effect, see Kerlinger, 1964).

The comparison group was taught in the semester beginning in February 1978 and lasting until June 1978. The experimental group was taught in the semester beginning September 1978 and lasting until January 1979. There were several differences in the teaching approach to each of the courses which should be noted.

The atmosphere of the comparison Activity course was more formal

and structured, and traditional procedures were used throughout the semester. In the experimental Active Health program the students were asked to group themselves or arrange themselves so that they could see other members of the class as well as the teacher. The students were encouraged to exchange ideas among themselves and the instructor. For example, in the Active Health course the instructor might ask the class to suggest an exercise to improve flexibility or have students demonstrate warm-up exercises before beginning activity. By eliciting student ideas and opinions, opportunities were provided for getting at facts through student discussion. In the comparison Physical Education 11 class, the instructor balanced traditional procedures by demonstrating what exercises were beneficial, rather than involving students in a discussion.

At various times during the semester, the students in the Active Health class were asked to make suggestions concerning improvements in the course. At no time during the course of study was the physical education 11 class asked to give feedback about the content of the course.

Another example of program difference was the opportunity given to the Active Health classes to be involved in individual or group projects. These projects included planning an activity; developing and demonstrating a warm-up program; discussing nutrition and its relationship to performance; giving short presentations on the systems of the body.

The projects initiated many discussions and involved students in

examining ways of improving and developing a personal approach to an active lifestyle. The comparison class was not required to take any projects and followed traditional procedures of a warm-up jog or circuit, plus an activity or sport. This group from time to time saw films on fitness, running programs and nutrition and these were used to initiate discussions to promote the idea of a personal approach to fitness.

Another difference in the implementation of the two programs concerned the determining of individual goals with respect to conditioning. In the Active Health program students were asked to discuss and to determine short-term fitness goals. In that regard, students were instructed on the initiation, development and evaluation of an individual fitness program. While emphasis was placed upon improving cardiovascular endurance, there was sufficient flexibility which allowed students to focus on aerobics (Cooper, 1973), jogging (Bowerman, 1967) and long slow distance running (Henderson, 1977). Whatever options were chosen, students were encouraged to begin work at levels compatible with their initial ability. The role of the instructor was one of consulting, answering questions, making suggestions and reviewing with each student her fitness goals.

The approach to conditioning taken by the physical education 11 Activity group was that of a traditionally structured class. This involved an aerobic approach for class members, who were all engaged in the same activities, requiring the same distance, route or time on task. Both comparison and experimental groups kept an on-going journal

of their progress. The information kept in each journal consisted of the date, type of program (i.e. interval training) distance and/or time, heart rate before and after exercise work-out and a comment on student's progress or her feeling after exercise.

#### Instruments Used in Data Collection

The outcomes of both programs were evaluated through pre-tests and post-tests using the following instruments:

##### I. Fitness Profile Tests

All of the tests in this category with the exception of the Aerobic 12 minute test (Cooper, 1968) have been developed by Action B. C. and appear in the Functional Fitness Appraisal Test Manual (1977). All of the tests have been subjected to reliability and validity procedures.

##### A. Cardiovascular Endurance Tests

###### 1. Aerobic 12 Minute Test

This test measures cardiovascular endurance. It requires that the subject run and walk as far as he/she can in 12 minutes.

The greatest distance covered in 12 minutes can measure aerobic capacity and determine a fitness category (Cooper, 1968).

##### B. Flexibility Tests

###### 1. Sit and Reach

This test measures the flexion of the hip and back as well as the elasticity of the hamstring muscles. It requires the subject to assume a sitting position with legs and knees fully

extended and feet together. The feet are placed against the footprints on the cross bar of the sit and reach measuring apparatus with the crossbar adjusted so it is made level with the subject's feet. The subject then bends forward from waist with his arms outstretched. He reaches forward maximally for 3 seconds and a measurement is taken on the sliding scale. The sliding scale begins at 10 inches at the base of the subject's feet and increases as the scale moves away from the feet.

Prior to taking the test, the subject is asked to do a few stretching exercises so as not to injure the muscles, i.e., toe touching. (Functional Fitness Appraisal Test Manual, 1977)

## 2. Back Extension

This test measures the flexibility and extensibility of the subject's back. The subject lies prone with a partner holding his buttocks and lower limbs firmly to the ground. The subject rises from the floor with his hands on his neck and attempts to hold a maximal extension for 3 seconds. The tester takes the measurement from the chin to the floor and records it in inches.

(Functional Fitness Appraisal Test Manual, 1977)

## 3. Shoulder Extension

This test measures flexibility of the shoulders and shoulder girdle. The subject lies prone on the floor. Both arms are stretched out and in front holding a wooden bar.

The subject, keeping his chin on the floor, lifts the bar as

high as possible and holds this position for 3 seconds. The subject's arms must be kept straight. The vertical distance from the bar to the floor is the score.

(Functional Fitness Appraisal Test Manual, 1977)

### C. Strength Test

#### 1. Stoelting Dynamometer

This test measures muscular strength. The subject initially is asked to grasp the dynamometer to ensure that the adjustable handle is in a comfortable position conducive to maximal contraction.

She is then instructed to squeeze the dynamometer vigorously with the right hand. The same procedure is repeated for the left hand and the test is repeated twice for both hands, alternating hands both times. The best score is read on the dial of the dynamometer and recorded in kg. for both hands. During the test the hands are not allowed to touch the body or any object.

As the subject squeezes, her arm should describe an upward and forward travelling arc, much like a punching action.

(Functional Fitness Appraisal Test Manual, 1977)

These fitness profile tests were selected for the following reasons:

1. simplicity of administration (little equipment was required, a minimum of time is needed to give the tests, the techniques

for administration are uncomplicated, and many subjects can be tested in a relatively short time).

2. available norms for women and girls
3. reliability and validity.

## II. Knowledge Test

This test on principles of physical fitness was based on a test constructed by Hellison (1969). The test by Hellison was termed Physical Conditioning Test (p. 77). The items were framed according to what the instructor perceived as important principles in the area of fitness and exercise. The areas of information were: to identify the basic building blocks of fitness, to be familiar with training techniques and to realize what effects regular exercise has on maintaining a healthy diet. The pre-test was administered during the second week of the semester and the post-test during the last week of the semester for both experimental and comparison groups. (A copy of this test appears in the Appendix.)

## III. Fitness and Nutritional Needs Assessment

In addition to the knowledge and fitness tests, a questionnaire was constructed to gather information on students' perceived levels of activity and nutritional habits. For example, students were asked to describe their meals and eating patterns as well as give descriptions of other kinds of physical activities in which students participated. The questionnaire was administered to both groups in both pre-test and post-test settings. In order to prepare for computer analysis, the

responses in the questionnaires were analyzed by two judges and the investigator. The two judges were staff members with experience with the Canada Health Food Guide as well as experience in fitness programs. The procedures used for the analysis were developed from a report from Ontario Blue Cross by Stare (1973). This involved the categorization of each response and the arriving at consensus on each response. Categories used to assess responses about breakfast, for example, were (1) adequate; (2) inadequate; (3) poor. In determining whether a breakfast fell into the "adequate" category, it had to have included items of food from three out of the four food groups. An "inadequate" breakfast included items of food from only one or two food groups. A "poor" breakfast was one that was neither eaten, or not eaten regularly.

A copy of the questionnaire is found in the Appendix.

#### IV. External Evaluation

A consultant for the Faculty of Education at Simon Fraser University, with competency in interviewing technique, gave personal interviews for both groups at Carson Graham at the end of each semester. This external evaluation took place in June 1978 with the comparison group and in January 1979 with the experimental group. Each student was interviewed to determine changes in activity habits, eating habits and fitness improvements. Students were invited to make criticisms about the programs and to suggest possible changes. In order to assure conformity with respect to interview procedures, a standard procedure and list of questions was utilized for all members of the groups. The interview was tape-recorded also as a means of checking that the interviewer was consistent in



interview procedures from one student to the next. The same interviewer handled both interview sessions.

Finally, the tape of the interviews was given to the investigator after completion of final grades for each course. These steps were taken so students would feel at ease to give unbiased responses regarding the program evaluation.

#### Procedures Used in Data Collection

All tests in the data collection (excluding the external evaluation) were administered to the experimental and comparison groups during the second and third weeks of the beginning and end of the semester. A schedule of testing times are shown in Tables I and II. The investigator, two staff members (with experience in fitness testing) and one physical education student administered the Fitness Profile tests. Stations were set up in a room next to the gymnasium with test copies and pencils provided for the subjects. The investigator and the two staff members administered the same tests for both comparison and experimental groups. Some adjustments in the administration of the aerobic twelve minute test was required because of weather conditions. Since the test was performed outdoors on a track, it was required that the test be administered whenever the weather permitted during the second week at the beginning and end of the semester. This was true for both groups.

### Data Analysis

The Statistical Package for the Social Sciences (S.P.S.S.) was used for analysis of covariance and t-tests.

Analysis of covariance is a form of analysis of variance that tests the significance of the difference between means of final experimental data by taking into account the correlation between the dependent variable and one or more covariates and by adjusting initial mean differences in the experimental groups.  
(Kerlinger, 1964, p. 370)

This is done in educational research because it is often impossible to match or randomly assign students. Therefore, analysis of covariance statistically matches subjects, gives the advantage of random assignments, and removes potential sources of bias which cannot be controlled directly.

A t-test was used to ascertain whether or not there were significant differences between the means of pre- and post-tests for both comparison and experimental groups on the fitness profile test and knowledge tests. The assessment of fitness and nutritional needs were analyzed using the non-parametric Mann-Whitney U-test. Significance at the .05 level was accepted for the t-tests.

The data was analyzed at the Simon Fraser University Computing Centre using the Statistical Package for the Social Sciences.

Summary

This chapter has reviewed the research methodology employed in this study. The procedures for the analysis of the data have been outlined and the findings and conclusions are included in Chapter 4.

## CHAPTER 4

Results and Discussion

This study was designed to compare two different approaches to teaching physical education to grade eleven women students -- an Active Health program and an Activity oriented program. Six null hypotheses were tested to evaluate the learning outcomes of:

- a. physical fitness, specifically with respect to cardiovascular endurance, strength and flexibility
- b. dietary habits
- c. activity habits
- d. knowledge

The results regarding these hypotheses are presented in the first section of this chapter.

Additional sections of the chapter present the qualitative data, a summary of the findings and the conclusions and implications of the results. A final section discusses specific suggestions for further research.

Results

*Hypothesis 1: There will be no significant difference in post-test mean scores on cardiovascular endurance level of students in the Active Health program and those in the Activity program.*

As stated in Chapter 3, cardiovascular endurance was measured by the Cooper Twelve Minute Aerobic Test (1973). The t-test of uncorrelated means was used to determine the significance of difference in

mean scores. Differences were accepted as significant if the probability that they arose from chance was less than .05.

As presented in Table III, the post-test mean score was 5.4034 for the experimental Active Health group and 5.0825 for the comparison Activity group, a difference of .3209 in favour of the Active Health group. The t-value of 2.36 was significant beyond the .05 level of confidence. Therefore, the difference in post test mean scores on cardiovascular endurance between the experimental and comparison group was statistically significant in favour of the experimental group.

The null hypothesis was rejected because there was evidence that students of the experimental Active Health program significantly improved their cardiovascular endurance in comparison with students in the Activity program. Consequently, Hypothesis I was rejected in favour of Hypothesis I<sup>1</sup>: There will be a significant difference in post-test mean scores on cardiovascular endurance level between students in the Active Health program and those in the Activity program.

#### Discussion of Hypothesis I

The reason for the significance in post-test gains may possibly relate to initial differences in the pre-test mean scores for cardiovascular endurance (see Table III). Given that the emphasis of the Active Health program focused on improved individual performance, the lower pre-test scores may have offered more latitude for improvement. The results suggest that the Active Health program, with its emphasis on self-improvement, might have contributed to the increased fitness levels. In contrast no such emphasis was given to individual

TABLE III

Pre and Post-Test Scores for the Aerobic Twelve Minute Test

Pre-test

	N	Mean	S.D.	t-value
Active Health	64	4.7382	80.847	-1.96
Activity Group	24	5.0937	73.652	

significance = 0.056

Post-test

	N	Mean	S.D.	t-value
Active Health	64	5.4034	46.804	2.36
Activity Group	24	5.0825	60.209	

significance = 0.024\*

\* p .05

\*\* p .01

self-improvement in the Activity program.

*Hypothesis II: There will be no significant difference in post-test mean scores on strength level of students in the Active Health program and those in the Activity program.*

As discussed in Chapter 3, strength was measured by the Stoelting Dynamometer (Functional Fitness Appraisal Test Manual, 1977). The significance of differences between post-test mean scores for dominant and non-dominant hand grip were assessed by using t-tests for uncorrelated means. Differences significant at or beyond the .05 level of confidence were necessary to reject the hypothesis.

As presented in Table IV, the post-test mean score for dominant hand strength was 33.3125 for the experimental Active Health group and 27.2083 for the comparison Activity group, a difference of 6.1042 in favour of the Active Health group. The t-value of 4.91 was significant beyond the .01 level of confidence. Therefore, the differences in post-test scores on dominant hand strength between the experimental and comparison groups was statistically significant.

The data presented in Table V shows that the post-test mean score for non-dominant hand strength was 28.6406 for the experimental Active Health group and 23.9583 for the comparison Activity group, a difference of 4.6823 in favour of the Active Health group. The t-value of 3.29 was significant beyond the .01 level of confidence. Therefore, the difference in post-test mean scores on non-dominant hand strength between the experimental and comparison groups was statistically significant.

TABLE IV

Pre and Post-Test Scores for Strength: Grip 1 (Dominant Hand)

Pre-test

	N	Mean	S.D.	t-value
Active Health	64	22.8438	12.021	-4.14
Activity Group	25	30.6000	5.605	

significance = 0.01\*\*

Post-test

	N	Mean	S.D.	t-value
Active Health	64	33.3125	6.556	4.91
Activity Group	24	27.2083	4.587	

significance = 0.01\*\*

\* p .05

\*\* p .01



TABLE V

Pre and Post-Test Scores for Strength: Grip 2 (Non-Dominant Hand)

## Pre-test

	N	Mean	S.D.	t-value
Active Health	64	19.2344	12.026	-5.12
Activity Group	25	28.4800	5.018	

significance = 0.01\*\*

## Post-test

	N	Mean	S.D.	t-value
Active Health	64	28.6406	6.085	3.29
Activity Group	24	23.9583	5.901	

significance = 0.002\*

\* p .05

\*\* p .01

The null hypothesis was rejected because there was evidence that students of the experimental Active Health program significantly improved their strength in comparison with students in the Activity program. Consequently, Hypothesis II was rejected in favour of Hypothesis II<sup>1</sup>: There will be a significant difference in post-test mean scores on strength level between students in the Active Health program and those in the Activity program.

#### Discussion of Hypothesis II

The measure for grip strength showed the Active Health group improved significantly on post-test measures for both dominant and non-dominant grip strength (see Tables IV and V). It is interesting to note that on pre-test measures for both dominant and non-dominant grip strength, the comparison group scored significantly higher than the experimental group. The Activity group then decreased in mean scores on the post-test on both of the measures. One may speculate about the reasons for this remarkable loss in the Activity group as likely due to not having the same opportunity to improve their strength through a strength building program as did the Active Health group. However, further inquiry would certainly be warranted.

On the other hand, the gains seen on data post tests for the Active Health group may be due to the fact that this group was given the opportunity to understand the principles of strength training and to develop this skill through the more personal approach taken in this program. It is not unreasonable to conjecture that a program in which emphasis is given to theory and sustained practice, and is highly

relevant to personal growth needs, might have well contributed to the significant improvement seen in the Active Health post test scores.

*Hypothesis III: There will be no significant difference in post-test mean scores on flexibility levels of students in the Active Health program and those in the Activity program.*

In Chapter 3, it was noted that three flexibility tests were used -- Sit and Reach, Back Extension and Shoulder Extension (Functional Fitness Appraisal Test Manual, 1977) to assess flexibility levels. The t-test of uncorrelated means was used to determine the significance of difference. The hypothesis would be rejected at the .05 level of significance.

The data presented in Table VI, the Sit and Reach flexibility post-test shows a t-value of 0.67 for the difference in means, which is not significant at the .05 level of confidence. Therefore, the difference in post-test mean scores on the Sit and Reach test between the Active Health group and the Activity group was not statistically significant.

As shown in Table VII, the Back Extension flexibility post-test shows a t-value of 0.10 for the difference in means. This score is not significant at the .05 level. Therefore, the difference in post-test mean scores on the Back Extension test between the Active Health group and the Activity group was not statistically significant.

Table VIII provides the data for the Shoulder Extension flexibility test. The data for the post-test shows a t-value of 0.81 for the difference in means, which is not significant at the .05

TABLE VI

Pre and Post-Test Scores for Flexibility: Sit and Reach

Pre-test

	N	Mean	S.D.	t-value
Active Health	64	11.0781	5.507	-1.87
Activity Group	25	14.1200	7.379	

significance = 0.070

Post-test

	N	Mean	S.D.	t-value
Active Health	64	14.4844	5.668	0.67
Activity Group	25	13.5200	6.272	

significance = 0.507

\* p .05

TABLE VII

Pre and Post-Test Scores for Flexibility: Back Extension

Pre-test

	N	Mean	S.D.	t-value
Active Health	64	48.5625	10.655	0.99
Activity Group	25	45.5500	14.382	

significance = 0.331

Post-test

	N	Mean	S.D.	t-value
Active Health	64	48.7188	12.880	0.10
Activity Group	25	48.4000	12.997	

significance = 0.917

\* p .05

TABLE VIII

Pre and Post-Test Scores for Flexibility: Shoulder Extension

Pre-test

	N	Mean	S.D.	t-value
Active Health	64	40.9844	13.986	0.72
Activity Group	25	38.1200	18.022	

significance = 0.479

Post-test

	N	Mean	S.D.	t-value
Active Health	64	45.4375	13.365	0.81
Activity Group	25	42.4400	16.528	

significance = 0.424

\* p .05

level. Therefore the difference in post-test mean scores on the Shoulder Extension test between the Active Health group and the Activity group was not statistically significant.

Based on the data in Tables VI, VII, and VIII, Hypothesis III was accepted.

#### Discussion of Hypothesis III

Although differences in the post-test mean scores on the flexibility tests slightly favored the Active Health group, the t-test showed that these differences were not significant. This evidence seems to indicate that students of both programs developed their flexibility to the same degree (See Tables VI, VII and VIII). As a result, it was inferred that both programs contributed to improvements in flexibility. While the post-test scores show no significant differences in the three flexibility measures for students in both programs, it may be useful to examine the difference in pre and post-test scores of both groups in each of these tests.

On Sit and Reach it is seen that the Active Health group begins with a mean score of 11.0781 and increases to a score of 14.4844, a difference of 3.4063, significant at the .01 level. On the other hand, the Activity group mean scores show a decrease from 14.1200, to 13.5200, on the pre and post-tests. While the post-test scores show the levels of both groups' performance to be similar, it should not escape attention that the improvement in pre and post measures for the Active Health group was significant.

*Hypothesis IV: There will be no significant difference in post-test dietary habits of students in the Active Health program and those in the Activity program.*

The non-parametric Mann-Whitney U-test was utilized to compute the rank mean comparisons of the data collected in self-reports about dietary habits. Differences were accepted as statistically significant between the two rank scores if the probability that they arose from chance was less than .05.

As seen in Tables IX, X and XI means for the comparison Activity group were somewhat higher than those of the experimental Active Health group. The corresponding rank sum post W-test correlations were: Self-perceived limitations on Daily Activity = 0.2847; Daily Breakfast = 0.5488; Daily Lunch = 0.1394.

In considering Hypothesis IV, it can be seen that Tables IX, X and XI show differences in post-test scores which somewhat favour the comparison group. However, results of the Mann-Whitney U-test indicated that no real differences between these ranked means existed at the designated .05 level of significance. Hypothesis IV was therefore supported.

#### Discussion of Hypothesis IV

The non-parametric Mann-Whitney U-test showed that the Activity group had slightly higher post-test rank mean scores on dietary habits as compared to the Active Health group. It is important to note that throughout the personal interviews, the Active Health students consistently reported a positive change in dietary and activity habits. A question might be presented as to whether the instrument used to collect data on dietary habits measured effectively what changes did



TABLE IX

Pre and Post-Mann-Whitney U-Wilcoxon Sum W Test: Daily ActivityPre-Test: Self Perceived Limitations on Daily Activity

Group	N	Rank Mean
Active Health	62	45.92
Activity	25	39.24

significance = 0.1925

Post-Test: Self Perceived Limitations on Daily Activity

Group	N	Rank Mean
Active Health	62	45.35
Activity	25	48.08

significance = 0.2847

\* .05

\*

TABLE X

Pre and Post-Mann-Whitney U-Wilcoxon Rank Sum W Test: Daily Breakfast

## Pre-Test: Daily Breakfast

Group	N	Rank Mean
Active Health	62	46.37
Activity	25	38.12

significance = 0.1287

## Post-Test: Daily Breakfast

Group	N	Rank Mean
Active Health	62	44.94
Activity	25	38.12

significance = 0.5488

\* .05

TABLE XI

Pre and Post-Test Mann-Whitney U-Wilcoxon Rank Sum W Test: Daily Lunch

## Pre-Test: Daily Lunch

Group	N	Rank Mean
Active Health	62	43.54
Activity	25	45.14

significance = 0.7524

## Post-Test: Daily Lunch

Group	N	Rank Mean
Active Health	62	41.98
Activity	25	49.02

significance = 0.1394

\* .05

occur. In retrospect, a question might be posed as to whether one semester is long enough to change dietary patterns that have been formed by a variety of personal experiences over a period of years.

In any event, the data from these self reports is sufficiently anomalous to raise important questions for further investigation. Such questions include: what might account for the higher scores received by the comparison group? Why did the experimental group fail to show higher scores? What factors might have contributed to the substantial increase between pre and post scores on the Daily Activity measure for the comparison group? Limitations of this study, unfortunately, do not provide sufficient framework to speculate on the answers to these critical questions.

*Hypothesis V: There will be no significant difference in post-test activity levels of students in the Active Health program and those in the Activity program.*

The non-parametric Mann-Whitney U-test was used to compute the rank mean comparisons for the subjective activity assessment. The rejection level for the hypothesis was at the .05 level of significance.

As seen in Table XII, the post-test score for the Activity group was somewhat higher than that of the Active Health group. The corresponding rank sum post W-test was .0587.

In considering Hypothesis V, Table XII shows differences in post-test scores which somewhat favour the comparison group. However, results of the Mann-Whitney U-test indicated that no real difference

TABLE XII

Pre and Post-Mann-Whitney U-Wilcoxon Rank Sum W Test: Activities

## Pre-Test: Activities

Group	N	Rank Mean
Active Health	62	45.04
Activity	25	41.42

significance = 0.4869

## Post-Test: Activities

Group	N	Rank Mean
Active Health	62	45.05
Activity	25	51.32

significance = 0.0587

\* .05

\*

between these ranked means existed at the designated .05 level of significance. Hypothesis V was therefore accepted.

#### Discussion of Hypothesis V

The subjective measure of activity habits did not show a significant difference in the activity levels of both groups. The Mann-Whitney U-test showed the Activity group had slightly higher rank mean scores as compared to the mean rankings of the Active Health group (See Table XII). Possibly the time of year influenced the activity assessment for both groups. The Active Health group finished their course during the winter (end of January 1979), a time when weather can influence activities performed outdoors. Whereas the Activity group finished their course during the spring (June 1978), a time more compatible with performing outdoor activities. However, it would be extremely beneficial, in replicating this study, to assess activity habits over a longer period of time than just one semester.

*Hypothesis VI: There will be no significant difference in post-test mean knowledge scores of students in the Active Health program and those in the Activity program.*

As discussed in Chapter 3, a written test was used to measure knowledge of key principles of fitness (Hellison, 1973). The t-test of uncorrelated means was used to determine the significance of difference in mean scores. The hypothesis is supported when the probability of difference arising from chance is greater than .05 for a two-tailed test.

As seen in Table XIII, the post-test score was 8.9677 for the

TABLE XIII

Pre and Post-Test Table Scores for Knowledge

Pre-test

Group	N	Mean	S.D.	t-value
Active Health	52	7.8710	1.235	-0.61
Activity	55	8.0400	1.136	

significance = 0.543

Post-test

Group	N	Mean	S.D.	t-value
Active Health	62	8.9677	1.810	2.65
Activity	25	8.0800	1.222	

significance = 0.01\*\*

\* p .05

\*\* p .01

Active Health group and 8.0800 for the Activity group. The difference of 0.8877 pointed out that the Active Health group scored higher on the knowledge test than the Activity group. The t-value of 2.65 was significant beyond the .01 level of confidence. Therefore, the difference in post-test mean scores on knowledge between the experimental and comparison group was statistically significant.

The null hypothesis was rejected because there was evidence that students of the experimental Active Health program significantly improved their knowledge scores in comparison with the students in the Activity program. Consequently, Hypothesis VI was rejected in favour of Hypothesis VI<sup>1</sup>: There will be a significant difference in post-test mean knowledge scores of students in the Active Health program and those in the Activity program.

#### Discussion of Hypothesis VI

The evaluation on knowledge of fitness components shown in Table XIII, clearly shows a significant improvement at the .01 level favouring the Active Health group. The approach to knowledge of fitness principles taken by the Activity group was mainly through films or through participation in activities. The results suggest that the Active Health program with its emphasis on discussing and describing fitness components in the course content, may have contributed to the increased knowledge scores as compared to the Activity group.



### Additional Results

As well as gathering statistical data, the investigator was also interested in evaluative comments about the programs from the students. Consequently individual interviews were conducted by a trained interviewer at the end of each program, in which an attempt was made to obtain students' opinions about the programs. The data obtained from these interviews revealed that the experimental Active Health group experienced more kinds of changes than the comparison Activity group, who for the most part saw the need for a wider variety range of activities in the course. Many students in the Activity group gave suggestions on adding activities such as horseback riding, squash, handball and golf. As well, several respondents criticized the repetition of physical education activities from year to year. Furthermore, comments regarding the fitness component ranged from "they were worked too hard", while others believed that "the running was sufficient." Possibly, the failure to consider the individual physical fitness level of students in the Activity program contributed to the negative comments of fitness development.

The students of the Active Health program discussed changes such as improvement in physical fitness, which in most cases was accompanied by other described improvements in nutrition, activity habits and self-satisfaction in achieving these goals.

The emphasis upon teaching the "why" as well as the "how" with regard to a personal approach to fitness was emphasized many times by students in the Active Health group. One student summed this area up

by saying, "I like the fact that the course was different. We were not told we had to run under so many minutes. Instead we ran according to our physical abilities."

The two approaches were comparable in eliciting favourable responses concerning students' perceived worth and enjoyment of their programs as a whole. An unedited record of all responses to the interview questions are included in the Appendix.

#### Summary of Findings

Opinions of experts presented in Chapter 2 suggest that current practices in physical education need re-evaluation. Some studies showed that research was needed to identify teaching practices which effect positive attitude change toward lifetime activity.

Based on the studies presented in Chapter 2, this study focused on designing a physical education program that aimed to take the individual through a graduated exercise program emphasizing basic fitness principles. The Active Health program presented in Appendix A was developed and implemented with grade eleven women students in a lower mainland secondary school. The program emphasized a personal approach to fitness in which students learned how to begin, how to develop and how to evaluate their own fitness program. This course consisted of daily periods of one hour and fifteen minutes, lasting over an 18 week semester.

The students enrolled in the Active Health program were compared with students enrolled in a traditional physical education eleven pro-

gram in a variety of post-test measures. The traditional course emphasized activities -- that is, team and individual sports, dance and recreational games. At the end of both programs, a physical fitness evaluation of cardiovascular endurance, strength, flexibility and a subjective dietary and activity assessment were conducted to provide data on the comparative learning outcomes for the students in both programs. The pre and post-physical fitness data were statistically analyzed by t-tests for uncorrelated means. The dietary and activity assessment was computed by using the non-parametric Mann Whitney U-test for rank mean comparisons. Significance at the .05 level of was accepted for all comparisons.

The comparisons of the experimental Active Health group and the comparison Activity group revealed six major results:

- (1) There was a significant difference favouring the experimental group on the cardiovascular endurance post-test.
- (2) There was a significant difference favouring the experimental group on the post-test strength measure.
- (3) The experimental and comparison groups were not significantly different on post-test flexibility measures.
- (4) The experimental and comparison groups were not significantly different on measures of post-test dietary habits.
- (5) The experimental and comparison groups were not significantly different on measures of post-test activity habits.
- (6) There was a significant difference favouring the experimental group on post-test knowledge scores.

### Conclusions

On the basis of the findings and within the limitations of this study, the following conclusions seem warranted:

- (1) The Active Health program appeared to have contributed to the improvement of students' fitness scores on cardiovascular endurance and strength measures.
- (2) The Active Health program and the Activity program appeared to have benefitted equally from both programs on their flexibility.
- (3) The Active Health program and the Activity program showed similar results on post-test measures on activity and dietary habits as measured by the Mann-Whitney U-test. However, the Active Health self-reports pointed to a major shift in diet and activity habits.
- (4) The Active Health program appeared to have contributed to the improvement of students' knowledge of principles of fitness.

### Implications of the Study

This section provides a discussion of the implications of the study based on the findings presented above.

The study indicated that Active Health students could improve some aspects of their fitness through a personalized approach to learning. The Active Health program designed in the study was effective in significantly improving fitness scores on cardiovascular endurance and strength measures. The traditional physical education program also allowed for students to develop fitness levels. However neither program showed a consistently clear portion of high level performance in all the critical areas of physical health and fitness seen to be necessary

for a healthy life. Students in both programs evaluated each favourably in terms of worth and enjoyment. These data are compatible with the data from other studies presented in Chapter 2, indicating students' favourable perceptions of physical education programs. The criticism that traditional programs do not provide sufficient attention to individual needs (Leonard, 1975) was also borne out by comparison group students' comments in this study.

These, then, are the implications that may be drawn from these data:

(1) Based on the gains made by the Active Health group on endurance strength and knowledge, it would appear appropriate for traditional physical education programs to understand the effectiveness of these learning outcomes. This could lead to the augmentation of Active Health program goals which aim to personalize the learning experience by taking the individual through a graduated exercise program emphasizing basic fitness principles.

(2) Research was reviewed that suggested that teachers of physical education understand the "hows" and "whys" of exercise as it relates to promoting lifelong positive attitudes toward good health. It appears important that institutions of teacher training programs undertake to influence future physical educators to develop competencies in the physiology of exercise. Along with this training should be the knowledge of how understanding the learning process and personalizing the learning experience will enhance the personal motivation towards health-fitness.

(3) The Active Health program tested in this study emphasized the understanding of the relationship among the factors of cardiovascular endurance, flexibility, strength, nutrition, stress and relaxation. The significant differences in post-test measures seen in Active Health students' scores suggest that physical educators teaching at the secondary school level might recognize the Active Health program as a viable approach to developing curriculum.

(4) The anomaly existing between the data from this study, and other studies reviewed and life-long physical health habits remains puzzling. If both traditional and experimental programs result in gains of fitness scores and positive comments about programs, what kinds of program components are required to produce better physical fitness and health habits in the adult society? The implications for further experimentation are major.

#### Suggestions for Further Research

As a result of this study, several suggestions can be made concerning further research:

1. Cross-validation studies are necessary before generalizations can be confidently made on the learning outcomes of Active Health programs. Replications of the study would assist in exploring these connections.
2. In this study it was difficult to find instruments that would measure the desired outcomes of changes in dietary and activity habits. Instruments designed to measure nutrition and activity patterns need to be developed.

3. Teaching practices in physical education which effect attitude change towards physical fitness need further investigation.

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APPENDICES



APPENDIX A

Guidelines for an Active Health Program

A Personal Fitness Approach

TABLE OF CONTENTS

	Page
INTRODUCTION . . . . .	83
GOALS OF THE ACTIVE HEALTH PROGRAM . . . . .	85
PROGRAM DESIGN . . . . .	86
TEACHING STRATEGIES . . . . .	88
PERSONAL FITNESS PROGRAMS. . . . .	90
DISCOVERING YOUR LEVEL OF FITNESS. . . . .	93
WHAT IS YOUR FITNESS LEVEL? . . . . .	94
FITNESS ASSESSMENT . . . . .	95
AEROBIC 12 MINUTE TEST OF FITNESS. . . . .	97
EXAMINING YOUR BEHAVIOR AND FEELINGS . . . . .	98
HEART RATE LAB . . . . .	99
YOUR PULSE - THE COMPUTER . . . . .	100
ACTIVE HEALTH: FUNCTIONAL FITNESS ASSESSMENT - DATA SHEET . . .	101
WHAT IS YOUR CURRENT EXERCISE BEHAVIOR? . . . . .	102
WHAT THE PULSE CAN TELL YOU ABOUT FITNESS. . . . .	106
A FITNESS PROGRAM FOR YOU . . . . .	110
PROPER BREATHING TECHNIQUE AND RUNNING . . . . .	112
FITNESS CONTRACT . . . . .	114
HOW TO BE A RUNNER . . . . .	116
AEROBICS . . . . .	117
JOGGING . . . . .	118
LSD - LONG, SLOW, DISTANCE . . . . .	119
THE WOMAN JOGGER . . . . .	120
HOW TO STRETCH . . . . .	121

TABLE OF CONTENTS (continued)

	Page
STRETCHING BEFORE/AFTER A RUN . . . . .	122
HOW TO BEGIN A RUNNING PROGRAM . . . . .	123
AEROBIC PROGRESS CHART . . . . .	125
FITNESS CONTRACT . . . . .	126
STRESS AND RELAXATION. . . . .	127
THE STRESS OF LIFE . . . . .	128
BEFRIEND YOUR BODY TODAY . . . . .	129
BLOOD PRESSURE - HOW IT IS AFFECTED BY HYPERTENSION. . . . .	130
RELAXATION . . . . .	131
BLOOD PRESURE STATION . . . . .	133
COUNTING BREATHS . . . . .	135
NUTRITION AND EXERCISE . . . . .	136
FOOD FOR FITNESS . . . . .	137
YOUR NUTRITIONAL STATUS- HOW DO YOU RATE YOURSELF? . . . . .	138
ONE DAY ACTIVITY RECORD. . . . .	139
ONE DAY FOOD RECORD. . . . .	140
SUGGESTED CLASSROOM ACTIVITIES FOR NUTRITION AND PHYSICAL FITNESS	141

## INTRODUCTION

Active Health is an attempt to make students' participation in physical education more interesting and related to their everyday experience. The program provides insights into the systems and functions of the body as they exist and as they are affected by movement and exercise. The curriculum varies from program to program, but most active health programs share similar learning outcomes. For example, students learn to monitor their heart rate and how it is affected by exercise; as well, they learn to measure blood pressure and how stress influences the body physiologically. These are but a few ways of integrating active health concepts into the P.E. curriculum.

The main objective of the proposed Active Health Program is to develop lifelong attitudes and skills to promote good health. Many physical educators wonder how these principles become active and not classroom sit-down sessions. The answer lies in understanding the learning process and personalizing the learning experience. The author has found that a great deal of learning takes place when students are given the opportunity to contribute to group discussions and presentations. There is no single method of instruction appropriate for all teachers, students or for all skills. To make learning more challenging and satisfying, students need to be involved in all three of the closely related aspects of a learning situation, namely:

1. Planning a fitness program
2. Performing in a fitness program
3. Evaluating a fitness program

The learning experience becomes more meaningful when the educational setting provides for personal initiative and self-direction.

The lessons in the program will continuously remind the reader: "what fitness does for your body, it does for your mind." Many physical educators will feel comfortable endorsing this approach to Active Health. Some areas may seem foreign and perhaps out of context from the activity-oriented approach to physical education (for example, taking time to get students to learn to breathe correctly, or using visualization techniques to help students increase their awareness of the effects of food, stress and exercise on their bodies).

Until the lessons have been tried, the possibilities for learning may not be obvious. However, all the lessons have been used effectively in a classroom by practising teachers. The guidelines presented in the program are meant to be used as a resource booklet for teachers interested in developing their own active health program. They provide some answers to the key question: "Has each student left my course having had many opportunities to develop lifelong positive attitudes towards good health?"

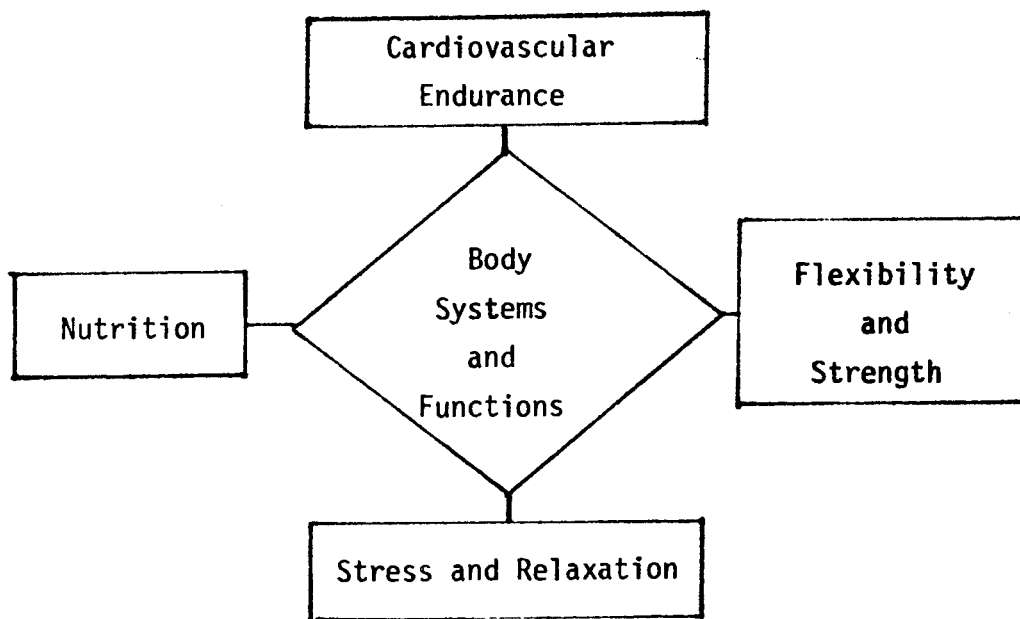
## GOALS OF THE ACTIVE HEALTH PROGRAM

### AIMS

1. To develop the skills and attitudes necessary for physical fitness.  
Learning Outcome - to understand the relationship of exercise to muscle strength, diet and energy.
2. To develop an understanding of the need for proper nutrition.  
Learning Outcome - to apply sound nutritional concepts to daily food use and assess new information with a critical and interested mind.
3. To develop a feeling of success through an improvement in one's state of fitness.  
Learning Outcome - to make critical decisions relating to the function and capabilities of his/her body.
4. To develop an understanding of the relationship between physical and emotional well-being.  
Learning Outcome - to understand the need for and be able to budget time for work, rest and play.
5. To develop a knowledge of body systems and functions.  
Learning Outcome - to increase the students' understanding of their capabilities in the areas of cardiovascular endurance, strength and flexibility.

PROGRAM DESIGN

PERSONAL FITNESS PROGRAM



### PROGRAM DESIGN

It is the objective of the fitness program to integrate awareness into the relationship between body and mind into the student's lifestyle.

The focus is to help students discover themselves by understanding the relationship amongst: cardiovascular endurance, flexibility, strength, nutrition, stress and relaxation. These are not separate units but rather areas that are closely related.

The program aims to take the individual through a graduated exercise program emphasizing basic fitness principles.



## TEACHING STRATEGIES

The Active Health program is a self-improvement course. The emphasis is on student involvement and motivation. The lessons are designed for students to be continually reviewing and discussing the components of their personal fitness program.

The course content in the guidelines are not complete units but sample lessons for developing fitness programs. The material directs teachers towards: how to begin, how to develop and how to evaluate a "total" approach to fitness.

Teaching a personal approach to fitness involves getting students to discuss and contribute to the learning situation. In most instances, this will involve teaching in a quiet area for fifteen or twenty minutes where films, discussions, questions, articles and labs can be presented to the class.

The question that teachers need to ask themselves is "How can I help students find personal reasons for good health?" The central focus of the teaching methods is in instructing students in the totality of the body and the role physical fitness plays in their physical and psychological development.

### 1. EQUIPMENT AND MATERIALS

- a) This program requires very little equipment. Expensive machines or instruments may measure progress but an unintended learning may result - that of giving the educational experience a "clinical" rather than a personal tone. A key question to consider as a teacher:

"How do I best prepare my students to develop lifelong attitudes and skills regarding their health?" "What kinds of measurements can they use to accomplish this goal?"

- b) Make appropriate reading materials available to the students:
  - (i) Order books, magazines and journals through your library fund. (See Appendix on resource materials).
  - (ii) Have students bring articles on fitness to class.
  
- c) When teaching systems and functions of the body, obtain as many plastic models of body parts as possible. This will help students in their understanding of body processes.  
  
The N.V. Curriculum Services Centre has a torso with removable anatomy parts. The torso goes by the name of "Chester".
  
- d) Use illustrated body charts to indicate the systems affected by exercise. The N.V. Curriculum Services Centre has well illustrated charts on the systems of the body.
  
- e) The N.V. Curriculum Services Centre has a good selection of films on: fitness programs, nutrition and stress. (See Appendix on resource materials).

## PERSONAL FITNESS PROGRAMS

The following points need to be considered in developing a personal fitness program:

### 1. Student Interest

Emphasize the importance of having each student begin a fitness program at a level suitable to his/her capabilities. As well, bring to each student's attention that he/she is not in competition with anyone else in the class. For most students, this approach will differ from other P.E. experiences, so you will have their attention and interest.

### 2. Climate Setting

It takes time to set the mood and level of trust in a group. During the first two or three weeks of the fitness program, time should be spent on climate setting, i.e. getting acquainted. It takes people a long time to learn one another's names and even longer to feel comfortable together. This process should not be left to chance.

### 3. Trust

In developing active health units, students are presented with a different way of experiencing fitness programs. It is important to prepare students for this approach:

- (a) Establish your credibility and trust. Get to know your students.
- (b) Let students know your expectations. Emphasize a positive approach - your students will learn about themselves and you will do everything as a teacher, resource person to have them experience success in your program.
- (c) No two people see things in exactly the same way. Therefore, it is necessary to check out what someone is saying; otherwise misunderstandings will result. Trust has to do with working together and this can only flourish when communication is authentic.

### 4. Variety

Be flexible: vary the routes that students can choose to go on daily runs.

Once a week instead of a run: design a fitness circuit, run to music, skip, cycle, weight train, design an orienteering run.

5. Train, Don't Strain

The program must be gradual and realistic in build-up and volume. Remember, the overall goal is success for each student. The experiences of your program are designed to help students develop lifelong positive attitudes towards exercise.

6. Evaluation

Evaluation is an important process for improving your approach to teaching fitness programs.

(a) Personal Journal

Get students to keep a record of their daily fitness program - i.e. a record of their mileage, heart-rate, weight training, and a comment on how they felt after their exercise.

Take time at the beginning of the program to get students into the routine of writing in their journals every day. At the most, it will take them 3-5 minutes to do this task.

Plan for periodic discussions on the progress of each student - the journal can be used as a central focus when interviewing students on how they are progressing.

(b) Fitness Contracts

Encourage students to establish realistic goals by writing a personal contract which would improve their physical fitness.

Point out that each student will establish his/her own values and make his/her own choices regarding fitness goals.

(c) Fitness Profile

A fitness assessment to include tests for cardiovascular endurance, strength, flexibility and anthropometric measurement.

Each student uses the results to further develop a fitness program designed for individual needs.

Measurements can be used as a pre-test and post-test for program assessment.

- (d) Design a comment sheet for students to (anonymously) give their views on lessons, activities and methods of the program, i.e.

How much did you enjoy working on this task?

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Did not enjoy it especially						Enjoyed it <u>very</u> much

DISCOVERING YOUR LEVEL  
OF FITNESS

### WHAT IS YOUR FITNESS LEVEL?

Some teachers are skeptical about self-testing methods outside the laboratory. This is usually because they feel the tests are inaccurate and misleading.

"Physical feedback is too important a body of information to stay in isolated testing centres. So certain field tests have been devised to give approximate data." (from The Complete Runner, Runners' World)

It may be useful for students to leave your course with the knowledge of how to measure their fitness using a minimum of equipment. The following lessons and resource materials have been found helpful for giving students a place to start in assessing their fitness level.

An important point to stress with your students: "In order to become aware of a change in physical well-being, you need to know the state of your fitness now."

## FITNESS ASSESSMENT

Purpose: To have students become aware of the term "physical fitness" by assessing their personal fitness level.

Materials: The Functional Fitness Appraisal Test Manual (Action B.C.)  
The CAHPER Fitness-Performance Test Manual (see resource materials this section)

1. Cardiovascular endurance
  - a. Kuntzelman 3 minute step test (Action B.C.)
  - b. Harvard step test
  - c. Aerobic 12 minute test
2. Flexibility
  - a. Sit and Reach
  - b. Back extension
  - c. Shoulder extension
3. Strength
  - a. Hand Manuometer or a small weight scale - have students squeeze with their hands
4. Sit-ups (1 minute)
5. Measure height and weight
  - a. Skin fold measure - calipers or tape measure
  - b. The Pinch Test

Format: Set up six stations in a large area

- #1 Cardiovascular test
- #2 Flexibility tests
- #3 Strength
- #4 Sit-ups
- #5 Height-weight
- #6 An area where completed forms can be checked as students finish

Six assistants: Teachers or P.E. helpers, to measure at each of the six stations

Have students divide up into the six stations and complete the assessment.



Comment:

Instead of testing during the first couple of days of your program, you may wish to get acquainted with your students before evaluating fitness level. During the second week, students may be less tense and more relaxed about discovering their fitness level than in the first week.

The assessment is used as a pre-test to measure fitness levels of each student. The same assessment is given as a post-test at the completion of your program.

Have students write the results of their fitness assessment in a journal - this will help them to develop a personal program to meet their fitness needs.

### AEROBIC 12 MINUTE TEST OF FITNESS

Purpose: To complete the assessment with a cardiovascular endurance test

Materials: 12 minute aerobic test sheet  
stop watch or a watch with a second hand

Format: Briefly explain the 12 minute test.  
Ref. The New Aerobics by Dr. K. Cooper

Comment: Have students keep the results of their run in their journals. As well, have them comment on their total fitness assessment -

i.e. What have the results indicated?

Which areas need improving?

Which areas are adequate?

These questions are important as they are the building blocks for developing a personal fitness program.

## EXAMINING YOUR BEHAVIOR AND FEELINGS

- Purpose: To have students question and examine their current exercise behavior.
- Materials: Journals  
Hand-out: "What is Your Current Exercise Behavior?"  
(see resource materials)  
Quotations from National Jogging Association
- Format: Hand-out exercise questions. Have each student write out one word or short answers to the questions.  
Have each student then share the results with another person in class.  
Bring everyone together and ask if they would share some feelings on their current exercise habits.  
Read some comments from people who have discovered something about exercise behavior.
- Comment: Summarize by stressing that feelings and attitudes are important to examine in order for changes in your approach to well-being to occur.

HEART RATE LAB

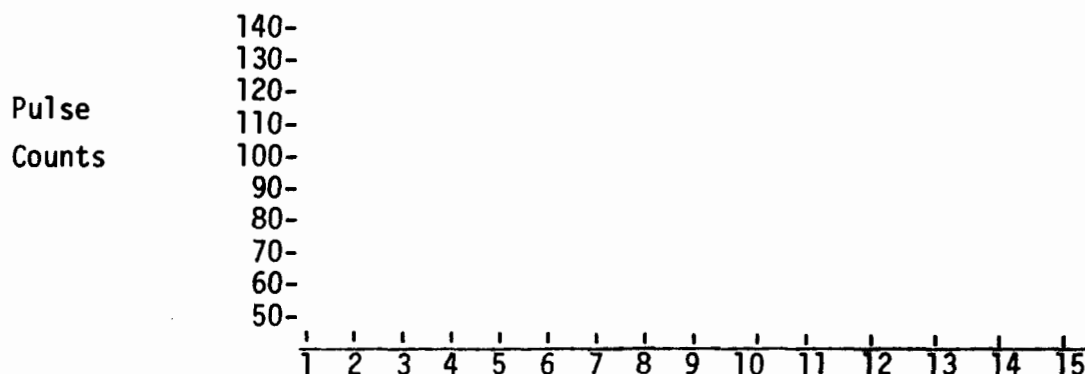
Purpose: Students will learn to take their heart rate and to measure the recovery rate after exercise.

Materials: Heart rate lab

Format: Have students work in pairs through the heart rate lab exercise.

Explain areas that are easiest to take the pulse, i.e. the wrist and neck.

At the completion of the lab, have students graph the variations of their pulse rate.



Comment: Have students complete the lab for the next day and include the information in their journals. This lab is relatively simple.

YOUR PULSE - THE COMPUTER

Purpose: Students will learn what the pulse can tell about fitness.

Materials: Reference books:  
Total Fitness - Dr. Morehouse  
Maximum Performance - Dr. Morehouse  
New Aerobics - Dr. K. Cooper

Hand-out: "What the Pulse can tell you about fitness".

Format: Ask students what they observed from the heart rate lab:  
 What does their graph tell them?  
 Where was the greatest increase in pulse rate?  
 Where was the smallest increase in pulse rate?

Write on a blackboard - "Your Pulse - What it can tell you".  
 "It is the body's most single indicator of well-being, stress or illness".

Ask the question - Where are 3 areas on the body where you can easily locate your pulse? Possible answer: wrist/neck/temple. Discuss proper technique in taking the pulse.

Ask the question: What affects heart rate? Possible answers: activity/running/caffeine/nicotine.

Discuss hand-out "What the pulse can tell you about fitness".

Further questions and discussions.

Activity - Give a warm-up then have students take their pulse. Use an activity (e.g. soccer) and have students check their pulse during and after the activity.

Comment: This lesson is valuable for explaining the principles involved in maximizing training rate.

## ACTIVE HEALTH

FUNCTIONAL FITNESS ASSESSMENT - DATA SHEET

NAME \_\_\_\_\_ DATE \_\_\_\_\_

Height \_\_\_\_\_

Weight \_\_\_\_\_

Body frame (1) Small, (2) Medium,  
(3) Large \_\_\_\_\_CARDIO-RESPIRATORY TESTS

- Canadian Home Fitness Test/Children's Step Test/Kuntzelman 3-minute Step Test

Post Exercise Heart Rate - after 3 minutes \_\_\_\_\_

- after 6 minutes \_\_\_\_\_

- after 9 minutes \_\_\_\_\_

Fitness Level Assigned \_\_\_\_\_

12 minute Walk-Run (Miles and Fractions thereof) \_\_\_\_\_

- 300 yard/600 yard Walk-Run (seconds) \_\_\_\_\_

FLEXIBILITY TESTS - (TWO TRIALS)

Hip Flexion \_\_\_\_\_

Back Extension \_\_\_\_\_

Shoulder Extension \_\_\_\_\_

GRIP STRENGTH TESTS - (TWO TRIALS)

Dominant Hand (Kg) \_\_\_\_\_

Non-Dominant Hand (Kg) \_\_\_\_\_

SIT-UPS/ONE MINUTE \_\_\_\_\_

WHAT IS YOUR CURRENT EXERCISE BEHAVIOR?

1. What exercise do you get daily? (Beyond ordinary sedentary tasks)

---

---

2. How often do you exercise?

---

---

3. How vigorous?

---

---

4. What is the purpose?

---

---

5. Is it done because you want to or because you think it is "Good" for you?

---

---

6. Do you enjoy it?

---

---

7. Is the exercise you get the kind that can be easily continued as you get older?

---

---

Quotations from the National Jogging Association:

1. "The mystical qualities of jogging are revealed through very common effort. There are no promises of spiritual enlightenment, no promises of immortality. You just jog, and you keep on jogging and when you're done for the day no one else will really care. Yet, you will know, you will care."

(R. Donaldson, Nat. Jogging Assoc.)

2. "What we need then is to conserve those mysterious and elusive elements of play which make it its own reward. We must remove anything that suggests of practicality and usefulness. What we do must be fun and impractical and useless, or else we won't do it. It's not jogging that is good for you. It's jogging that's fun that is good for you."

3. Before you learn to jog learn to walk.  
Before you learn to walk learn to breathe.  
Before you learn to breathe, learn to stand.

4. The best advice, "Be an athlete", Dr. George Sheehan,  
"We are all athletes who are getting the best from our genetic endowment through training in the environment."



NAME \_\_\_\_\_

## 12 Minute run/walk Aerobic Test

The Test - A watch with a second hand or a stop watch

1. Start out running but if your breath gets short, walk for a while until it comes back, then run some more.

\*\*KEEP GOING FOR THE FULL 12 MINUTES

2. Record the distance you covered in 12 minutes - then find your Physical Fitness Category.

12 Minute Test For Women

(Distance in miles covered in 12 minutes)

<u>Fitness Category</u>	<u>under 30 yrs.</u>
1. Very Poor	----- less than .95
2. Poor	----- .95 - 1.14
3. Fair	----- 1.15 - 1.34
4. Good	----- 1.35 - 1.64
5. Excellent	----- 1.65 +

12-Minute Test For Men

(Distance in miles covered in 12 minutes)

<u>Fitness Category</u>	<u>under 30 yrs.</u>
1. Very Poor	----- less than 1.0
2. Poor	----- 1.0 - 1.24
3. Fair	----- 1.25 - 1.49
4. Good	----- 1.50 - 1.74
5. Excellent	----- 1.75 +

FITNESS CATEGORY - \_\_\_\_\_

HEART RATE LAB

NAME \_\_\_\_\_

BLOCK \_\_\_\_\_

PROCEDURE

Practice taking the pulse (Heart Rate) at the Radial Artery (inside of wrist). Then you are sure of your technique with your partner and yourself, proceed under the following circumstances: (15 second counts and multiply by 4 for one minute)

1. Lying down after 1 min.
2. Lying down after 2 min.
3. Lying down after 3 min.
4. Sitting (after 1 min.)
5. Sitting (after 2 min.)
6. Sitting (after 3 min.)
7. Standing (after 1 min.)
8. Standing (after 2 min.)
9. Standing (after 3 min.)
10. At the end of first minute after walking for 2 minutes
11. At the end of second minute after walking for 2 minutes
12. At the end of the third minute after walking for 2 minutes
13. At the end of the first minute after running for 2 minutes
14. At the end of the second minute after running for 2 minutes
15. At the end of the third minute after running for 2 minutes
16. At the end of each succeeding minute until the heart rate returns to the same rate as in #9

EXPLAIN the variations in your heart rate and plot the data on the graph and connect the points using a different coloured pen to plot your partner's results.

WHAT THE PULSE CAN TELL YOU ABOUT FITNESS

## I. When sensing the pulse -

1. As you become fit, this force gets stronger
2. Regularity & rhythm - as you become fit, your pulse becomes stronger and more regular
3. Frequency - as you become fit, the frequency of pulse beats diminishes.

## II. The Pulse

- a. Resting heart rate - your pulse when you are not doing anything.
- b. Training rate - Training effect for conditioning is determined by finding 70 - 85% of maximum heart rate.

Formula:  $220 - \text{age}$ . Then multiply by .70 or, if you smoke or are 20 lbs. overweight, or recovering from serious illness, multiply by .65

This number will represent your Target Heart Rate, the number of times a minute your heart should beat to maximize your training.

- c. Maximum rate - the fastest your heart can beat without collapse. ( $220 - \text{age}$ )
- d. Recovery rate - the measure of how quickly your heart returns to normal after exercise. Below 120 five minutes after exercise.

LEARNING OUTCOME: The student will discover the recovery rate of the heart after exercise.

Equipment: Stop watch

Method:

1. Resting pulse, record \_\_\_\_\_.  
Running on the spot for one minute.  
Take pulse and use the stop watch right away to find out how long it takes your pulse to return to the resting rate.

Record time \_\_\_\_\_.

2. Resting pulse, record \_\_\_\_\_.  
Do 10 sit-ups.  
Take pulse and time again to see how long it takes your heart to return to its resting pulse rate. \_\_\_\_\_.

3. Make up an exercise of your own or if the weather is good go outside and run, try different distances and different people.

4. In your group how did your pulse compare with the others?

\_\_\_\_\_

How quickly did it return to a resting pulse rate?

\_\_\_\_\_

**LEARNING OUTCOME:** Students will be able to calculate the average heart rate for a group of students.

**Learning Activity:**

Group will submit their individual resting heart rates and an average for the group will be found.

1. Equipment - One stop watch

2. Procedures and Observations

	<u>Student's Name</u>	<u>Beats/Minute</u>
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____

Total beats/minute = X

Average beats/minute =  $X \div$  number of students = \_\_\_\_\_

3. How much do you differ from the average heart rate? \_\_\_\_\_

4. Read the reasons for differences in resting heart rates among individuals.

5. Follow up

Find your family's average heart rate.

RESOURCE MATERIALS

1. Data Sheet for fitness assessment
2. Functional Fitness Appraisal Test Manual (from Action B.C.)
3. What is Your Current Exercise Behavior?
4. Quotations from the National Jogging Association
5. Aerobic 12 minute run/walk Test
6. What the Pulse Can Tell You About Fitness
7. Optional pulse taking exercises

### A FITNESS PROGRAM FOR YOU

Although there are many exercise programs that will help increase cardiovascular endurance (e.g. running, cycling, swimming, skipping), the main objective of the guidelines is to have a program that is inexpensive and easy to develop. For these reasons the emphasis of this section will deal with developing running programs. (A number of points:)

1. It is important that each student find a program suited to his/her level and need. Therefore, present a number of running programs to help each student find the most appropriate for them.
2. Trust is very important. Emphasize that you, as the instructor will do everything to help each student find success through this approach.
3. State your expectations clearly. You want each student to take responsibility for his/her progress and laziness will not be acceptable.
4. Keep running programs flexible and varied - alternate routes for running should be established.
  - as it will be impossible to keep track of each student on his daily run, take time during the first two weeks to establish a routine:
    - a. Set a time for students to be warmed up, ready for their run
    - b. Set a time or distance for each daily run - i.e. a minimum of one mile or 30 min. continuous walking/running
    - c. Have students write their progress in their journals every day

5. If you respond with sincerity and positive encouragement, your students will usually respond in a like manner.  
Remember: most students have never had a personal fitness program so for most it will be a new challenge.

The important question to ask yourself is, "How can I get my students to continue a positive attitude towards fitness after they leave my course?"



## PROPER BREATHING TECHNIQUE AND RUNNING

Purpose: To develop an awareness of the respiratory system and how proper breathing improves performance.

Materials: Reference Books:  
Guidelines for Successful Jogging - R. Donaldson  
Dr. Sheehan on Running - Dr. G. Sheehan  
Runners World Magazine - May 1978

Hand-out: Proper Breathing Techniques

Format: Inform the class that many people develop "stitches" in their side while running or find it difficult to keep a steady pace. Most of us have learned to breathe shallowly and backwards which has affected our performance.

Have students in a quiet area, walk around in a large circle. Have them close their eyes, put a hand over their abdominal area and see how they breathe in and out.

Describe proper breathing technique:

- Have students lie on the floor (on their backs) with a book or piece of paper resting on their abdominal area. Again, have them observe the proper technique of breathing.
- Transfer this experience into running. Get students in pairs.
  - a. Have pairs take turns in observing each other jogging (use the length of the gym or field area)
  - b. Jog three ways - Tense neck, shoulders, arms
    - Run with long strides, short strides
    - Run as loose as possible
  - c. Set a time limit, then have partners briefly discuss their experience
  - d. Bring group together and discuss
    1. Breathing technique while running
    2. Individual Running styles
    3. Running as enjoyment - TRAIN, DON'T STRAIN

End session by going for a run - emphasize concentrating on proper breathing and going at an easy pace.

Comment:

This lesson gets students thinking about proper running technique, breathing and pace. A good lesson to try after you have become more acquainted with students, especially useful at the beginning of introducing different running programs.

FITNESS CONTRACT

- Purpose: Students will list short term fitness goals for themselves based on improvements for their total fitness program.
- Materials: Fitness Contract (see resource materials)
- Format: Set a time period for the goals, i.e. 8 weeks.  
Give examples of goals:  
I will run 20 min. without stopping  
I will do 40 sit-ups in one minute  
I will eat healthier snacks, i.e. apples, juices,  
instead of junk foods  
Talk about setting realistic goals.  
Have students spend some time seriously considering what goals they would like to accomplish in a set period of time.  
Have students talk about obstacles to achieving their goals, i.e. how will they sabotage themselves?
- Comment: Explain that the contract is a motivator for the students to commit themselves to accomplishing short term goals.  
At the end of the set period of time, (i.e. 8 weeks) the goals can be re-evaluated.

Have students go for a run and using the talk test as a measure of pacing, see if they can go the distance without stopping.

Comment:

It would be useful to discuss the hand-out: "How to Begin a Running Program" after the visualization exercise. This will generate discussion with students concerning problems that they have with running.

## HOW TO BE A RUNNER

Purpose: To have students become aware of basic rules in training.

Materials: Reference Books:  
Jog, Run, Race - Joe Henderson  
Women's Running - Dr. Joan Ulliot  
Sheehan on Running - Dr. George Sheehan

Article: How to Get Moving by Dr. Ernst van Aaaken

Hand-out: How to Begin a Running Program

Format: Have students on the floor (use mats or foam to sit on) and ask the question, "Have you ever been a runner?"  
Answer: Everyone has been a runner, and still is a latent one. We all ran as children. However, the memory of how that running felt and how it was accomplished has faded.

Get students lying or sitting comfortably on the mats. Have them close their eyes and practice breathing correctly, using very slow breathing.

Then have them go through an imagination exercise. As the instructor, don't rush the sequence and explain to the students that it is important not to disturb other students during this brief session.

Have the students see themselves as small again, 5, 6 or 7 years old - feel, sense your body/then see yourself walking in a familiar surrounding, now see yourself running short distances/then longer distances - How do you feel? How does it feel to run?/Pause/Then see yourself now - go to a place where you would like to run (maybe it is a place with fresh air, sea, woods), see it as clearly as possible, see yourself walking in this area and this feels so good you burst into a run, you feel as though you could go on and on, breathing in the fresh air, enjoying the surrounding area. Run until you feel like gradually slowing. Walk. Stand still and feel good.

Ask the group if anyone would like to share how they felt as a child - walking/running.

## AEROBICS

Purpose: To present the Aerobics program and have students experience this approach.

Materials: Book: New Aerobics - Dr. K. Cooper  
Film: Run Dick, Run Jane - Aerobics Film (available at N.V. Curriculum Services Centre)

Progress Chart

Aerobics Chart Pack

Format: Show the film dealing with fitness programs narrated by Dr. K. Cooper, author of New Aerobics  
Present and describe the aerobic point system  
Discussion - questions - information  
Have students run a mile or skip for 10 minutes and record their results in their journals  
Have students use a progress chart to collect information about each day's run

Comment: This is a fitness program that stresses time/distance and points as motivators. It may not appeal to every student. By examining the exercises that give the most points in the shortest time, it can be valuable in selecting activities that promote better fitness.

**JOGGING**

**Purpose:** To present an interval training jogging program.

**Materials:** Book: Jogging - W. J. Bowerman  
Jogging Work-outs - Plan A, B, C

**Format:** Have students warm-up for 5 minutes  
Explain the different plans for Bowerman has developed  
The distance between most football goal posts is 110  
yds. which is the distance Bowerman uses in his  
interval training work-outs  
Have students select one of his interval work-outs  
and record their experience.

**Comment:** This program may appeal more readily to students with  
physical handicaps or students who are overweight.

LSD - LONG, SLOW, DISTANCE

Purpose: To present a way of training that emphasizes steady running with moderate effort.

Materials: Books:  
The Long Run Solution - Joe Henderson  
Jog, Run, Race - Joe Henderson  
Guidelines for Successful Jogging - R. Donaldson  
LSD training programs

Format: Present a LSD program and have students try one of the training schedules.

Important points:

- a. The most difficult skill to learn in training is that of pace.
- b. Hurrying, rushing and forcing are the building blocks of failure.
- c. The pace at which you jog should not leave you breathless - the 'talk test'.
- d. The long slow runs are aimed at moving the individual for 20 to 30 minutes of running/walking.
- e. Most students at the beginning of a fitness program cannot run very far for very long. They start out too fast and end the run not feeling good about themselves. As well, many are out of shape and never have been taken through a progressive training schedule that would give them a feeling of success.
- f. Students should feel refreshed rather than fatigued after their run.

Comment: The LSD schedule is a good way to get students who are out of shape, moving for fifteen or twenty minutes a period.

It is particularly motivating because students should feel "good" after a work-out - not completely drained.



THE WOMAN JOGGER

Purpose: To explore some of the myths that have held women back from experiencing optimum health through running.

Materials: Books:  
Women's Running - Dr. Joan Ulliot  
Running - A Complete Guide for Women - Kathryn Lance

Article: The Woman Jogger - Guidelines for Jogging -  
R. Donaldson

Format: Hand out the article and have students read it. Then form small groups to discuss particular myths to which they could relate.

Bring the groups together and discuss the article. An important comment to make:

"The physically inferior aren't women, but people who don't develop their physical potential."

Comment: This lesson works particularly well when introducing running programs to a girls P.E. class.

HOW TO STRETCH

Purpose: To introduce the term flexibility and proper stretching technique.

Materials: Reference Books:  
The Complete Runner - J. Batten  
Yoga and the Athlete - I. Jackson  
ABC of Yoga - K. Zebroff  
Yoga - R. Hittleman

Article: Aviation Medical Bulletin, Aug. 1976

Article: A "Good"Stretch, from Stretching - B. Anderson

Format: Pose the question: "Vigorous stretching exercises should be done to keep muscles flexible." True or False? Answer with the article from Aviation Medical Bulletin, 1976.

Stretching is very important before any vigorous activity - explain what is a "proper" or "good" stretch. See chart on a "good" stretch from resource materials.

Have students in a quiet area and go through a sequence of stretching exercises emphasizing correct technique.

Comment: As most students are familiar with performing exercises in a more competitive and repetitious way, a short discussion on flexibility and the importance of slow stretching would serve to aid the students' understanding of this approach.

- a. Teach students not to strain when practicing stretching exercises.
- b. Teach the importance of concentration on each exercise and of not competing with anyone else.
- c. When performing the stretches, stay in the most extreme position that you can hold comfortably (sometimes called "playing the edge") for at least 3 or 4 long, deep breaths.
- d. Keep reminding students to breathe deeply and not to hold their breath when performing stretching exercises.

STRETCHING BEFORE/AFTER A RUN

- Purpose: To inform students of the importance of proper stretching in a fitness program.
- Materials: Article: "Why Should We "Warm-Down After Exercise?"  
Article: "The Perfect Pre-Run Stretching Routine",  
Runners World, May 1978  
Warm-up stretching routine from National Jogging Association
- Format: Explain the importance of stretching every day.  
Use the articles.  
Emphasize that students can develop injuries without proper and regular stretching.  
Explain the importance of a "warm-down" after a run.  
Have students select and write up a sequence of stretches and include them in their journals as part of their daily pre-activity warm-up.
- Comment: Most students can be motivated to stretch regularly when they understand about proper technique and how it should be done. Because stretching is a major part of any fitness program, get your students into the habit of a daily stretching routine.

## HOW TO BEGIN A RUNNING PROGRAM

1. Most students begin a running program:

- by training too hard
- starting out too fast
- are tense when they run

2. Mottos

A jogging club in California has as their motto:  
"Start out slow, then ease off."

Arthur Lydiard, a Pioneering coach for runners, his motto: "Train, Don't Strain".

3. Write these questions down:

- (1) Can I talk normally while I'm running?
- (2) Do I feel pleasantly tired, not wiped out, after I finish?
- (3) Am I free of soreness and carry over fatigue the next day, and eager to go again?

Students should answer YES to each of those questions after each run - those questions will help them find their own line between enough and too much running.

4. "The harder you work, the better you'll be" and "It has to hurt to do any good" are myths and can only lead to injury and to a block in listening to what your body is telling you about training.

RESOURCE MATERIALS

1. Aerobic Chart Pack by K. Cooper - The New Aerobics, Bantam Books, 1970.
2. Jogging Work-Outs - Plan A, B, and C. - G. Bowerman - Jogging, Grosset and Dunlop, 1967.
3. LSD - Long, Slow, Distance Schedules - J. Henderson, World Publications, 1976.
4. The Woman Jogger - Guidelines for Successful Jogging - Nat. Jogging Association, 1977.
5. Aerobics Progress Chart
6. Fitness Contract

NAME \_\_\_\_\_

AEROBIC PROGRESS CHART

DATE	RESTING HEART-RATE	HEART RATE IMMEDIATELY AFTER RUN	DISTANCE	TIME	COMMENTS

FITNESS CONTRACT

NAME \_\_\_\_\_ DATE BEGUN \_\_\_\_\_

OVERALL GOALS

Completed

- 1. Ideal weight \_\_\_\_\_  
Loss (or) Gain total of \_\_\_\_\_ pounds \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
- 4. \_\_\_\_\_
- 5. \_\_\_\_\_
- 6. \_\_\_\_\_

\_\_\_\_\_  
Date completed

\_\_\_\_\_  
I agree to complete this program

STRESS  
AND  
RELAXATION



## THE STRESS OF LIFE

Purpose: To define stress and how it affects the body.

Materials: Books:  
     The Stress of Life - Dr. Hans Selye  
     Human Lifestyling - Dr. J. McCamy  
 Film: The Stress of Life  
 Article: The Value of Positive Stress - Dr. H. Selye  
           Psychology Today, March 1978  
 Hand-out: Catch 200: Stress and You

Format: Brainstorm - ask students what is the first word that comes to mind when they hear the word "stress". Write the responses on a board.

Write a definition of stress. Dr. Selye states that stress is the body's non-specific response to any demand placed on it, whether that demand is pleasant or not.

The aim should not be to completely avoid stress, which would be impossible, but to learn how to recognize our typical response to stress and then to try to moderate our lives in accordance with it.

Ask students to consider these questions:

How competitive am I?

In what situations?

What other situations make me anxious?

Get them to discuss in small groups - then as a large group.

Show the film Stress of Life by Dr. Hans Selye (available through N.V. Curriculum Services Centre)

Hand out the article on Catch 200: Stress and You.

BEFRIEND YOUR BODY TODAY

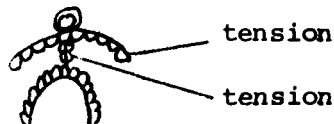
- Purpose: To examine positive ways of lessening fatigue and tension from stress.
- Materials: Mats/Journals
- Format: Have students in a quiet area and have them consider these questions:
- Who is the person you will trust and know best all your life?
  - Who will be the one person you will share your deepest emotions?
  - Who is the one person you will be responsible for throughout your entire life?

The answer: YOU

Get students to name some positive ways of relieving tension i.e. exercise/running/yoga/swimming.

Have students sit or lie comfortably on the floor. Ask them to close their eyes and visualize their body alignment - see yourself standing/sitting/walking/running. How do you hold your body? Do you feel tension in any part of your body? Is there tightness in your face, shoulders, legs, feet or stomach? Now, open your eyes and using blocks draw in your journal your body alignment and show areas that have tension in them.

i.e.



Performing stretching exercises relieves tensions. Go slowly through a flexibility routine starting from the head and work down to the toes.

See reference sections in the guidelines concerning proper breathing and stretching.

End the sequence by having the students close their eyes and if there are any areas of tension in their body - ask them to breathe deeply into those areas and imagine the muscle completely relaxing.

Comment: This lesson can be used as a follow-up from the film and discussion on Stress.

## BLOOD PRESSURE - HOW IT IS AFFECTED BY HYPERTENSION

Purpose: To describe what blood pressure is and how it is measured.

Materials: Worksheet on blood pressure  
Blood pressure measuring apparatus  
Article: What to do when your numbers are up.

Format: Get your school or district nurse to help demonstrate how to take blood pressure and what the pressure tells you.  
Get students (with assistance from the nurse) to work through the sheet on taking blood pressure.  
Hand out article and discuss.

Comment: Recent studies have indicated that with biofeedback techniques people can obtain control over their own blood pressure. Students in a classroom have been able to change their own heart-beats just by thinking pleasant thoughts or by breathing more deeply. They have also been able to accelerate their heart rates by thinking of nightmares or of a frightening experience.  
Reference Books: New Mind, New Body: by Barbara B. Brown  
Biofeedback: by M. Karlin, L. Andrews

RELAXATION

Purpose: To recognize the importance of relaxation in relieving tension from our lifestyles.

Materials: Reference Books:  
The Centering Book: Awareness Activities for Children, Parents and Teachers, by G. Hendricks and R. Wills  
Human Lifestyling: Dr. J. McCamy  
Knowledge and Understanding in Physical Education  
 AAHPER Publications

Manual of instructions for Relaxation Training

Relaxation exercise: Counting Breaths

Format: Ask students to get into small groups of 2 or 3 and share experiences where they find tension in their lives, e.g. exams, sports competition, work. Set a time limit.

Bring groups together and ask if they have suggestions for reliving tensions in their lives: Some answers might be:

Running exercises

Sleeping

Having a quiet place to oneself

Suggest a number of ways from your readings that help relieve tension. Have students in a quiet area and explain some methods you would like to try. For example, Counting Breaths (see resource material).

Comment: It is important that you clearly explain the relaxation exercises and a general outline of what relaxation training is all about. As the exercises require silence and concentration explain that if an exercise does not appeal to a student, they should just sit quietly and not disturb others in the class.

RESOURCE MATERIALS

1. The Value of Positive Stress - Dr. Hans Selye, from Psychology Today, March 1978
2. Blood Pressure Worksheet
3. Relaxation Exercise: Counting Breaths - Reproduced by permission of Prentice-Hall., Englewood Cliffs, New Jersey.

BLOOD PRESSURE STATIONLEARNING ACTIVITY

(Work in groups of two or three)

1. Equipment - blood pressure cuffs  
stethoscopes

2. Procedure and Observation

Do Step by StepCheck or Record Findings

1. Lay down and rest for two minutes
2. Let air out by turning the knob towards you or downwards.
3. Put the cuff on tightly (on right arm above elbow)
4. Make sure the knob on the pumper is shut in tight (in other words, close it away from you or turn it upwards)
5. Make sure the black cords are facing the palm of your hand
6. Put the stethoscope inside the elbow and in the ears
7. Put the clock thing on the blood pressure cuff. (Some already have a clock on)
8. Pump the pumper up to 160 (shown on clock thing)
9. DON'T PUMP ANY HIGHER OR YOU CAN HURT THE VICTIM!!!
10. Let the air out slowly by turning the knob towards you very slowly

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11. Don't make any noise, especially the victim \_\_\_\_\_
12. When you hear a thump look at the number that the arrow is pointing to on the clock thing (always watch the clock). \_\_\_\_\_
13. Remember the number \_\_\_\_\_
14. Keep turning the knob until you hear a cho-cho sound \_\_\_\_\_
15. Record the numbers: example -  
thump number     120  
cho-cho number    80  
\_\_\_\_\_
16. After you hear a cho-cho let the rest of the air out very fast \_\_\_\_\_

### Follow Up

Blood pressure is the pressure exerted by the blood against the walls of the vessels within which it is contained. There is higher blood pressure in an artery than in a vein.

When an artery is cut, why does the blood come from the wound in spurts?

## COUNTING BREATHS

One of the best ways to quiet the mind is to focus on breathing; there is something very relaxing about the smooth ebb and flow of breath. Sitting comfortably on the floor or chair is a good position for this activity.

### Instructions

Have students close their eyes and be comfortable.

The instructions are directed to your group - it helps to give instructions in a peaceful, soothing tone of voice.

This is an activity in which we pay attention to our breath. As you become comfortable, begin paying attention to the way the breath comes in and out of your body. And as you listen to your breath, begin counting each breath (silently to yourself) each time you breathe in ..... counting to ten, then starting again with the number one... When your mind wanders, bring it gently back to one and start again.

Pause for one or two minutes.

After that time - "All of our minds wander and this exercise helps us know when it is happening. As long as you know it is wandering, you can have more control over where it goes. And now, watch your attention come right back here as you get up, feeling comfortable and alert.

from The Centering Book

G. Hendricks, R. Wills, 1975, p. 32. Reproduced by permission of Prentice-Hall, Inc., Englewood Cliffs, New Jersey.



NUTRITION AND EXERCISE

FOOD FOR FITNESS

Purpose: To introduce the concept of nutrients and how this relates to fitness.

Materials: Reference Books

Food for Fitness - World Publications  
Nutrition and Athletic Performance - E. Darden  
Food for Sport - N. J. Smith

Hand-out: Blood Sugar Level and Performance

Format: Ask the question: What happens to our bodies when we are thirsty and instead of drinking water, we drink pop? Or, what happens during coffee breaks when we have a chocolate bar or donut?

Use hand-out to describe blood sugar level

Discuss the following questions:

What is junk food?  
Which specific foods fall into the junk food category?  
What replacements would be used instead of junk food?

Get students to write in their journal what foods they would avoid if they were to give up junk food for one week?

What would they eat or drink instead?

YOUR NUTRITIONAL STATUS - HOW DO YOU RATE YOURSELF?

Purpose: To assess nutritional status

Materials: A calorie counter (available from Action B.C.)

Activity Sheet  
One Day Food Record

Scoring System (for major foodgroups)

Format: Get students to work out an individual chart of activities for one day, i.e. particularly energetic ones, such as running, walking. Also, watching television, sitting down, etc.

A calorie counter will help work out how many calories you need for particular activities.

Have students fill out a one day food record. Get them to calculate what they scored for the major food groups.

Comment: This activity is particularly helpful when explaining the concept of weight control: calories expended vs calories consumed.

## ONE DAY ACTIVITY RECORD

	ACTIVITY	TIME SPENT	CALORIES USED
12 NOON:  ACTIVITIES THAT I HAVE BEEN INVOLVED IN SINCE MORNING:			
6 P.M.  ACTIVITIES THAT I HAVE BEEN INVOLVED IN SINCE LUNCH:			
BEDTIME  ACTIVITIES THAT I HAVE BEEN INVOLVED IN SINCE SUPPER			

TOTAL CALORIES USED FOR DAILY ACTIVITIES:

## ONE DAY FOOD RECORD

	MILK AND MILK PRODUCTS	FRUITS AND VEGETABLES	MEAT AND ALTERNATIVES	BREADS AND CEREALS	FOODS NOT IN A FOOD GROUP	TRY TO ESTIMATE CALORIE COUNT USING A CHART
THE FOODS THAT I HAVE EATEN SINCE I WOKE UP THIS MORNING ARE:						
THE FOODS THAT I HAVE EATEN FOR LUNCH AND FOR SNACKS SINCE THE MORNING ARE:						
THE FOODS THAT I HAVE EATEN FOR DINNER AND SNACKS ARE:						

TOTAL NO. OF FOODS EATEN  
FROM EACH FOOD GROUP TODAY:

TOTAL CALORIES:

SUGGESTED CLASSROOM ACTIVITIES FOR NUTRITION AND PHYSICAL FITNESS

1. a) Keep a 24-hour record of food consumed. Calculate total energy intake (kJ) using 'Nutrient Value of Some Common Foods'. What percentage of the total energy intake was supplied by
    - i) breakfast
    - ii) snacks and
    - iii) evening meal?
  
  - b) Record all physical activities for the same 24-hour period, and the time spent on each activity, e.g. watching T.V. - 2.5 hours. Use the table (D2) to calculate the total energy expended on each activity by a person of your body weight (kg.).
 

e.g. Total energy expended watching TV by a 55 kg. person =

6.0	x	2.5	55
energy/kg./hr.		(time)	(weight)

What was the total energy expenditure during the 24-hour period?
  
  - c) How did energy intake compare with energy output? Discuss fully.
  
  - d) Compare the average energy intakes of i) boys and ii) girls with the Canadian Recommended Daily Intakes (1975) (see 'Nutrient Value of Some Common Foods').
  
  - e) Discuss what happens to the recommended intake of nutrients, including energy requirements, as a person grows older.
  
  - f) Plan an individualized daily program for nutritional and physical fitness.
2. Calculate energy needs using the 'Calorie Calculator' or the table of basal caloric needs. Add the appropriate percentage of calories to allow for physical activity needs. (Convert to kJ. by multiplying by 4.184). How does the calculated value for energy needs compare with
    - a) actual intake?
    - b) actual expenditure?

Why are there discrepancies?

3. Demonstrate how weight gain can occur with a minor change in either food intake or energy expenditure over a period of time. (e.g. an extra candy or a bottle of pop per day, or 15 min. less walking as you are driven to school). N.B. 1 kg. body fat = 32,300 kJ. (1 lb. = 3500 kcal.).

(Remember: for every additional kg. of body fat, the body has to build about 700 km. of extra blood vessels to supply food and oxygen. With this extra distance, the work load of the heart is much increased).

4. Have students list foods that they consider are a) high and b) low in energy. Look up actual energy values in 'Nutrient Value of Some Canadian Foods'. Are there any surprises?

What are some characteristics common to foods of

- a) low energy value?
- b) high energy value?

5. In science, compare the energy value of foods (e.g. expts. 16 and 17 in Food Tests, Mackean, D.G. Longman Canada Ltd.)

6. Evaluate current "reducing" diets for adequacy in terms of a) energy provided, b) recommended intakes of foods from the four food groups.

N.B. Weight loss should be more than 0.5 - 1 kg. per week (i.e. 16,000 - 32,000 kJ.). What loss is recommended by the diet? What is the energy content of such a diet? If it were followed strictly, what would be the actual reduction in energy intake? the actual weight loss?

Relate to scientific reliability, health dangers, effectiveness, and cost. Are the claims of the author consistent with the mathematical possibilities?

7. Compare energy content to nutrient value of dessert and snack foods. Prepare low energy - high nutrient snacks for class tasting.

8. Modify the Canadian Food Guide for energy intakes from 6,300 - 12,500 kJ.

9. Collect food advertisements from newspapers, magazines or health food stores (or watch T.V. for 2 hours). Evaluate advertisements in terms of energy value versus nutrient content. What appeal was used by the advertiser?

10. 'Food for Fitness' conspiracy.  
Develop a class list of junk food. For one week the class agrees not to eat any kind of junk (zero) food. They must proclaim to their friends these foods are "junk" and not good for fitness. Have them observe the effects on their friends and report to class. (Discuss beforehand what can be eaten in various situations, e.g. after school, for lunch, recess, etc.).
- Show film 'Snackin - garbage in your gut'.
11. Plan a poster campaign, or develop advertisements or radio or TV "spots" to promote foods for fitness.
12. Discuss "what makes me hungry" or "why I have to eat sometimes".
13. a) Observe and record the eating habits of younger family members. Plan "ways and means" to improve food intake.  
b) Visit a kindergarten or child-care centre to participate in snack-time activities. Share observations with the class.
14. Discuss/compare the energy and nutrient needs of males and females, a logger versus an office-worker; a post-office clerk and mailman, etc.
15. Keep height and weight records over the year. Discuss why there are differences between boys and girls of the same age, adults of the same size, etc. Average the heights and weights; was anyone "average?"

With a tape measure, make other measurements of body size -

wrist size  
ankle size  
knee size  
waist size  
rib cage  
hip size  
length - total body  
arm, part of arm  
leg, part of leg

Compare data with someone of very different build (e.g. small, medium, or large build). Can a class chart be developed?

List all the parts of the body that contribute to weight (e.g. bones, muscles, skin, blood, fat). Doesn't it make sense that some have bigger bones than others? bigger muscles, etc.?

16. Talk to a grandparent, senior citizen, or someone whose occupation is hard work. How does/did their food intake compare with yours? How does energy expenditure compare with yours? Why are/were there these differences in e.g. energy intake and energy expenditure?



17. Survey breakfast habits. Analyze for adequacy in terms of  
a) foods from the four food groups and/or b) providing one-third of the Recommended Daily Intake of nutrients including energy.
18. Develop a 'Food for Fitness' parade. March to music.
19. Discuss the foods needed by pets to stay 'fit'. Compare the needs of large and small pets.
20. Using large pictures, compare a train, a car, and a person being "refueled". Children can form a long line (the train) and act out what happens when it runs out of fuel and when it is refueled. Repeat with children as cars. Repeat later, acting out what happens when they themselves run out of energy - e.g. after playing for a long time in the morning, before breakfast after school.

Discuss how students feel when they don't eat. Read stories (e.g. Bread and Jam for Frances, Russell Hoban).

Discuss how we feel if we eat too much, or just one kind of food all the time.

Using the picture set, "What We Do Day by Day", discuss what must be done to stay healthy.

21. Develop a project on the effects of eating too much or too little; the wrong kinds of foods; or the foods that could be eaten in a country other than Canada.
22. Develop an "Energy-guessing" Game (e.g. attached). Play "Ranking Energy", "Energy Balance", "The Energy Is Right". (Rules attached).

Additional activities may be found in the following:

1. Creative Food Experiences for Children, Goodwin, M.T. and G. Pollen, 1974. Centre for Science in the Public Interest. (In all elementary schools). Pages 24-26.
2. Food: Where Nutrition, Politics and Culture Meet, Katz, D. and M. T. Goodwin, 1976. Centre for Science in the Public Interest. (In all secondary schools). Pages 43-46, 69, 70, 73-75.

RESOURCE BOOKSFITNESS

1. Allsen, P.; Harrison, J.; Fitness for Life - an Individual Approach, Wm. C. Brown Pub. 1975.  
Good examples of how to assess and write fitness programs.
2. Batten, J.; The Complete Jogger, Musson Book Pub. 1977.  
The basics of jogging are covered in a clear and compelling way. An informative guide for beginning joggers.
3. Bowerman, G.; Jogging  
An excellent book for starting a jogging program - complete with interval training work-outs.
4. Cooper, Dr. K.; The New Aerobics, Bantam Books, 1970.  
An up-dated revision of this well-known aerobics training program.
5. Darden, E.; Especially for Women: Exercise, Diet, Strength Training  
Leisure Press, 1977.  
This book covers a wide range of topics - the information is non-technical and easy to understand. Good section on weight training.
6. Donaldson, R.; Guidelines for Successful Jogging, Nat. Jogging Association, 1977.  
An excellent book that presents some of the best information that's known about jogging. Good sections on motivation and the woman jogger.
7. Henderson, Joe; The Long Run Solution, World Publications, 1976.  
Presents a different approach to running: Long, Slow, Distances can produce optimum training. Complete with training programs and the psychological effects of running.
8. Henderson, Joe; Jog, Run, Race, World Publications, 1977.  
This book leads beginners through 33 valuable lessons covering theory and practice. Included are 15 month long training schedules designed to help the new jogger, runner or racer.

9. Lance, Kathryn. Running, A Complete Guide for Women, Bobbs-Merrill Pub. 1977.  
This book shows women how to integrate running into their lives no matter what the age, physical condition and lifestyle. A well-prepared and organized book for women 'on the run'.
10. Morehouse, Dr. L. Maximum Performance, Simon & Schuster, 1977.  
Good information dealing with maximizing skills in sports as well as every day fitness and activities. Has sections on training for individual sports, avoiding injury and illness.
11. Runners World. The Complete Runner, World Publications, 1978.  
This excellent book is "complete" in the sense that it covers all running distances and all kinds of runners. It covers 14 different running topics from philosophy to promotion. This book is a "must" for any fitness library.
12. Sheehan, Dr. G. Dr. Sheehan on Running, World Publications, 1976.  
This lively, informative book is packed with good practical information on running by one of the most popular writers on running today.
13. Subotnick, S. The Running Foot Doctor, World Publications, 1976.  
This book presents the causes and cures of running injuries in more than 25 individual case studies.
14. Ullyot, Dr. Joan. Women's Running, World Publications, 1976.  
This book takes a serious look at women runners. Tips on diet, clothing, injuries and other problems unique to women.
15. Vitale, F. Individualized Fitness Programs, Prentice-Hall, 1973.  
This fitness book gives specific exercise charts and forms for evaluating elements of fitness.
16. Tolson/Lindsey/Dowell/Corbin, Concepts in Physical Education, Wm. C. Brown Pub. 1970.  
This easy to read book has many guidelines and lessons for understanding areas such as: body mechanics, stress, the heart, relaxation.

LIFESTYLE AND NUTRITION

1. Darden, E.            Nutrition and Athletic Performance, Athletic Press, 1976.  
Highly recommended for all athletes, coaches and teachers interested in becoming more aware about nutrition and performance.
  
2. Hendricks, G.; Willis, R.    The Centering Book: Awareness Activities for Children, Parents and Teachers, Prentice-Hall, 1975.  
  
An excellent book to aid you in teaching your students relaxation techniques to help them cope with the strains of everyday living.
  
3. McCamy, Dr. J.        Human Life-Styling, Harper & Row, 1975.  
  
A preventative medicine approach to everyday living. Good sections on nutrition, exercise and stress reduction.
  
4. Selye, Dr. Hans.    Stress of Life (1956) and Stress Without Distress (1974) (two books) McClelland & Stewart, pubs.  
  
Informative information by one of the world's top researchers on stress. Tells how to achieve a rewarding lifestyle by using stress as a positive force for personal achievement and success.
  
5. Smith, N. J.         Food for Sport, Bull Pub. 1976.  
  
A personal program teaching eating awareness and techniques for gaining permanent control of eating habits.
  
6. Runners World.      The Complete Diet Guide, World Publications, 1976.  
  
How to use your diet to better advantage is the basis of this book.
  
7. World Publications.   Food for Fitness, 1975  
  
Good sections on weight control "Food Killers" and basic body upkeep.

JOURNALSThe Physician and Sportsmedicine

Publisher: McGraw-Hill,  
4530 W. 77th Street,  
Minneapolis, 55435

- Current ideas and medical information on all aspects of sportsmedicine.

Runner's World

Box 2680  
Boulder, Co. 80322

- Excellent journal, commentary and articles on training programs, new books, and medical advice.

Pro Motion Newsletter

B.C. Physical Education Teachers' Association

Active Health Articles: May 1976 - PE Inside Out  
June 1975 - Active Health Programs

The Physical Educator

930 Log Run Drive North  
Indianapolis, Ind. 46234

- Good for obtaining new teaching techniques, innovative games, updated bibliographies.

The Journal of Physical Education and Recreation

AAHPER  
1201 16th St., N.W.,  
Washington, D.C. 20036

- Good material for classroom use, information on new books, games, and equipment.

APPENDIX B

Physical Education 11 Curriculum

Activity Group

## PHYSICAL EDUCATION 11 CURRICULUM

## ACTIVITY GROUP

Month	Activity
February	Pre-Test Fitness Testing Orientation-Minor Games Basketball
March	Volleyball Ice Skating Square Dance
April	Badminton Gymnastics European Handball
May	Speed-a-Way/Soccer Racquetball Softball
June	Tennis Cycling Softball Post Fitness Testing

## A P. E. 11 ACTIVITY GROUP LESSON OUTLINE

Class: \_\_\_\_\_

Activity: \_\_\_\_\_

Equipment: \_\_\_\_\_

INTRODUCTORY ACTIVITIES

Introductory activities would include:

- (1) Stretching exercises (given by instructor or class volunteers)
- (2) Cardiovascular exercise options:
  - (i) An outdoors run
  - (ii) A circuit designed for flexibility, strength and cardiovascular endurance
  - (iii) Warm-up drills for the specific activity or sport

NEW SKILL

The explanation, demonstration and practice of skills occurs at this time.

A short review of the previous day's work may also be included here.

GAME PRACTICE

This period of time would be used for recreational games or informal competition. Game strategies would also occur here.

END OF CLASS

Students would be called in for a brief summary of the period's progress. Information regarding the next period's activities may also be mentioned.



ACTIVITY GROUPExample Lesson Progression and Skills

## VOLLEYBALL

Facility: Gym (2 courts)

Unit Length: 10 - 12 hours

Resources:

- Films and film loops of basic volleyball skills
- Hand-outs of rules, offensive and defensive strategy

Equipment: 15 volleyballs

Objective:

- Overhead Pass
- Students are at a variety of skill levels

Format:

- Introduce ball orientation practice (individual and partner work)
- Demonstrate and practice overhead pass (individual and partner work)
- Modified volleyball game using the overhead pass as main skill

Next Lesson:

- Review of overhead pass and introduce a different skill, for example, the serve.
- Format follows for all skills throughout the unit: introduction - demonstration - practice - game practice.

APPENDIX C  
Assessing Your Own Fitness and  
Nutritional Needs

## ASSESSING YOUR OWN FITNESS AND NUTRITIONAL NEEDS

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Comment on each statement.

1. To what extent do you knowingly modify or avoid any activity because you know that your muscle endurance is poor or because you feel that you will get extremely sore muscles as a result?

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2. (a) Do you eat breakfast every day?

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- (b) Describe your typical breakfast - include all items (food and beverages)

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---

3. Describe your typical lunch (food and beverage)

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4. Besides your P.E. program, what other kinds of activities do you participate in?

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APPENDIX D  
Functional Fitness Assessment  
Data Sheet

FUNCTIONAL FITNESS ASSESSMENT - DATA SHEET

1. NAME \_\_\_\_\_

DATE \_\_\_\_\_

2. CARDIOVASCULAR ENDURANCE TEST

Aerobic 12 Minute Walk/Run Test \_\_\_\_\_  
(miles and fractions thereof) \_\_\_\_\_

3. FLEXIBILITY TESTS

Hip Flexion \_\_\_\_\_

Back Extension \_\_\_\_\_

Shoulder Extension \_\_\_\_\_

4. GRIP STRENGTH TESTS

Dominant Hand \_\_\_\_\_

Non-Dominant Hand \_\_\_\_\_

APPENDIX E  
Knowledge Test

KNOWLEDGE

1. Weight control is best accomplished by  
(a) Cardiovascular endurance exercises \_\_\_\_\_  
(b) Sit-ups  
(c) Flexibility exercises  
(d) Strength exercises
  
2. Existing evidence indicates that significant improvements in the cardiovascular system can only be achieved if \_\_\_\_\_  
(a) Heart rate exceeds 150 beats per minute for five minutes  
(b) Heart rate exceeds 180 beats per minute  
(c) A high blood lactate concentrate is reached  
(d) Oxygen debt occurs
  
3. A regular program of interval training (running/walking) or other aerobic work will not necessarily: \_\_\_\_\_  
(a) lower heart rate  
(b) increase total blood volume  
(c) improve range of motion about the joints  
(d) improve circulation
  
4. Which of the following is not an advantage of static stretching (holding a stretched position for a period of time): \_\_\_\_\_  
(a) decrease the stiffness of the joint  
(b) relief of muscular soreness  
(c) lowers the danger of exceeding the limits of the joint  
(d) less energy is required to perform the stretch than for other methods of stretching
  
5. Which exercise does not benefit cardiovascular endurance: \_\_\_\_\_  
(a) skipping  
(b) cycling  
(c) weight training  
(d) walking
  
6. After a vigorous work-out (20-30 min. running) an indication of good fitness is the recovery heart rate well below 120 per minute in: \_\_\_\_\_  
(a) 10 min.  
(b) 15 min.  
(c) 2 min.  
(d) 5 min.

## TRUE OR FALSE

- ( T or F ) 1. Dieting is the best method to lose weight.
- ( T or F ) 2. It is better to exercise immediately after eating rather than just prior to eating.
- ( T or F ) 3. A crash diet or exercise program is more effective than a sensible combination of the two.
- ( T or F ) 4. Smoking decreases the volume of oxygen that may be absorbed by the circulatory system in the lungs.
- ( T or F ) 5. Physical training reduces the resting heart rate.
- ( T or F ) 6. To maintain an adequate level of physical fitness, one needs to exercise only twice a week.



APPENDIX F  
External Interviews

## EXTERNAL EVALUATION

Interview Questions

1. What changes (if any) have you noticed in your activity habits outside of school during the program or as a result of the program?
2. What changes (if any) have you noticed in your eating habits during the program or as a result of the program?
3. What changes (if any) have you noticed in your body and its ability to move during the program and at the end of the program? Such as flexibility, strength, endurance, coordination, relaxation, general health and good mood.
4. If a course like P.E. 11 were offered next year and you could take it, would you sign up for it? Why?
5. What did you like about the program?
6. What didn't you like about the program? What would you do to improve the program?
7. Other comments, observations, recommendations about your feelings and thoughts on P.E. in general and this program in particular compared to past programs?
8. Any questions I haven't asked?

ACTIVITY GROUP INTERVIEWS

ACTIVITY GROUPInterview 1

## Question 1.

Well in the beginning, the sort of retesting things like basketball and volleyball and all that we went through every grade in the beginning I didn't like that at all. But when we got into gymnastics and outdoors tennis and thing like that I really really liked it. Going through all the films and running and stuff like that made me sort of think that you know its a good idea for me to get going and stuff like that. Because after gymnastics and doing all these exercises and doing a routine I found out a lot of things I can do. And it really made me feel better like I enjoyed coming cause it made me feel you know I got into exercises on my own at home trying to build my own legs off and everything.

## Question 2.

Eating Habits? Well I try and change them anyways not just because of P.E. but because I'm quite thin anyways. I'm the type of person that no matter how much I eat I can eat everything and I won't gain an inch or anything like that.

## Question 3.

Flexibility well that one thing that I noticed was when I started doing these exercises where you can see people spread their legs or move their back just everywhere. And I'm not very good at that because my back, my spine is fairly stiff. So I don't know, the more you did that you got farther down a little more each day, and I noticed that my flexibility, by doing stretching exercises bending down, I noticed a little bit more every day and it didn't start to hurt as much.

## Question 4.

Depending on what I had what I had open because I'm not as concerned about P.E. as I am my studies to go to U.B.C.

## Question 5.

Well I liked the way that the personal way it went like everybody sort of cared about everybody else. I liked it that way because in other P.E. classes it was all a real competition. And this is the thing I like because I'd go to class and I wouldn't feel hesitatnt to do anything because nobody was really better than anybody else. I really had a good time and it was fun.

Interview 1 (continued)

## Question 6.

Well the times I didn't go was just some of the activities that I didn't like. Like basketball, etc. I don't like those sports. I don't know why. I just don't. Running outside I hated doing that on cold days.

## Question 7.

We had quite a bit of choices which is good, at the end like tennis whatever you want to do. We were offered a physical stretching build up class when we were doing gymnastics, for those who didn't like it.

## Question 8.

Not really, I just generally say that it was more enjoyable than not. I did have fun even though it didn't look like it sometimes and I really enjoyed the class.

Interview 2

## Question 1.

Well at the beginning of the year when I hadn't had P.E. for over a year because I had it first semester last year. When I came back to P.E. to go for a jog I could hardly do it. But now I can. I don't enjoy jogging too much. That's one thing I just don't like.

## Question 2.

Maybe a little. I eat more breakfast now than I used to. Before I just had a glass of milk, now I have toast or cereal and juice.

## Question 3.

In flexibility I can move a lot easier and probably my strength.

## Question 4.

Either that or I'll take C.R. I don't know why, just what I feel I want to do. I don't know what I'll decide on. I'll just pick one I guess.

## Question 5.

I liked the way we did a variety of things and didn't stay on one too long. Everyone got a chance to do what they like. Everyone got

Interview 2 (continued)

involved in it.

Question 6.

I don't know, maybe because we had it every day. We had it first thing in the morning some days and it's kind of a drag to be getting changed in the morning when you get to school. The timing of the classes.

Question 7.

Nothing. Keep the same activities. If someone wants a change they just ask.

Interview 3

Question 1.

Well none mainly. It's not because you don't have proper activities or anything. It's just that I don't really enjoy P.E. I just never have. And I just don't like having it. Of course I have been getting better at things kind of. I play more like I never played before but I guess I'm improving at playing more. Well not exactly yet. I'm not playing on my own time. But I will.

Question 2.

Well, I don't think I've, like my eating habits have changed this year, but not because of the programme but because of my mother. She went away on this weekend when they could only eat vegetarian foods, and all this health foods and nuts, and all this stuff, and she was really thrilled by it. She just loved it. So she went out and bought a whole bunch of this stuff. So now she's feeding it to me. But I like it. Oh, it's pretty good. It was just in Vancouver here.

Question 3.

Ya, more flexible. I suppose I can run a bit better. But nothing really much.

Question 4.

No, well like I enjoy doing exercises when I feel like it. I don't, when I find I get pushed into it I find that I do it really grudgingly. But like if I decide that I want to, like at I say let's go for a run I just go for a run and I really fend for it so that mentally

Interview 3 (continued)

and physically I really enjoy it. But if someone says go and run I wouldn't like it.

## Question 5.

Well, I guess it was sort of cut out quite a bit of variety of stuff to do. You know different games and stuff and exercises. You had time enough to like, like we would spend a week on something which is time enough to learn it, to see how you like it. Like it's a sort of introductory lesson kind of thing.

## Question 6.

Oh, gee! That's a tuffy. Well it's not that I really didn't like anything cause it was all like you know like P.E. and I never really liked P.E. as a whole. And there wasn't really anything I didn't like. You know there was some stuff that I didn't really enjoy doing like running and that.

## Question 7.

To me my own desires, I would just sort of, like if I was teaching myself P.E. I'd just let me, not really do what I want because you can't really because that wouldn't really work in a school. Just like try to motivate people like don't force them to do stuff. Like I found that every P.E. teacher I've had they kind of they really push for physical fitness sort of thing. You know I think it takes a special kind of person to be able to teach. I guess sort of being able to take persons as individuals and not just as a class.

Interview 4

## Question 1.

Well, when we were learning to play tennis, I found that after I had gotten some instructions and I knew what to do I found that I was going out and getting on my bike and going to the courts and practicing tennis. And I really enjoyed that. At the beginning of the year I went out jogging a few times. So I think it has had an effect. I usually have activity in spurts and stuff.

## Question 2.

I have changed my eating habits during the program, but I don't think it's a result of the program. It's a result of something that has been long overdue for me and something that I want to do. It could be that increased activities have had some effect, and I think it has in

Interview 4 (continued)

getting out and running every day. It makes you notice that there should be a change. I'm on a Weight Watchers program right now and so it's very nutritioning eating -- like vegetables, every meal and certain amount of eggs and eggs and liver once a week. Fish five times a week. It's really good. Oh yes, my parents are all for it.

## Question 3.

Oh, quite a bit. I can notice when I run I feel a lot better and at the beginning of the year, when we used to run to the park and back, and I could really feel like I'd worked, but not in a nice way. I was kind of dead tired. Now when I run it feels a lot better. More endurance. Like we did that twelve minute run and at the beginning I did 4 3/4 and just yesterday I did 5 1/2 which is my best. I'm really pleased. None like flexibility.

## Question 4.

I couldn't because I couldn't fit into my academic program because I'm graduating in January.

## Question 5.

I liked the kind of non-pressurized class that Miss Buker had because I think that if you're all do this, and do fifty of that, that's not going to work. It's more of a boys' atmosphere. I liked individual attention. We got quite a bit of individual attention and there was quite a lot of choices in what you wanted to do. I liked the activities we did mostly, except gymnastics. That wasn't Miss Buker's idea anyway.

## Question 6.

I did like skating. I'd like to have more guest speakers and I'd like to have guest speakers in on nutrition and fitness. And you know people that used to swim or do swim now, runners. It would be really encouraging, I think.

## Question 7.

I really can't think of anything except what I mentioned before -- more involvement from outside. It was good having the school nurse come in.



Interview 5

## Question 1.

None. Well, I get exercises at school now, and so I don't feel like I have to. Well, I don't feel like I have to do exercises outside of school, because I get every day. I tried to get some exercise. I don't know. It's kind of hard to do unless you're forced.

## Question 2.

No. I eat like a pig. I eat lots of different things.

## Question 3.

Yes. I feel a lot healthier, and last semester when I didn't have P.E. I used to get bad back aches and whatever, just leaning over a desk all day. And now I feel a lot more relaxed.

## Question 4.

No, I don't like getting it every day for one semester. I'd rather have it the whole year, maybe three times a week. I think it would be better for you too.

## Question 5.

I liked basketball. I don't know, I liked going for a jog.

## Question 6.

I didn't like getting it every day. Gymnastics being made to do a routine. I think that should have been part of the dance class, instead of us. I don't mind taking gymnastics, but I don't like doing routines for it. I'm not good at it, and I've been made to do it now for 4 years, so I don't like gymnastics at all. I don't mind giving it a try for a couple of weeks, but I don't like doing a routine.

## Question 7.

Make it all year round. Two times a week, and then three times a week, and alternate it. That's how we had it back at Hamilton.

Interview 6

Question 1.

You mean like in sports and things like that? Yes, we played more tennis.

Question 2.

Well, it's just because my whole, like what I'm involved in right now -- my eating habits have totally changed. Like during P.E. I've been in a lot of plays and things like that, and I don't have time. And I'm involved in a lot of things right now, so I don't have time to eat very well. Like I don't eat breakfast, I don't eat lunch, I eat when I can, I starve.

Question 3.

I think I've gotten more flexible. And I can run farther without getting out of breath.

Question 4.

Probably not because there's so much I want to take next year. That I want to get for my graduating, for what I want to go into after school. I'm going to take C.R. 12 which has some P.E. in it. I'm going to Langara for acting.

Question 5.

I like the different things we did like I like the way we changed a lot and got to do what we wanted to -- play tennis or play baseball or soccer. That was good. I like the variety.

Questions 6-7.

Generally, I thought it was good.

Interview 7

Question 1.

Well, I thought of like when I'm at work. Like I work at Kentucky Fried Chicken, and there's a lot of activity there -- like you're always running around doing this and that. Tend to stretch my muscles or things like that because they are looser so they get tense a little easier and you get sore muscles more often. So I'm exercising my muscles more often. I've been doing a little exercises at home once in

Interview 7 (continued)

while. I'll sit down and do fifty sit ups or something like that. I never used to do that. But that's about it. I used to go jogging once in a while, but I don't anymore because I do it at school. I just don't have the energy sometimes. I think, "Well, I'll do it tomorrow, anyways." I'm a little more active in my day-to-day life. I don't go out of my way to be active, but I find I'm doing more active things.

## Question 2.

Well, I've always been into nutrition you know, like I like nutrition. I like to eat things that are good for me. Although lately, I tend to eat on the run and skip meals.

## Question 3.

All my years of P. E. I've been really uncoordinated, like really. And now this year, it's all sort of starting to fall together, and I can actually hit a baseball. Maybe I'm trying a little bit harder this year.

## Question 4.

I don't know. Something more individual rather than group. I'd go for something a little more individual. Individual focus.

## Question 5.

A lot of the things we did -- like she tested heart rate, and labs. The only thing I didn't like, we didn't get to go swimming and things like that, because I just love wimming and things like that. But then that's just myself. I enjoyed sort of the program itself, like how she started with the basic stuff and then it just kept building up until it sort of got to a plateau and stayed there. Which was pretty good, I liked that. Built our our flexibility, stamina. Started out with stretchy things, then started running.

## Question 6.

No, I thought it was complete.

## Question 7.

The only thing you could really change is the attitudes towards P.E. So many people go off to school and they say, "Oh, P.E. I just hate P.E." I've always been brought up like that -- I've always hated P.E. But this year was the first year that I sort of started to enjoy it. I think it would be mainly the attitudes of the students. I thought it was a really good course. I really enjoyed it. I love

Interview 7 (continued)

entertainment, but not really. It made me realize a lot of things about myself. I got to get into a bit better shape. I got to quit smoking.

Interview 8

## Question 1.

Well, I started to swim -- that type of thing -- at night time, and I bicycle ride, depending on the weather. I really like tennis now since I've sort of taken like a course. Because before I was a total flop at it, and now at least I can start hitting it back and forth.

## Question 2.

Well, I think, like we really talk a lot about nutrition and that type of thing. And I always try to eat good anyways so, and I have a lot of friends that are high on nutrition. Like I try to eat good food.

## Question 3.

I think I'll a little bit more flexible, with some things. Like I know we stopped for a while, like to do square dancing or something, and that wasn't, you weren't doing anything that strenuous, but when I turned back I was kind of sore. Because we hadn't done so much for such a long time, that I could really feel the difference. Just sore in my arms because we were playing volleyball and that sort of things.

## Question 4.

Like I really like P.E. That's one of my favourite courses, so what I did sign up for was C.R.

## Question 5.

Well, I liked Miss Buker. She was really honest with us about the things, and like a lot of teachers -- they cover up sometimes. She was really quite honest with us, how she felt and this kind of thing. I liked a lot of the things that we did -- like I thought we had a good class and I really liked playing tennis. I don't know what we really did a lot of it, and I liked having to choose what we wanted to do -- like we did this towards the end, if we wanted to play softball, or soccer, or tennis.

Interview 9

## Question 1.

Well, I think I've become more fit, I think a little more flexible and stuff. But I'm not really into sports or things like that, but like just plain things like games in the back yard, things like that. I haven't changed much.

## Question 2.

Well, I used to snack constantly, like all the time. You know, go home after school and eat everything. But I think I've learned to control it a little more now. And if I do, I eat more nutritional things. I used to eat chops and pop and cookies. And now I eat fruit or cheese.

## Question 3.

More flexible, and I have more effort to do things.

## Question 4.

I really don't know I'm not, P.E. is not one of my favourite subjects, but like I liked it this year. It was different. But I don't know if I would take it or not see if I could fit it in with everything else.

## Question 5.

I really enjoyed it. We had a lot of fun. Met a lot of different people. Like I don't think I really new anybody at the beginning of the class, but I met a lot of the kids and everything. It was really nice. We got to do a lot of fun things, and stuff. There was some things I didn't enjoy as much. We did a lot of tennis and stuff like that.

## Question 6.

Gymnastics. I really, I just can't stand it. I don't know. I just have never liked it -- like every year we did it, like at my old school, and I never enjoyed it. My body isn't that flexible when it comes to stuff like that, and somesaults. I get dizzy if I do one. So I don't really like that. Besides that, I think it was pretty good. Like some days you didn't feel like doing it. I thought it was pretty good.

## Question 7.

I think maybe if we went, like we went skating a few times and that was really nice, if we could stuff like that, like go swimming and go on field trips. I think that would be all right. Just something different.

Interview 9 (continued)

## Question 8.

I really think it was good. I think I enjoyed it more this year than I have other years. Well, I really like Miss Buker. I think she's really nice, and that could be part of it. Other times, like at my old school, it was always coed. I thought that was good, but I don't know, maybe it isn't. It's pretty good, but this is good too.

Interview 10

## Question 1.

Actually not much, like I go out Saturdays a lot. My boyfriend and I, we go out and we sort of have a P.E. day. We go out and either play frisbee, or catch, or something like that. Just something to do. We just started that this semester when I started P.E.

## Question 2.

None. I eat the same thing I've eaten all my life. I don't eat pablum any more. Well, I ate well before I took the course and I don't think, you know Miss Buker always said "Eat healthy", which is good cause you should, but I didn't change my eating habits for her. I've always had the same eating habits. They've always been good.

## Question 3.

Not a lot. I'm not very good in P.E. anyways. Like I slack off a lot in P.E., but when I come to class I work, quite a bit, and I feel better for it. A little bit more flexible. Like when I was little I really flexible and then I sort of fided out of it. But now I can do a little more than I used to. Running, I never been good at, and I don't think I ever will.

## Question 4.

I don't think so. Well, not anything against the course of anything like that. It's just that I don't like P.E. It's a good course and keeps you in shape, and it's really good, but for me, myself I just don't like P.E.

## Question 5.

I liked the gymnastics part of it. I really enjoyed that. I really get off on that. Liked the rolling and learnt how to do a cartwheel for the first time in my life. I've always wanted to do that. But the gymnastics part was just great.

Interview 10 (continued)

## Question 6.

The running, I didn't like that. The rest of it was all right, but the running I hated.

## Question 7.

Well, I'd like gymnastics in it, and I'd put tennis and stuff like that in it. I'd probably put some running in it, because it's good for you. But I wouldn't put as much in. I'd have to put running in it because its mandatory, not mandatory but it is, well you know.

## Question 8.

It's a pretty good course for people who like P.E. A lot of people really enjoy P.E. and they get off on it, and it's good for them. But for me, myself, I just, I'll do it and it won't kill me. It's a pretty good course. There's probably some way you could design a course for people who don't like P.E. Like have activities like swimming or skating. When we did skating, that was a lot of fun. I liked that. Like swimming, skating, horseback riding, that sort of thing outside and doing what you want to do.

Interview 11

## Question 1.

None. I try, I always periodically try, to get out and jog and play tennis.

## Question 2.

None. I eat fairly nutritionally already.

## Question 3.

None.

## Question 4.

No. Well, I had to take it because it was compulsory. I like to do things on my own. I'd don't have to follow all those rules and things. Like I'd rather do it on my own because it is more personal.

## Question 5.

Nothing, special all P.E. programs are like that. I did like the things on the pulse rate and things like that. That kind of informa-

Interview 11 (continued)

tion. Activities were the same as in the past, just going over them again.

Questions 6-7.

Well I'd have a sort of thing that everyone do some stretching first before each class and then go jogging and then do some sports or whatever they want. To keep in shape.

Interview 12

Question 1.

None, really, except I have more energy to do stuff. I used to play softball and soccer.

Question 2.

No.

Question 3.

I guess I have more flexibility.

Question 4.

Well, I would if I had an extra block, but I don't so. I like doing P.E.

Question 5.

Not much, like you do everything from grade 8 to 10, the same stuff every year. But we played more softball, we didn't do that in grade 9 and 10. I liked that.

Question 6.

Nothing else. Like I'd like to see more different activities like archery. I've always wanted to try that one, and squash and stuff like that. I'd like to explore different things.

Question 7.

I don't know. I can't think of anything. I would take out, like basketball, like I enjoy it but it's just every year, softball and volleyball and that's about it.



Interview 13

## Question 1.

None. I just never was really active and I just never increased my activities at all. I jog sometimes, and I play tennis sometimes, but I'm not an athletic person.

## Question 2.

If I did, it's because I wanted to change my own eating habits. Like I had to cut down on starchy foods and sweet foods and stuff that are fattening, and you don't need. But that's because I gained weight during this program, and well it's not because of the program, but I've gained weight during the time.

## Question 3.

Not really, my endurance is better because I can run more without getting tired as much. For a while there when we were doing gymnastics, my flexibility increased, but since we stopped doing gymnastics and I haven't, you know, because you need it, I'm just back where I started. I'm not any stronger or anything like that.

## Question 4.

No, because I don't think it's a, I just found it useless. I didn't gain anything from it. I don't know, I just wouldn't. I hate changing for one and I hate getting sweaty and stuff, but I found I haven't gotten any slimmer. I'm not any stronger.

## Question 5.

I like getting involved in the games when it was group activity and I liked badminton and I liked you know having, it's fun once you get really going and getting into the game and working hard at it and getting yourself involved and not just sitting back, then it's really fun and I enjoy it.

## Question 6.

I didn't like the fact that you just start getting into something and then you have to quit. Like that's not anybody's fault, it's just the way the course is, you can't help how much time you have.

Interview 14

## Question 1.

Well, I've been able to do other exercises more, better than I used to do them. I used to do sit ups but then I, after P.E., I stopped because then I get my exercise during P.E. now.

## Question 2.

I don't eat junk food anymore. I used to eat cheese curls, tootsie pops, not I feel I'm doing something for myself. Well, I don't eat as much as I used to.

## Question 3.

Well, I feel I can run much faster than I used to. Well, my flexibility with my legs is a little bit better.

## Question 4.

No, because I wouldn't want to spend an hour every day in P.E. I'd rather go jogging by myself or do something else on my own time.

## Question 5.

The different kind of activities. I liked that, when they made us run every day. Because I hated running when I signed up for it, when I came into this course. It was a good course.

## Question 6.

Well, I wished we would have choices of doing things rather than next week we're doing basketball and that sort of thing. Not that I don't like it but it would be more your own choice. Well for two weeks we did basketball and European handbook and stuff like that.

## Question 7.

Just more different kind of sports for the programs.

## Question 8.

No, I don't like P.E. In fact, this course sort of made me realize that this is the last chance I'm going to have to start keeping shape on my own and I think I can do it now. I've always thought I would like there's next year, but this is the last year and it's in my head, and I'll just have to do it on my own. I dislike P.E. because of running, because I still can't run long distance. I like the fact that the teachers pushed you to run a certain distance every day and

Interview 14 (continued)

that way I was sort of on my own, and I felt that I should run.

Interview 15

Question 1.

Well, actually not much. But like after the program I did like to do more things than before. For example, in class, usually in gymnastics, I usually was lousy and like that program was pretty good the way we planned it, and so I started something. There was something I could do and so I sort of liked gymnastics. Tried to do it on my own.

Question 2.

No. It's about the same.

Question 3.

Well, about movement. I don't notice any change, but jogging. When I started the program, after I ran a mile I was really panting really heavy. But after the program it seems that after I ran a mile it was quite all right for me. Maybe a little bit in my flexibility.

Question 4.

It depends. For example, I would like to take P.E. course because it really helps, because I like stretching and all that, but the thing I need 12 courses to graduate. I'm going into a science program and so I need more science courses than I do for pleasure things. But if I could have a spare or something I might take. But if I can't, I won't.

Question 5.

One thing I really liked about it was they teach you everything from the beginning. For example, tennis. Like i've never played on my own, but that is the wrong way to approach it, sort of, but the teacher right from the beginning showed you how to hold your racket and how to hit it and all that. For example for students like me who don't know anything can have the opportunity to start learning so that they can keep up with the program. Instead of just starting to play games and having matches and then you probably won't have any fun because you just can't do it. And that's the one thing I really liked about it.

Question 6.

There isn't much I didn't like about it. Well maybe, no not really.

Interview 15 (continued)

## Question 7.

It would be nice to make everything we do for the same length of time. We'd spend about 3 weeks on badminton and then we'd spend a shorter time on some other thing. It would be nice to shorten one thing and make it sort of equal. So that you don't get too much of one thing and not enough of another.

Interview 16

## Question 1.

Well, I just get the feeling that I want to go out and do things more. Like go out and play tennis. Like usually in the spring I start playing, but last year I didn't play too much. This year I really liked to because we did a lot of tennis this year and I didn't last year. I thought I'll get out and do that, and I'd like to start running more, because it makes me feel better when, I think that I'm in better shape than I was, at the beginning of the year. I'd like to keep it because I don't think I'll be able to take P.E. next year. I'd like to keep on running if I can. I guess like I really don't do any major, but when spring comes along I like to get out and play badminton or tennis. I guess it's just really starting then. It's making me get geared for it and want to do it more.

## Question 2.

I eat much more now. I don't gain any weight but I'm just eating twice as much as I used to, because before I didn't eat anything, but now I just really eat. That's about the only thing I can say. I'm trying to get away from the junk right now but I guess I still eat a little bit sometimes. Slightly more nutritional food.

## Question 3.

It seems a lot easier for me to play basketball and go out and do a run. It's just not as tiring or exerting as it was before. Flexibility. Not really. I guess we really haven't like I don't think we've worked that much on flexibility except when we did gymnastics and did stretching exercises all the time. But mostly when we went for a run, I guess. We've been mainly going for fitness and stuff rather than flexibility. I guess a little bit, but not much.

## Question 4.

I'd like to take a P.E. course next year, and I was going to sign up for one, but I can't fit it into my timetable because I want to go on

Interview 16 (continued)

to university and I need those subjects, but I wish I could, because I'd really like to keep in shape.

## Question 5.

I really like tennis, I guess, and bamindton. And I liked softball and I liked volleyball. In basketball, not too much I guess, because I'm not very good at it. And gymnastics was O. K. Pretty well everything I thought I got a lot out of it, there was a lot of variety and everything.

## Question 6.

I guess at the beginning when we just did minor games and just little things. We din't really get into anything to learn anything. I guess that's when I didn't like it very much, because I wasn't getting very much out of it. It was just like what I did the year before. I guess I wasn't learning what I wanted to learn.

## Question 7.

Well, I think I'd like to change the beginning of the course and, instead of doing things like I did all last year, introduce something new or really get down to the skills and basics and not just really have it repeating all the time.

## Question 8.

Well, when I first went into the course, in the beginning, I didn't like it very much. It was just another P.E. course. Like last year our P.E. was O. K. It wasn't really good, it wasn't really exciting or anything. So this year I just thought it was going to turn out the same. But during the end and halfway mark, it just got really good and I enjoyed it. I could say I really got a lot out of it. I'm glad I took it and I wish I could take it again. The main thing I got out of it was the initiative to do more than what I'm doing now.

Interview 17

## Question 1.

Just what I did before.

## Question 2.

None. I don't have very good eating habits. I eat good food but I just don't eat them at very good times. None, as far as P.E.

Interview 17 (continued)

goes. I don't think school has anything to do with my eating habits to start with. Even in a like a nutrition course, I don't think that would teach you anything.

## Question 3.

I think I've improved a little bit in running.

## Question 4.

Yes, I signed up for Active Health, whatever it is. I think my attitude changed toward P.E. I used to really hate it but I enjoyed it this year. I don't know why.

## Question 5.

I think Miss Buker didn't stress the running like the P.E. teachers I had did before, always, you have to run, you have to run you can't do this, you have to run. This year we'd run down to the armories and play volleyball, I mean the activities were more involved with the running, like instead of just going out for a half hour run. You sort of went at your own pace. I liked that.

## Question 6.

I thought that some of the activities were carried on a bit too long. That's the only thing I didn't like. Like I thought gymnastics, I thought they overdid that. And I liked tennis, but we overdid the tennis too. Like we spent three weeks on gymnastics, and you kind of get bored towards the end of the semester.

## Question 7.

I think I liked the way, one thing we had in P.E. last year was we had two week sessions and we had three choices. And we did throughout the whole year. You signed up for what you wanted, but you couldn't sign up for something twice. Kind of like having coed tennis or cycling when we signed up for that. But we did it throughout the whole year so you had a choice of pretty well everything we had to do.

Interview 18

## Question 1.

You mean out of school? Well, yet it sort of has me geared for running, but then I couldn't stick to it. Swimming out of school.

Interview 18 (continued)

## Question 2.

Well, just after I started it I was already watching what I ate and eating good things, and I've stuck with it, but I don't think it was as a result. I just got totally sick of everything I was eating.

## Question 3.

I don't get as tired as I used to and stuff like that. A few changes in flexibility since I started.

## Question 4.

Yes, like I enjoyed everything we did this year. Like I don't like basketball and I enjoyed it this year. That's an example. But I used to really like gymnastics, but I didn't enjoy that this year. But that wasn't Miss Buker.

## Question 5.

I don't know. I guess the involvement. I enjoyed it for a change. Nothing dragged on too long. It's the best one I've been in in about three years. It could be just me, because I never really got into anything. So it was really different. I enjoy it this year. I think she looked on as more interesting as an individual.

## Questions 6-7.

Not necessarily. I wouldn't lengthen it or shorten, but I'd change it. Like to know what people taking it are good for not somebody telling what we're doing. Maybe golfing or something like that, but that might be difficult at a school. Those are all special things that we go on field trips. Just different things.

Interview 19

## Question 1.

None, really it pretty much just stayed the same. I'm pretty active. Like I skate.

## Question 2.

None that I can think of. No. It just hasn't changed at all.

Interview 19 (continued)

## Question 3.

More flexible I think. Running is about the same.

## Question 4.

I don't know. I don't think so. Because I just do skating and that stuff.

## Question 5.

There was quite a lot of variety, like it was a lot different than I expected. There was quite a lot of different things to do. Well I haven't taken P.E. for a while because I skated instead. And I thought it would be really hard, like really strange, but it wasn't like. She had different games to do and stuff like that. Tennis. Like I thought it would be like running every day, like just for ages, but I wasn't expecting all the different things that we were doing.

## Question 6.

Sometimes, in some of the games I thought they dragged on a little bit too much. Sometimes I thought we could have had a choice, but like it would have been nice in the beginning to have a choice and different things to do. Well, tennis I found quite, very long and I like badminton.

## Question 7.

I'd probably just add more variety like different games and stuff like that and things like dancing. Like we did some square dancing and stuff, and that disco dancing they did.

Interview 20

## Question 1.

I tend to do more exercise and I want to do more running. Not really. I bikeride a bit.

## Question 2.

None. I eat the same. Eat good food.

## Question 3.

A bit more flexible. Can run further, more stamina.



Interview 20 (continued)

Question 4.

Yes, because it gives you a break in the day -- a break off school.

Question 5.

We had a say in what we wanted to do. We had a choice and usually something that everyone wanted to do.

Question 6.

I think we were a bit rushed for time in some places and we didn't get all the activities we could have done.

Question 7.

I'd probably shorten the time in the period and time we had on some activities. Like we had two weeks on tennis and the third was option and one of the options was tennis. So you could play tennis for three weeks.

Question 8.

It's good. We had a lot of emphasis on flexibility and making your body better.

Interview 21

Question 1.

I think I'm more active. I care about my fitness more since I've been taking P.E. and I go jogging and I have a real interest in tennis now, seeing as how we've been playing tennis. Like before I never used to jog or do exercises but now I go upstairs, put on a little jumpsuit and do exercises, and then I'll go jogging or go play tennis or something.

Question 2.

I'm more cautious about my weight. Like I'm not eating any junk foods anymore, and I eat things that are healthy for me. I'm just watching my weight because I feel better.

Question 3.

I'm more flexible, a bit stronger. Well, my running. I'm better at running. When we first started out we just ran to the Mahon sign and I was just dead, and now I can go there, run around the track, and

Interview 21 (continued)

back, and I'm dead when I finish that, but just the same amount as when I was running to Mahon.

## Question 4.

Yes, I think I would. Well, because I like the, it's sort of set up. I like stuff like to train my body into doing things. Like I've accomplished something and that I can do it and set a goal.

## Question 5.

Well the different things we did like we didn't stick to one main topic. We had a variety of things to do, and that sort of gave basic knowledge on the different things. I like going on the runs, like I hated it but I know it's good for me. I liked being pushed because I need someone to say "You got to do it".

## Question 6.

I liked it. It was just whether or not I was in the mood to do it or not. I liked most of the things we did.

## Question 7.

Well, I think we should have gone maybe on a little more hiking, or something like that. Like do something that's out of the school area. And we never did that except for skating. That was pretty good. Maybe we could have gone swimming or something.

## Question 8.

Compared to other P.E. programs, it's about the same. When you reach here you sort of think "Well, it's up to you to". Well, if you want to do the activities and that it's up to you to realize it. It's for your own good and like in junior high they always forced it on you -- sort of made it a real drag. But here it's fun and everyone gets involved.

Interview 22

## Question 1.

I enjoyed tennis a lot more, and I've gone running a few times out of school, quite a few times actually. But I wouldn't have done it without P.E. because you know.

Interview 22 (continued)

Question 2.

None, because just basic habits.

Question 3.

More flexible. Can run further and better at playing tennis and stuff like that. Baseball skills are better.

Question 4.

Yes, because if I don't have time at home to do any activities -- you know like bike riding, exercising or something like that. I can do it in class.

Question 5.

It gets you moving, wakes you up, you feel better after P.E. usually. It sort of breaks up a day too.

Question 6.

Gymnastics. No, I like gymnastics, but the point is, I can't do it. I don't do it because I'm not suppose to, so I didn't like it.

Question 7.

Nothing.

Question 8.

It's been one of the better, because of the people and what we were doing and the teacher. But I enjoyed it very much. It was the best P.E. years that I've had and I've been taking P.E. since grade one.

ACTIVE HEALTH INTERVIEWS

Interview 1

## Question 1.

I think that I was probably doing a lot more things. I was running on weekends and I really enjoy it. I used to run last year but I quit running during summer, but started again when I began this course and I have been playing baseball, basketball and soccer. I really like sports but I used to really hate P.E.

## Question 2.

I made one of my goals to be done by the end of the semester to have lost five pounds. So, I went on this diet and I have been doing my running as well; so I lost four pounds. It was really good and I was really pleased.

## Question 3.

Yes, I pretty well ate the same things that I was before. I did eat during meals and I didn't eat chocolate bars and taco chips or anything like that. I am a vegetarian, so I don't eat meat so I really have to watch what I eat.

I did running and other things so that really worked.

## Question 4.

I think it has changed a lot! I could not even run once around the track before without thinking that I was dying. Now I can run three miles and it's really great. I feel stronger and the ability to endure.

## Question 5.

Yes, because in other P.E. courses that I have taken I felt pressured into doing things, like you have to run three miles with the rest of the super jock people immediately after the course begins. This type of course is really most great because you build yourself up gradually and you feel that you have achieved a lot more by the end of the year rather than making sick trying to keep up to the rest of the students' standard.

## Question 6.

I really liked it. I really enjoyed it. It was the first P.E. class that I have ever looked forward to. Miss Buker helps to make it a lot better because other P.E. teachers that I've had made me feel guilty if I couldn't do something but Miss Buker will help you and show you how to do it. You feel a lot better after having accomplished something.

Interview 1 (continued)

## Question 7.

I didn't like the 12 minute run. I don't know if I would change it all that much. I like how she has her presentations of all these different things. The health presentation is really interesting. I like that and maybe you could add more of those type of things to the program. Yes, it is really good!

## Question 8.

I have really enjoyed this P.E. course and I'm kind of feeling bad that it is almost over and I have really enjoyed Miss Buker. She has probably been one of my favorite teachers and I said I was dreading P.E. when I came in here and I thought I am even thinking of taking it next year. It is not required, but I really enjoyed it. It was really nice to have to think that maybe she does like you. You would go into class and say that you were not feeling well and yet she actually cares and in other P.E. classes you would feel like you are cheating because you don't feel well. I would rather take P.E. sick than have had to tell my other P.E. teachers that I wasn't feeling well because they looked at you as if you were going to skip that class.

Interview 2

## Question 1.

I think that I am more active and more willing to go out jogging at night with my dog and I never ever thought of it before. I go out walking and hiking and just feel a lot better doing it because of the program.

## Question 2.

Well I guess at the beginning we studied what we were eating and then I realized that I wasn't eating well. I started eating regularly since I used to skip meals. This was partially caused from working and now I make sure that I am eating breakfast instead of skipping it. So I guess I have been eating a lot better. More regular.

## Question 3.

I found that I could run farther. At the beginning of the year we could only run down to the track and now we (friends and I) can go down and do a couple of laps and still feel really good about it. Not be all worn out by it either.

Interview 2 (continued)

## Question 4.

Yes, I probably would. I really enjoyed it this year because we went roller skating and played racquetball. The course was not just a running course and the other school P.E.'s that I have taken in other schools were very boring and this year I really enjoyed P.E.!

It was a course with a lot of variety and it was very interesting. It is sort of like C.R. rather than P.E.

## Question 5.

I really can't think of anything that I really didn't like. Maybe some of the sports but that's alright because I can put up with that. I didn't mind at all.

## Question 6.

I wish we could have gone out more to play racquetball or go roller skating because we only did it a few times but if we could have done it more it would have been a lot of fun. Everybody enjoyed it and it wasn't just me.

## Question 7.

Yes, Miss Buker was really nice, she sort of know what everybody wanted whereas the other teachers just set out the course and didn't really care about what everybody else. They just had it set and everybody had to do it and that was that.

## Question 8.

She took into consideration our feelings, not just hers and what she wanted to cover so that was really nice to see that too.

Interview 3

## Question 1.

I go out a lot more now and I just have a lot of changes, I don't know exactly what.

Yes, I do sometimes and I also do yoga every night for about half an hour.

Interview 3 (continued)

## Question 2.

I don't eat any junk food and I try to watch what I eat.

I am more flexible and I have more strength.

A bit but not that much.

Yes, I probably would.

## Question 3.

I don't know, I thought it was just different than any other P.E. course which I have had and it was the best P.E. course I have ever taken!

## Question 4.

Well the fact that it just wasn't the same thing everyday like in Balmoral we had a run and then we would have an activity and your mark was based on the timed run everyday, I didn't particularly like that.

## Question 5.

Nothing really, I thought the course was really good.

No, none that I can think of.

Yes.

Interview 4

## Question 1.

Well, I run now. Sometimes I will run on Saturdays or something like that whereas before there was no way that I would run and I have noticed a difference in myself. I am not just a blob like some people were when they didn't have P.E. for a semester. I find that you feel sort of gross, well I feel great now and you know I have lost weight and that is great!

## Question 2.

The program has taught me how things are good for you and how they affect your body. I really watch my food now and I know what's good. We each had to do an article and some of the students did it on food and when everyone found out what was in the food, then they stopped eating the bad food.



Interview 4 (continued)

## Question 3.

I used to really find it hard to run but Miss Buker told us to go a little farther each day and then walk. Now I can run the whole mile and a half without stopping so that is sure a change.

## Question 4.

Well I really liked Miss Buker because I get along with her and I really think that has a lot to do with it. If you hate the teacher you are not going to do anything and I really liked P.E. and I like to be active. I think if you don't take P.E. ll then you slow down.

## Question 5.

Miss Buker didn't make us run yet in Junior High we had to run everyday then this didn't require us to do that because she understood that sometimes girls don't feel like running. Miss Buker didn't force us to run and she sort of left it open for us. When it came to the basketball we had to do that but she didn't really force us to.

## Question 6.

Well the only thing was that I noticed that after running we didn't play that many different sports. It was into basketball and we only had racquet sports and I think that's all we did and I know some of the kids really wanted to get into volleyball and other sports, but it was fun anyway.

## Question 7.

Well I know everybody enjoyed going to the racquetball courts and I wish we had done more of that because it was really fun to go in there and play. I really liked it, this is the only P.E. course that I have ever liked because I hated it in Junior High and to be honest I used to skip out a lot in P.E. because I just couldn't hack it. I hated running but I have not skipped out once this year during P.E. and I know a lot of other people didn't. There must have been something in there, I really enjoyed P.E. otherwise I wouldn't be taking it next year.

Interview 5

## Question 1.

I have done more hard work. I am doing a lot more running and a lot of walking than I am used to. Since I have been in here Miss Buker has made it more enjoyable and you feel better about going out and doing something instead of riding a bike or getting in a car or on the bus. I am not avoiding the things that will make me tired or involve a lot of exercise.

Interview 5 (continued)

## Question 2.

I don't really find much change because I never had an eating problem I just found that I went for more nutritional things and Miss Buker kind of opened your eyes to the nutritional value that tends to keep a healthy body.

## Question 3.

Well I took gymnastics three years ago and I was finding that I was using a lot of the power that I had and through this P.E. course most of that has come back now. My muscles are in much better tone.

## Question 4.

Definitely! Miss Buker made the attitude a lot better in the classroom. I know some of the other P.E. teachers want you to to out there for their benefit and don't really make you feel like it's for you. Miss Buker made me a lot more enthusiastic about taking P.E. because I was really getting sick of it but I look forward to it now.

She does not compare you to the others, she compares you to yourself so that also makes your attitude better.

## Question 5.

Just the way she worried more about yourself and how you give yourself some credit for what you have done rather than work for her, it is mostly for your own benefit.

## Question 6.

I found that it was the best P.E. course that I have taken in all the time that I have taken P.E. and I have taken at least five a year. There is nothing really I would change because it was pretty well balanced.

## Question 7.

It was just a really good P.E. course. I have never had a P.E. teacher that said to go out and do this for yourself and if you want this then you have to go out and get it. Miss Buker was not really like a teacher but more like a friend. She wasn't pushy but she gave you energy.

Interview 6

## Question 1.

I know that I now have a better attitude towards my activity habits and as far as running and that, Miss Buker has made it a lot more interesting.

## Question 2.

My eating habits have changed since talking about fitness. I am also taking a foods course and we talk about nutrition and other things so I have noticed that my eating habits have improved whereas I used to skip meals before and now I am not doing that so much.

## Question 3.

I feel that mu muscles have changed a lot. As far as running I am able to run farther than I ever could before.

## Question 4.

Yes, I was even considering taking it next year. Whereas if it were last year I would not consider taking it this year if it was an elective. This course had a totally different attitude. It was not as if you were competing with everybody. It was just your own level and I like that a lot better. Especially having all girls is much better because last year we had coed P.E. and it was such a competition between the boys and girls.

## Question 5.

I did not like the part in which we had to write in our journals. At the beginning of the week it was really great but after a couple of days it was the same thing day after day. If we could take breaks in doing it and do something different for a week here or there.

## Question 6.

I like P.E. a lot better and I am going to take it next semester. I think that most of the kids did enjoy the course since it was a really good course. It also gave me a chance to meet people and especially being new to the school.

Interview 7

## Question 1.

On the weekends I have taken up jogging and I am trying to keep that up and actually that is about it.

Interview 7 (continued)

## Question 2.

I am eating more. I don't know, but I just eat more if I have come back from jogging I will have a drink of orange juice or something like that.

## Question 3.

My endurance has really increased and my flexibility has increased slightly, but my endurance has really improved!

## Question 4.

If I could fit it in I would because it makes you feel better to know that you are fit and also the stretching helps you relax. If you have a test coming up you can just stretch or something like that to help you relax and prepare for it.

## Question 5.

We were not forced around. In the years before, the teacher would stand there with the stop watch and say "come on you are not doing fast enough." but this time we could set our own pace.

## Question 6.

I would not do three twelve minute runs because everyone or most people really improved for the second one and then went back down. It was partially because of Christmas holidays and the weather but it was not under the best circumstances to run.

## Question 7.

It's the only P.E. program that I have enjoyed because we could choose to run. A few friends and I would run for the entire period and we were allowed to do that. We would set our own pace and we would run when and where we wanted to so I really enjoyed that.

Interview 8

## Question 1.

My endurance is a lot better now, I like to get out and go jogging on the weekends and do a lot more things than I did last year. Last year I didn't enjoy P.E. at all. It has really improved a lot and it is a really good program because you develop a self motivation.

Interview 8 (continued)

## Question 2.

They have become a lot better, I don't as much as I did before and I am more food conscious about junk food. My mom has noticed the change.

## Question 3.

My flexibility is a lot better because I ski and everybody has told me that I'm really improved in skiing and I think it is because of my flexibility because I never used to be a flexible person and I used to have back problems. But now since we have been doing stretching everyday it's improved quite a bit.

## Question 4.

On yeah! I am going to take P.E. 12 again. I really enjoy it and it is a good course to take, there is not much homework and it's enjoyable and it's a good balance for the rest of your courses.

## Question 5.

Miss Buker did not really force you into anything and it was your own decision, and if you didn't want to do it that was your own fault. A lot of people wanted to do it for themselves and not for everybody else.

## Question 6.

Not really anything. I really liked it all, I can't think of anything off hand.

## Question 7.

This program has been the best I have ever had. Last year you had to be practically forced into and you had to do it for your teacher to get a good mark. The program had a good balance of sports and we got to go roller skating and play racquetball instead of doing the same thing year after year.

Interview 9

## Question 1.

Well before I used to always avoid doing exercises, but now I like doing ft. I don't mind walking and I really enjoy playing games now. I never used to.

Interview 9 (continued)

## Question 2.

I am more aware of eating more nutritious foods now with the nutrition plan were doing I have really become aware of looking after your body.

## Question 3.

My body has changed a lot because before I would never use to want to do anything and I was always lazy but now I feel great and I am active and energetic.

Yes, it has.

## Question 4.

Sure, I enjoyed P.E. I figure this is my last year and I am really going to go to waste if I just sit around so I would take the to keep in shape.

## Question 5.

I didn't really like the twelve minute run which we had to do. It was a real pain. I think that you should have a bit of freedom, like if you didn't feel like running you shouldn't have to and also one day you might feel great and so you go for a one or two mile run; then the next day I might not feel so great so you should have a bit of freedom as what you really want to do. You should have your choice of playing a game or going for a run.

## Question 6.

I like this a lot better, it is not so much a competitive thing as in my other classes. The other classes have always been so competitive in running and races and all that sort of thing. I don't like competitive sports that much. Otherwise this course has really been great!

## Question 7.

Exactly, I have had so much pressure on winning in the past.

## Question 8.

No, I really enjoyed this course.

Interview 10

## Question 1.

I have started jogging out of school time because Miss Buker started us from a beginning level of training. This showed us how we progressed. In Grade ten the instructors just told us to run and you automatically would not like it. Miss Buker explained everything about the heart beat and what's happening to your body, and told us not to take it too hard and to start from the beginning, so by doing that I really enjoyed it. For a while last winter a bunch of us jogged every night.

## Question 2.

My eating habits are a lot better. I eat better food and I am now eating three meals a day.

## Question 3.

I am more flexible and my endurance has increased. I now can run longer distances as before I was unable to.

## Question 4.

Yes, I would sign up for it. I think that it should even be a mandatory course because it affects and Miss Buker explains what's going on in all areas of nutrition and fitness. You become more aware of what is going on and this reflects your whole life.

## Question 5.

Yes, and she also talks about relaxation and stress, which helps in every other thing such as your school work.

## Question 6.

Everybody started at a bottom level and we all worked up together and she encouraged us a lot and we became aware of what was happening to our body.

Yes.

## Question 7.

The thing is because I am lazy, so I didn't like writing things in my journals about my heart beat and stuff. I just could not be bothered to do that; even though I did sort of measure it when I first started running and when I had come back in I would measure it, but I just did not bother writing it down. But that is me!

Interview 10 (continued)

## Question 8.

It's too bad that all the other classes in Junior High were not like this one. The other classes put a lot of stress on gymnastics and a lot of girls just don't like it and they could have been given an alternative such as running or a fitness program, but instead they had to do gymnastics.

Interview 11

## Question 1.

I try to be a bit more active now, it has really been a help what Miss Buker told us. We now know a lot of different things such as being active; especially if you want to lose weight. Miss Buker told us how to diet correctly which was to go by a certain diet and cut out junk food from our regular eating and add exercise to our daily program.

Yes.

## Question 2.

Towards the end when we had been talking about nutrition, I tried to eat the things that are better for me, also the way she says to eat less and exercise more really helped me!

## Question 3.

Yes, a couple of pounds and I just managed to lose a couple of pounds and I am going to really start next week.

## Question 4.

When you first go into the course, you sure notice that you are really stiff but in the following days we did a lot of activities in P.E. so now we feel a lot better for it.

Yes, I can run farther.

## Question 5.

Yes I would, because I really enjoyed P.E. last year so I signed up for it this year again and I enjoyed this course very much. Miss Buker was a good teacher, she is one of the best teachers that I have ever had.



Interview 11 (continued)

## Question 6.

Well I like the way she teaches P.E., I like the way in which she has set out the year. You run in the beginning and it is not what you are told to do and how many minutes, instead it is just what you can manage and you find that you are able to do much better when you are not under that kind of pressure. Miss Buker has always got different activities going on for us. I enjoyed the way the course was set up compared to any other P.E. course that I have been in.

## Question 7.

I liked the fact that the course was different than others in the aspect of running. For example, we were not told that we had to run in under so many minutes instead we ran according to our physical abilities.

There is really nothing that I can think of.

## Question 8.

Well like I said, this is one of my favorite classes, it is nice because it was a great break from all the academic work. I had noticed in my other programs that we were always told what we had to accomplish and Miss Buker really lets you work on what you want to do. I also enjoyed the sports that she had picked out for us, I liked how she gave a couple of weeks for each sport. That is really about it.

Interview 12

## Question 1.

I have kind of noticed that I try and look for more activities now because I feel better about it.

## Question 2.

Yes, I eat more. I think some of it is because I curl a lot, too, and I have quite strong shoulders. I think some of it is extra blubber, too.

## Question 3.

I really enjoy going out jogging now as long as it isn't freezing cold outside and I feel more capable of doing things than I was and I hope I don't lose it. I think I'm more flexible, I actually did 35 situps in a minute there. It was a big surprise.

Yes, I think so.

Interview 12 (continued)

## Question 4.

Yes. I don't think I want to go back to that old habit. I'm kind of looking around to see what I can do next semester to make up for not having P.E.

## Question 5.

We had a lot of freedom, to do what we wanted more or less. There were things actually that we all had to do but if you weren't feeling well that day you could jog inside or you really didn't have to do two miles you could go out and do 1/2 a mile or 3/4 of a mile. We weren't always being timed all the time. I hate being timed and compared with the other students.

## Question 6.

About the course? I don't really know. It's the best P.E. course I've ever taken.

## Question 7.

I kind of liked the stuff about nutrition cause it makes you realize that exercise isn't everything you need. You have to eat well. Not chips everyday and the stuff not good for you.

Interview 13

## Question 1.

I've been more active. I've been doing more things, exercising more.

## Question 2.

I eat the same. I eat a lot.

## Question 3.

I can probably run more than in my past years. I haven't really run in P.E. because of my asthma, so she told me that I can do it and I should try and so I tried and I can do it.

It's a bit of a problem sometimes but I keep on going.

Interview 13 (continued)

## Question 4.

I have no idea.

## Question 5.

I liked the activities and I liked the fact that it gave me a chance to run like I can run now and before I couldn't and now I can. Like more.

## Question 6.

I wouldn't change anything.

## Question 7.

You could do anything in other courses it didn't matter. They didn't make you do anything like get into shape, but this one does, so it's good.

Interview 14

## Question 1.

Since I started this course I've taken up jogging like I jog at night. One of the girls did an article on skipping, so I've started skipping too. About 15 minutes a day. It's tiring at first.

## Question 2.

I used to really snack on sweets and now I take apples and stuff. The more nutritious stuff.

## Question 3.

I've noticed that I'm able to run long distances and my strength has gotten better not that much better, but you know.

## Question 4.

I think I would. There is a lot of courses in school that I would like to take but I'd like to keep active. It's a good course.

## Question 5.

There wasn't a lot of pressure on you to do stuff like last year when we were having to do things just like a big competition between everyone and here you are just competing against yourself and you don't have to run a certain distance everyday and you're not under a watch and all that. You just do what you feel like doing.

Interview 14 (continued)

Question 5.

Nothing I can think of.

Question 6.

This course seemed to offer like more than other courses have, like skating in the mornings, and stuff like that. We'd do different activities, not only in school but outside, so you could really get into like ice skating which I had never done before and racquetball and that was the first time I had ever played. Things like that. Other courses I found you just spent a week at this and a week of that which really is monotonous.

Interview 15

Question 1.

Well activitywise I don't know. I seem to exercise a lot more, I lift weights sometimes at home and that seems to strength my muscles. I push myself a bit more when I am running or walking. As before I just sort of gave up before I thought I was tired.

Question 2.

I eat all the time, I am always hungry.

Question 3.

Yes.

Question 4.

I eat a lot more vegetables.

Question 5.

I can run farther without getting so tired and I am a lot more flexible. I am also stronger, especially in my arms.

I think it helped me a lot to get into better condition. I have tried to follow it a lot by running. I did a stupid thing one time, we had a twelve minute run and the night before I ran to warm up and I wrecked my knee. It all became swollen.

Interview 15 (continued)

## Question 6.

Just the part about not getting enough time for the activities.

## Question 7.

In comparison to when I was in Hamilton, I would say that it is a lot better because they don't push exercise as much and they don't tell you what it is going to do for you and not it is going to help you. I think Carson does a lot more and gets you thinking about what could happen to your body in a couple of years if you don't really keep yourself in shape!

Interview 16

## Question 1.

Nothing really has changed for me that much, like it has been almost all the same. Last year in Grade 10 I really didn't want to do anything cause I think it's because I didn't like the teacher very much, we didn't get along all that great and it's changed quite a bit here though.

## Question 2.

No changes, but I notice I have been eating less than what I used to before. It's really great. I'd like to keep on eating less.

## Question 3.

I don't think that has changed. I think that remains the same.

## Question 4.

I don't know. I don't think so because I really can't wait until these three days go by I just want to get over with P.E. If I do more exercising it will be on my own whenever I can, but, I just want to quit P.E. right now.

## Question 5.

It gave me a chance to get into shape, on my own I'd say, tomorrow I'm going out to run but tomorrow I won't do it. I just put it aside until the next day where in P.E. I have to do it. Nothing can stop me.

Interview 16 (continued)

## Question 6.

The twelve minute run. Those ones because I can't run very far. I'm really out of shape and I can't go too far on that.

## Question 7.

It's not the same. It's different. It's hard to answer but there is something there that isn't the same. Like I said before last year I just wouldn't do anything because I couldn't get along with the teacher where in this case, I mean it could have been the same if I had not got along with her but that would be my comparison.

## Question 8.

I'm really glad I got into this. I was thinking of going into dancing but now that I think of it I'm glad I took this because it did get me into better shape and condition.

Interview 17

## Question 1.

I'm a lot more willing to go jogging or go try another sport and I wasn't before. Especially in the summer I've already got plans for and I wasn't interested before.

## Question 2.

We haven't done that much on nutrition until lately. Not that much, a little bit maybe but I don't think I'd worry about it technically. I'm always going on these different diets anyways.

## Question 3.

I think I was really maybe a little flex, I think it's maybe my build or something. I've really noticed it this year I don't know whether it's from my P.E. that I've got more flexible but I find my flexibility has become quite high and I think I'm good at running now. It's through the attitude she talks about that.

## Question 4.

I'm not sure because I'm graduating early and I have to really cram my courses but if I had a lot of courses yes I probably would if it was the same as this one because I liked this one because there wasn't a lot of competition. She doesn't stand there at the end of the road yelling at you to hurry up. It's individual and that's why I liked it.

Interview 17 (continued)

Question 5.

And somehow when we did do competitive sports she makes it so people don't make it that competitive and in other classes I didn't like it because everyone was getting angry. I don't know why but for some reason it was different.

She seemed to trust you she didn't try to question your timing like you ran the mile in 8 minutes she believed you and she wouldn't say I want to time you.

Question 6.

I think giving students more of a say in what they would like to do in the program. She sort of gives us the opportunity and I'm not sure of the 12 minute run whether you have to do it. I know nobody likes it and I know everyone says they are going to skip out and things like this. It's not fun at all. I didn't enjoy it that much. Before it was just an ordinary class but now I really was surprised because if I don't like something I won't even try.

Question 7.

In other P.E. courses there was a lot of competition and things I don't like where you get two people and they are really popular and they get to pick the terms and things like that and a lot of people get left out, you see a lot of people just standing there, I really don't understand it I think it should be avoided. And the training aspect, she kept stressing not to strain yourself when you are running, she says go as fast as you can, do what you can and if you felt awful after running she didn't make you run again she taught us how to find out how far you should run and how fast to go.

Question 8.

Just drop the old fashioned things like competition. People enjoy it a lot more. It encouraged you more.

Interview 18

Question 1.

I have become more active, I jog, I ski but I did that before and it is not so much of a chore.

Interview 18 (continued)

## Question 2.

I'm a lot stronger and have more endurance. I can take a lot more than I used to be able to. Run further.

## Question 3.

Yes, I probably would, I like to do things like handball, ice-skating. I enjoyed that a lot.

## Question 4.

I didn't feel a lot of pressure like I used to like "run this, in under 8 minutes" I liked that it benefitted me a lot. I liked the other activities like handball and that stuff. I had a lot of fun. I enjoyed it.

## Question 5.

After Christmas we really didn't do anything besides basketball which went on a bit too long.

## Question 6.

Really good. There was a lot of pressure they put on you at other schools which made you not enjoy, do this you have to do it.

## Question 7.

I just really enjoyed the program I'd like to take P.E. 12 next semester because I don't like to be without P.E. cause I find myself slacking off.

Interview 19

## Question 1.

I feel a lot more fit than I did before. This program you go on, The Personal Program where you do individual things. It really benefitted me because sometimes you are in classes where all the girls are really good athletes and you feel you have to keep up to them and you don't really enjoy it so this way you can progress at your own rate.

I really didn't go running before but now I go running at night sometimes.



Interview 19 (continued)

## Question 2.

I have tried to lose weight but I know I really haven't.

## Question 3.

Definitely, I have more endurance now like in running, I'm more like a long distance runner now. I'm more flexible than I was before.

## Question 4.

Yes, I think I would because the reason I wouldn't would be because I wouldn't have the time to do it but if I had the time I would.

## Question 5.

I liked the individual activities and the class was really close, everyone was helping each other. We all got along with each other. I really liked that.

## Question 6.

I can't think of anything to change because everything is good. I really liked this program as compared to other years.

## Question 7.

All the other years in Junior High they forced you to do something like we had so many 12 minute runs to do. We had to do eight before you could pass. It really wasn't that good. It was more like being forced to do things. So I really didn't like it that much but this year I really liked it a lot more.

## Question 8.

It is a real shame that you have to have struggles through all the other years in P.E. and finally they come up with something like this. I wish they could do something that you could have a program like this in Grade eight or even in elementary school on that you are happy with because I know a lot of kids really hate P.E. because of the fact they are forced to do run, and they don't like to run or they don't have the chance to build up on what they've got. It would be nice if this was the beginning of P.E. instead of one of the last years.