

A STUDY OF THE EFFECTS OF AN OUTDOOR
EDUCATION PROGRAMME ON THE ATTAIN-
MENT OF CERTAIN EDUCATIONAL
GOALS

Submitted to the Faculty of Graduate Studies
In Partial Fulfillment of the Degree of
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by
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ABSTRACT

The purpose of this study was to determine whether or not a public school programme, emphasizing the extensive use of Outdoor Education, affected student development in three areas: academic basic skills; attitudes to formal education; and study habits.

Experimental and control groups of Grade 7 students were established at two public schools in the same school division and a matched-pairs pre-test, post-test design was developed. Standardized tests measuring student development in each of the three areas being considered were administered prior to the implementation of the experimental programme, and students in the two groups were matched by scores on these tests, by sex, and by personality characteristics, including intelligence, determined by responses to a standardized personality questionnaire.

The experimental programme extended over a period of eight months and at its conclusion the same standardized tests were administered. Difference scores were calculated for each matched pair in each test and their significance was computed using the Wilcoxon Matched-Pairs Signed-Ranks statistical test.

The results obtained by the experimental group in each of the three standardized post-tests were better than those obtained by the control group, and in each case the difference was highly significant.

It was concluded that Outdoor Education had desirable effects on student development in the areas considered, and that it should be a component of the regular public school programme.

TABLE OF CONTENTS

Chapter		Page
I.	STATEMENT OF THE PROBLEM	1
	Statement of the Problem:	2
	Assumptions	3
	Limitations	4
	Significance of the Study	5
	Definition of Terms	5
II.	REVIEW OF RELATED LITERATURE	7
	Philosophical Basis	7
	Psychological Basis	11
	The Historical Foundations	16
	Research	20
	Summary	23
III.	METHODS AND PROCEDURES	24
	The Experimental Design	24
	The Evaluation Instruments	29
	Summary	31
IV.	RESULTS AND DISCUSSION	32
	Hypotheses	32
	Statistical Procedures	33
	Decisions	34
	Discussion	39

Chapter	Page
V. SUMMARY AND CONCLUSIONS	45
Summary	45
Conclusions	47
Recommendations for Further Study	47
BIBLIOGRAPHY	49
APPENDIX	
A. School Group Ranking of Educational Goals-- Individual Goal Rating Sheet	53
B. Statement of Revenue and Expenditure Outdoor Education Experimental Programme ..	55

LIST OF TABLES

TABLE	Page
I. UNIT PLANNING - OUTDOOR EDUCATION EXPERIMENTAL PROGRAMME	27
II. SUBSCALES - SURVEY OF STUDY HABITS AND ATTITUDES	30
III. PERCENTAGE GAIN OR LOSS IN C.T.B.S. SCORES FOR EXPERIMENTAL AND CONTROL GROUPS	35
IV. PERCENTAGE GAIN OR LOSS IN STUDY HABITS SCORES FOR EXPERIMENTAL AND CONTROL GROUPS	38
V. PERCENTAGE GAIN OR LOSS IN STUDENT ATTITUDE SCORES FOR EXPERIMENTAL AND CONTROL GROUPS	40

CHAPTER I

STATEMENT OF THE PROBLEM

In recent years many schools in the Province of Manitoba have attempted to implement programmes designed to help achieve the goals of the school through Outdoor Education. As the apparent success of those programmes became more widely known, more teachers have been tempted to make a greater committment of time and money to become familiar with the philosophy and goals of Outdoor Education and, with the encouragement of the Department of Education and some school boards who are providing financial incentives, include Outdoor Education in their teaching methods.

At the same time, reaction by sections of the public and some educators to educational methods deviating from the traditional have manifested themselves. Concerns have been expressed that Outdoor Education is not valid for the school, that public money should not be used to finance it, and that it will have a detrimental effect on the traditional goals of the school.

There is a growing body of information which confirms that Outdoor Education is beneficial to the social and physical development of children. However, little evidence is available concerning the effect Outdoor Education has on the academic goals of educational development.

In a recent survey (Appendix A) of the expectations the community has of the public school, the following were identified as the three most important;

- (a) The development of academic basic skills.
- (b) The development of effective study habits.
- (c) The development of appropriate student attitudes to formal education and learning.

People concerned with the education of children will continuously evaluate the positive results of a school programme against what they believe to be its negative effects in terms of these three goals, and public and professional support for that programme will be forthcoming only when there is reasonable assurance that progress towards these goals will not be impeded.

With a variety of positive effects of Outdoor Education already confirmed, it would seem appropriate, therefore, to examine the effects that Outdoor Education might have on student achievement of these goals.

Statement of the Problem

Basically, this study attempted to determine what effect a school programme emphasizing Outdoor Education had on the student's academic development and on his development of appropriate study habits and attitudes to formal education. Specifically, answers to the following questions were sought:

- (a) Did any significant difference result in

achievement in basic skill development in academic subject areas between the experimental and control groups?

- (b) Did any significant difference result in the development of certain study habits between the experimental and control groups?
- (c) Did any significant difference result in the development of certain attitudes to formal education between the experimental and the control groups?

Assumptions

For the purposes of this study the following assumptions were made:

- (a) The professional effectiveness of teachers of the experimental group was equivalent to that of teachers of the control group.
- (b) The only major difference between the experimental programme and the control programme was the heavy emphasis placed on Outdoor Education in the experimental programme.
- (c) The standardized evaluation instruments used, validly and reliably measured student development in each goal being considered.
- (d) Matching students by achievement in pre-tests and subsequently by personality traits, including intelligence, identified by the

Junior-Senior High School Personality Questionnaire, constituted a valid and reliable method of matching pairs for the purpose of this study.

Limitations

The following limitations were identified which have implications in the generalization of the results, or in their application to other grade levels or in other school jurisdictions.

- (a) The Outdoor Education methods which were implemented were in many cases teacher developed methods whose effectiveness had not been proven.
- (b) The effectiveness of many of the adopted Outdoor Education methods has been proven in other geographic and climatic regions and these methods may not have been appropriate in this environment.
- (c) Because of the severity of the Manitoba winter many proven Outdoor Education methods had to be omitted from the experimental programme, or included in a modified form.
- (d) Limited funds were available for the purchase of special equipment and materials and for expenses incurred for desirable community field trips and residential outdoor education experiences.

- (e) Only three of the eight teachers involved in the experimental programme had completed formal courses of study in Outdoor Education at the beginning of the experimental period.
- (f) Only Grade Seven students were the subjects of the study.

Significance of the Study

It is anticipated that this study will affect curriculum development locally and provincially in the following ways:

- (a) Documented information will be provided to teachers and administrators which will assist them in making decisions concerning the allocation of human and financial resources in developing school programmes.
- (b) Research data will be provided which will facilitate decision making concerning Outdoor Education aspects of curriculum development at the School, School Division and Department of Education levels.
- (c) The study should help satisfy a growing demand for accountability in education and will be instrumental in formulating policy concerning Outdoor Education at the local and provincial levels.

Definition of Terms

Certain terms which were used frequently throughout

the study are clarified below.

Outdoor education. The means by which teachers at every grade level use nature and out-of-school experiences to attain the goals of the school. Outdoor Education includes all learning activities which take place outside the school building, in institutions, factories, offices and stores of the community, at established and fully developed residential camps and in wilderness settings.

Academic basic skills. Those skills measured by the Canadian Tests of Basic Skills, including Vocabulary, Reading, Language, Work Study and Mathematics skills.

Study habits. These consist of the elements of Delay Avoidance, representing the student's promptness in completing academic assignments, lack of procrastination, and freedom from wasteful delay and distraction, and of Work Methods, representing the student's use of effective study procedures, efficiency in doing academic assignments, and how-to-study skills, both elements as measured by the Survey of Study Habits and Attitudes (3).

Student attitudes. These consist of the elements of Teacher Approval, representing the student's opinion of teachers and of their classroom behaviour and methods, and of Education Acceptance, representing the student's approval of educational objectives, practices and requirements, both elements as measured by the Survey of Study Habits and Attitudes (3).

CHAPTER II

REVIEW OF RELATED LITERATURE

The general purpose of this review is to summarize the views and findings of the advocates of the extended use of Outdoor Education in the academic programmes of public schools. Specifically the literature was examined for evidence of

- (a) The philosophical basis of Outdoor Education.
- (b) The psychological basis of Outdoor Education.
- (c) The historical foundations of Outdoor Education.
- (d) Empirical research on the effects of Outdoor Education methods in achieving the goals of the school identified in Chapter I.

Philosophical Basis

The philosophy underlying Outdoor Education is the need to search for the best possible educational methods or alternatives available. It is based on the premise that some things can best be taught and learned out-of-doors or outside the walls of the classroom. As Blackman stated (1:216):

In many ways schools provide an artificial and contrived set of conditions for learning. School buildings isolate youngsters from the 'world outside,' from its sounds, its beauty, its unity. And within the building, walls isolate one set of experiences from another, one group from another and one individual from another. The quite artificial conditions

for learning we create within schools are far removed many times from those conditions under which we'll carry on a life-time of learning.

Outdoor Education is intended to supplement, not replace, the classroom. Smith et al. quoted Sharp as saying (28:20-22):

That which can best be learned inside the classroom should be learned there. That which can best be learned in the out-of-doors through direct experience, dealing with native materials and life situations, should there be learned.

Vicarious learning experiences are not enough. First hand learning is an elemental way of achieving educational goals and involving the learner in the process of education (4). Freeberg and Taylor strongly support this contention when they say (11:129)

Textbook materials must be supplemented and complemented by adequate experiences so students may comprehend the written word more easily. Contact with nature and real life experiences should be an inherent part of all school curricula. There should be many opportunities for teachers and students to leave the classroom to observe, investigate, explore and seek adventure in interesting places wherever they may occur. Schools need to realize that all subject matter areas can be made more meaningful through Outdoor Education.

Outdoor Education developed from a genuine concern for the young, the learning processes and the outdoors. Justification for its inclusion in the educational programme of our schools can be found in the writings of most of the philosophers whose names are synonymous with educational

development. It developed from the efforts of many educators to achieve the objectives of our schools in the best possible way.

The goals of Outdoor Education are the goals of education itself. Those which are particularly relevant to a school Outdoor Education programme abound in the literature and include the following (28:31-2):

Educational Goals and Means in the Outdoors

Goal	Means in the Outdoors
To develop the full potential of the individual.	Through optimum exposure to and involvement with the natural environment.
To develop knowledge, skills attitudes and appreciations for the constructive and creative use of leisure time.	Through exposure to outdoor interests and instruction in outdoor sports and component skills.
To promote the development of social relations and individual responsibility.	Through group living experiences, particularly in resident outdoor education, where there are unique opportunities for student-teacher planning and participation in the camp community.
To promote the development of civic responsibility.	Through active participation and problem-solving situations in the community, the improvement of the physical environment, and the development of good human relationships through co-operative projects and activities.
To promote the development of aesthetic interests and appreciations.	Through participation in positive experiences in the natural environment which contribute to the creative expression of talents and interests.

To help the individual become more self-reliant and secure.

Through adventuresome and challenging outdoor pursuits and skills which require initiative and active participation in solving problems related to comfort, safety and survival.

To provide opportunities for the individual to strengthen his self-concept.

Through achieving success and accomplishment in activities which are meaningful to the learner.

To develop awareness, appreciation, understanding and respect for man's relationship and stewardship responsibility to the natural environment.

Through opportunities for exploration and problem solving in the outdoors.

Smith et al. (28) illustrated through examples how Outdoor Education could meet the objectives of "Self-Realization, Human Relationship, Economic Efficiency and Civic Responsibility" which are all necessary abilities and characteristics for effective social living in a democracy.

Hammerman listed the following basic tenets of education for justification of a school Outdoor Education programme (13:68)

- (a) The modern curriculum is developmental, based on real experiences that meet the needs of children and changes their behaviour patterns toward good citizenship and full individual life.
- (b) General education is aimed at a common core of learning necessary for each individual in a democratic society.
- (c) The modern school is concerned with the growth and development of the whole child in all areas of his living.

Hammerman and Hammerman later identified these basic educational needs of the child which could be served

best by Outdoor Education (14:1-6). These include:

1. The need for effective learning.
2. The need for realism in education.
3. The need for environmental literacy.
4. The need for re-creative experience.
5. The need for basic concepts.
6. The need for awareness.

On an objectives continuum, they summarized these needs as follows (14:14):

1. Discovery
2. Facts
3. Socialization
4. Concepts
5. Democratic Understanding
6. Appreciations
7. Re-creative experiences
8. Self-Realization.

Similar objectives of Outdoor Education which provide a rationale for its use, and further evidence of the potential of Outdoor Education to enhance the learning situation can be found in Mand (21).

Psychological Basis

Outdoor Education is an approach to education aimed at achieving more efficient and effective learning and consequently must be based upon the basic principles of learning. The outdoors provides a setting for learning, offering first hand real life experiences as opposed to the vicarious experiences which take place within the four walls of the classroom. These experiences fall within the cognitive, affective and psycho-motor domains of education. In fact it is felt that Outdoor Education may well make unique contributions to development of behaviours in the affective domain (30). Outdoor Education employs problem solving and

discovery methods which are particularly suited to the outdoors and which develop appreciations, skills and understandings that will supplement the indoor curriculum of the school (31, 25).

The distinguishing characteristics of Outdoor Education which relate to the methodology of learning were summarized by Smith et al. (28:42-3):

1. Direct experience
2. Discovery, exploration, adventure
3. Sensory learning
4. Activities natural to childhood and youth
5. Intense interest
6. Reality
7. Problems in context
8. Learners most active.

These characteristics may be elaborated upon in the light of what other authors and learning theorists have said.

Brown (2), for example, in his discussion of Outdoor Education as a superior way of presenting conventional academic content, was concerned with two questions. Firstly (2:1)

Is there a unique content legitimate for public schools which is not or cannot be included in the usual pattern of classroom work and therefore should be reached through Outdoor Education programmes?

and secondly (2:2):

Is Outdoor Education a medium through which a legitimate public school content may be presented more effectively, with greater clarity, understanding retention and usable knowledge than would be possible in a more traditional manner?

His conclusion was that "the greater initial expense in effort, time, and money for Outdoor Education may very well result in the most economical means of presenting some

academic work when one considers the total costs for healthy desirable and lasting education." (2:4).

The key characteristic of Outdoor Education is the direct exposure to learning experiences. It reduces vicarious classroom experiences, such as verbalism, which are all too prevalent, and instead presents content in an interesting, manageable, and challenging way (2). As a result, abstract, passive learning is replaced with the concrete, experiential activities more beneficial in every way to the developing mind (14). Furthermore learning occurs best and is facilitated if it occurs in a situation similar to that in which it is to be used (34).

Outdoor Education utilizes the methods of discovery, exploration, and adventure. It emphasizes the scientific method; curiosity, observation, hypothesis, testing, measuring new hypothesis and sustained curiosity (21). The Hall-Dennis Report on Education (24:3) elaborated on this aspect of Outdoor Education in stating:

The modern professional teacher is a person who guides the learning process. He places the pupil in the centre of the learning activity and encourages and assists him in learning how to inquire, organize and discuss, and to discover answers to problems of interest to him. The emphasis is on the process of inquiry as well as on the concepts discovered.

One of the report's recommendations was that the school should "Provide for educational tours and field trips as a regular part of the learning experience at all levels" (24:4).

In the outdoor-learning experience information is

obtained through all the senses. Freeberg and Taylor (11) stressed the importance of our senses in acquiring knowledge and how this capacity is often limited and restricted in the classroom. In addition sense perception in learning can be applied to all subject matter fields.

Sangster (26) quoting John Stevens, stressed the importance of the senses in discussing the three zones of awareness; the outside world, the inside world, and the fantasy activity. The third area, which includes all mental activity, is the only one in which we are trained. The others, which emphasize sensory awareness, are not stressed and as a result we have "ceased to sense." Outdoor Education can bring about a balance between the three zones through re-education in sensory awareness. He stated (26:8):

Outdoor Education has obvious potential, as I see it, to expose students to experiences in which they can make sensory contact with the outside environment . . . and make sensory contact with what is happening inside them. . . . I believe relearning these awareness skills ought to be a goal of any educational process, not just Outdoor Education.

The same philosophy underlies the statement of the Hall-Dennis Report (13:7) that:

We owe to children the freedom to explore the full range of their senses; to appreciate subtle differences; to be aware of beauty wherever it is found; to see, to touch, to smell, to hear, to taste, so that each in his own way will strive to find and express the meaning of man and human destiny.

Outdoor activities have an inherent appeal for

youngsters and are therefore motivating. A motivated learner, especially when learning is motivated intrinsically, learns more readily (15). Hilgard agreed that involvement in learning stimulates interest and is preferable to passive reception. Motivation is also generated since "Opportunity for fresh novel, stimulating experience is a kind of reward which is quite effective in conditioning and learning " (33:5).

The outdoors presents problems to the learner which are more easily understood when considered in their real environment. Direct experience gives reality to the educational process and effective learning occurs when the problems are studied in context. The learner must be able to sense the importance of the new learning for himself in his world (8, 25, 34).

Finally, the outdoors fully involves the learner in the learning activities. If the learner has had the experience of applying principles and discovering relationships through participation in a variety of real-world tasks, transfer of this learning to new tasks will be more effective. To be effective the tasks must challenge the learner, be neither too easy nor too hard, where success seems possible but not certain (15, 34).

As evidenced by the above, one can see the importance of direct experience and problem solving in the theories of learning and educational methods. It is apparent that thinking and doing cannot be separated and that is where the

value of Outdoor Education lies (28). Outdoor Education emphasizes this technique for gaining knowledge and skills. "If learning gives pleasure, is involving, is meaningful, if we enjoy it--it seems to stick in our heads " (20:7).

The Historical Foundations

In examining the historical foundations of Outdoor Education, it is of prime concern to detail various educational methods used to advance learning throughout history. Although not found under the relatively modern term of "Outdoor Education," this concept of learning in and from the Outdoors dates far back into history and educational literature. As Smith et al. stated (28:15):

Learning from nature has always been a part of the developmental process of man. It is not surprising in an industrialized and materialistic culture which has created the current environmental crisis, that society seeks to rediscover the link between man and the earth from which he sprang.

In primitive times man was always in contact with nature and real-life experiences. Education and learning, concerned almost entirely with problems of survival, resulted from direct experience with the environment. "The prehistoric period of man represented one facet of the outdoor education programme The emphasis on direct and real-life experience " (11:139).

With the advent of writing came the caution that the written word could not be the only means of acquiring knowledge. Those civilizations that did not pay heed to this caution remained static (11).

In Ancient Greece, Socrates used the outdoors as his classroom. Knowledge was based on experience and his methods are reflected in the Outdoor Education methods of today. His student, Plato, stressed the integrative approach to life and this also constitutes an important concept in contemporary Outdoor Education (11).

During the Reformation, the beginnings of modern educational theory were formulated in the writings of Comenius. He believed that all learning occurs through the senses, that it is important to stir the creative urge and imagination of the student, and that education must be related to life and learning and is best accomplished through direct experience (11).

Similar philosophies are found in the writings of Rousseau (9) and Pestalozzi, who felt ". . . that studying from a textbook filled the child's mind with hazy ideas and meaningless words, whereas teaching through observation and direct experience gave him clear ideas, greater knowledge and more natural experience in oral expression " (11:170).

Support for Outdoor Education can also be found in the more recent writings of educators such as Dewey, whose views on the psychology of learning are based on the necessity of reinforcing abstract learning with concrete experience (2, 14, 28). The Outdoor Education movement has emerged as the major vehicle for implementing these views.

Outdoor Education has also emerged in response to changing circumstances in our society. It can help fill