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PSYCHOSOCIAL IMPACT OF NUCLEAR DEVELOPMENTS

ON YOUTH: A LOCAL STUDY

by

Susan Lynn Hargraves

B.A., University of British Columbia, 1970

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF

THE REQUIREMENTS FOR THE DEGREE OF

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ABSTRACT

In a landmark study for the American Psychiatric Association, Beardslee and Mack documented the anxieties felt by American youth regarding nuclear issues. A modified replication of this study conducted in Burnaby schools forms the basis of the present study.

The purpose of the study was to assess the nature of youths' concern regarding nuclear issues. This study was undertaken as a needs assessment for peace education and is a first step in the curriculum development and implementation process. It asks questions about the scope and nature of youths' concerns, the content of peace education and barriers to implementation.

The conceptual framework for this study is provided by a synthesis of literature from three areas: nuclear anxieties, peace education and implementation of "sensitive" materials. Together these sources yield an implementation strategy.

Two questionnaires were used in data collection: one, the Beardslee/Mack questionnaire for grades 10, 11, 12; the other, a modification of the first designed for grades 5, 7, 9. Sample size was 732 students evenly distributed by grade. Descriptive statistics by age, grade, sex and whole group - were assembled. Cross-tabulations

were computed for selected variables. Comparisons were made with the Beardslee/Mack sample.

Findings confirmed that youth were well aware of nuclear issues, 93% by age 13; most information came to them through the media, 60% in the younger group, 67% in the older group. In the older group, 81% believed nuclear war possible or likely. In the younger group, 62% believed nuclear war would occur within their lifetime; 79% believed Canada would not be safe, 18% were frightened by this prospect often and 14% were frightened all the time. Subjective comments revealed anger, cynicism, denial, resignation and fear.

This study substantiates the need for peace education as early as grade five. Further research into the nature of the relationship between adults' inability to discuss these issues and youths' anxieties is indicated.

DEDICATION

To my Mother,

who believed in me.

Dorothy Hargraves Kennedy

1921 - 1969

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CHAPTER I

BACKGROUND AND STATEMENT OF THE PROBLEM

> War's greatest evil -- the degradation of the human
> spirit. (Roosevelt, in Frank, 1967)

It could be argued that nuclear war has already claimed its victims -- they are the children who have grown up under the nuclear shadow. There is considerable evidence to suggest that the psychological devastation of the nuclear threat is so great that it profoundly affects personality formation and progress through developmental tasks (Beardslee & Mack, 1982; Escalona, 1982; Schwebel, 1982).

In one sense, we are all survivors of Hiroshima and Nagasaki. We have seen the devastation wrought by the dropping of the atom bomb. We live with the knowledge that at any moment much worse could happen to us and, that it could happen without malice or enmity, but simply through computer or human error.

Despair is not the only response to a perceived nuclear threat. Many have chosen to protest the proliferation of nuclear weapons and the escalation in the arms race, and this protest has sparked a heightened consciousness within the public sphere. This growing awareness of the threat of nuclear war is the genesis of this study.

Background -- The General Context

Growing awareness of the threat of nuclear war is finding expression in one of the "widest, deepest grassroots mass movements in many decades, perhaps in all of human history" (Barash & Lipton, 1982). All around the world, hundreds of thousands of people form a constituency of unusual breadth -- widely divergent backgrounds and ages, various religious and political persuasions, every conceivable social and economic level -- united in their protest of nuclear weapons and the arms race.

This movement is a rebirth of the peace movement of the fifties and sixties. In those days, it was called the "Ban the Bomb" movement. In 1958, Bertrand Russell formed the Campaign for Nuclear Disarmament (CND). This group now has over 250,000 members in the United Kingdom alone (Barash & Lipton, 1982). In 1960, a number of medical doctors came together to form Physicians for Social Responsibility, which now has over 14,000 members in the United States, and many thousands more throughout the world. The signing of the Partial Test Ban Treaty in 1963 coincided with the temporary decline of the peace movement. Developments toward the end of the seventies sparked its resurgence.

In 1978 the United Nations held its unprecedented first special session on disarmament. It was here Prime Minister Trudeau outlined his famous "strategy of suffocation", later to become the theoretical basis for the Nuclear Freeze Movement. A year later in 1979, some

alarming events occurred which began to shatter any illusions of security: Salt II, a bilateral arms agreement between the U.S. and the U.S.S.R., was withdrawn, the Russians invaded Afghanistan, the Americans boycotted the Moscow Olympics, and NATO decided to put a whole new generation of missiles in Europe (Barash & Lipton, 1982). The Cold War was heating up.

A very audible cry of alarm accompanied the election of Ronald Reagan as U. S. president in 1980. Perceived by many as a right-wing hawk, Reagan brought additional cause for concern about the imminence of nuclear war. Not only in the U. S., but throughout the world, massive demonstrations sprang up almost simultaneously. In 1981, 400,000 people demonstrated in Amsterdam, 300,000 in Bonn, over 200,000 in London, Paris and Madrid (Barash & Lipton, 1982). In 1982, 300,000 protested in Tokyo. In New York, 600,000 protested in the largest rally on a political issue in U. S. history (Leger Sivard, 1982).

Background -- The Local Context

Vancouver has displayed a particular sensitivity to the threat of nuclear war. Each year the annual Walk for Peace held in April has grown considerably. The turnout in 1984 was the largest yet, estimated to be about 120,000. This makes the Vancouver Walk the largest per capita turnout of any Canadian city.

The Walk for Peace is endorsed by the Vancouver City Council,

which in 1981 declared Vancouver to be a Nuclear-Free Zone. The council paid for pamphlets to be distributed to every resident in Vancouver prior to the 1983 Walk. These pamphlets clearly detailed the effects of a nuclear bomb on Vancouver. This civic support grows out of and contributes to a particularly heightened consciousness surrounding nuclear issues in the Lower Mainland of British Columbia. This consciousness is further supplemented by the considerable media attention surrounding the Walk for Peace and other related issues. Disparate groups such as the United Church of Canada, the Canadian Labour Congress, and Punks for Peace find themselves walking side by side, in opposition to the nuclear build-up. Wherever people associate with one another -- in their professions, in their interests and hobbies -- groups committed to nuclear disarmament have formed. Some of these are: Artists for Survival, Lawyers for Nuclear Disarmament, Science for Peace, Social Workers for Social Responsibility, Nurses for Nuclear Disarmament, to name only a few.

Peace Education -- An International and Local Concern

In 1980 an event occurred which seemed to provide the impetus for the widespread mobilization of teachers around the issue of peace and disarmament education. That event was the World Congress on Disarmament Education convened by UNESCO in Paris. Over 86 countries took part. The outcome was the resolution to develop programs for disarmament and peace at all levels of schooling. Since that time the

National Education Association in the United States has endorsed peace education and urged teachers to make it a priority. Numerous groups have formed to promote peace education throughout the world.

Locally, the Public Education for Peace Society (PEPS) was formed in the Fall of 1982 by a small group of individuals in New Westminster and Coquitlam. These individuals perceived a need to raise the level of community awareness, knowledge and understanding about the dangers of the arms race and, most particularly, nuclear armaments.

The main purposes of the Society, as stated in its constitution are:

a) to promote public education about peace, disarmament and justice from a non-partisan perspective;

b) to develop and make available curriculum units and materials on topics related to peace, disarmament and justice; ...

c) to disseminate information in various forms designed to further the purposes of the Society.

The primary means chosen to advance these purposes was the establishment of the Public Education Resource Centre (PERC). PERC opened in January 1983, funded by a Canadian Community Development Project Grant, administered by Employment and Immigration Canada. Under the terms of that agreement with the Federal Government, the

purposes of the Centre were:

1) to collect relevant information relating to nuclear
disarmament;

2) to identify and collect existing curriculum and
instructional materials relating to nuclear war and
disarmament;

3) to develop new instructional materials on nuclear war
and disarmament as necessary;

4) to develop and implement a program of public
dissemination of this information through presentations
to community groups and school students.

One of the first tasks undertaken by resource centre staff was to
begin to assess the need for peace education materials. A study
published by a Task Force of the American Psychiatric Association
(APA) in 1982 documented the concerns of American youth and consequent
need for peace education.

The Beardslee/Mack Study

The APA Task Force on the impact on children and adolescents of
nuclear developments was headed by Drs. Wm. Beardslee and John Mack of
the Harvard Medical School. They and their colleagues administered a
questionnaire to over 1100 American young people across the United

States in order to assess the attitudes held by young people toward nuclear developments. The findings shocked the researchers. More than 40% of youth surveyed had become aware of nuclear developments through the media before age 12. The majority felt that neither they personally, their city, nor their country could survive a nuclear attack. More than 50% thought there would be a nuclear war during their lifetime. The researchers speculated that these fears could seriously affect children's personality development and questioned whether such fears were having an impact on the very structure of personality itself. No similar formal study had been conducted anywhere in Canada at that point.

Informal Indicators of Children's Anxiety

Although no formal research was available to document the concerns of lower mainland young people, a number of informal indicators suggested concerns similar to those found by Beardslee and Mack.

Just before Christmas in 1983, school children in Vancouver were invited by the local daily newspaper to draw pictures of Santa in the Year 2000. A surprising number depicted a world destroyed by nuclear holocaust. Similarly, an essay contest for high school students in North Vancouver on "Life in 1999" drew a large number of entries that described the aftermath of a nuclear war. In addition, a number of school counsellors approached the Public Education Resource Centre

asking for assistance in formulating a response to youths' nuclear anxieties. The counsellors spoke of a number of young people seriously traumatized by a perceived threat of nuclear war.

Adult Response

When these informal indicators were combined with the findings of the Beardslee/Mack study in presentations by PERC staff to parent groups, the response ranged from mild skepticism to outright hostility. Most argued that their children had not expressed those concerns and seemed unaware of nuclear issues. They added most vehemently, that they didn't want anyone teaching those issues in schools, because to do so would be to raise fear where none now exists.

School Board officials in the districts of New Westminster and Coquitlam were approached with a request for assistance in the development of peace education materials. Officials of both districts stressed the need for formal, systematic research documenting the local need for such materials. Each observed that research conducted by a university, rather than by a private society, would probably meet with greater co-operation on the part of school personnel.

Conclusion

When considered together these experiences pointed to a single, unavoidable conclusion: that if peace education were to be

implemented in local districts in any kind of comprehensive fashion, then a formal university-based needs assessment documenting concerns of local youth must be done. This study was undertaken in response to that demand.

Statement of the Problem

The purpose of this study was to assess the level of awareness and concern arising from a perceived threat of nuclear war as experienced by young people in Burnaby schools in grades 5, 7, 9, 10, 11, and 12. The major questions which guided this investigation were:

1. Do Burnaby young people perceive nuclear developments as a blessing or as a threat?

2. What impact, if any, is this having on their lives?

3. At what age do Burnaby youth become aware of nuclear developments?

4. What is the origin of their awareness?

5. What are they doing currently to learn about nuclear issues?

6. How do the responses of Burnaby senior secondary students compare to American students in the same grades in the Beardslee/Mack study?

7. Is there any age at which concern is significantly greater than at any other age?

8. What attitudinal differences exist between older and younger students?

This investigation was undertaken as a needs assessment for peace education. As such, it was the first step in the curriculum development process. From this broader context flowed a second order of questions which also served to guide the investigation:

1. What particular areas or specific questions do young people want schools to deal with?

2. What is the perception of young people regarding the schools' treatment of these issues currently?

3. What are the psychological and political factors that block the development of peace education materials?

4. How can these obstacles best be removed or eroded?

Information gathered through this investigation will serve to guide the formation of strategy for both the development and implementation of peace education materials.

Method

Replication of Beardslee/Mack Study

It was decided to replicate the Beardslee/Mack study in a lower

mainland school district in order to discover similarities and differences in attitudes between the students in the original Beardslee/Mack study and those in the lower mainland. A close look at the questionnaire used by Beardslee and Mack revealed a number of. problems, including cumbersome language and sophisticated concepts which made it unsuitable for students in grade nine or lower. This necessitated the use of two questionnaires: one for senior secondary students (grades 10, 11 and 12) using the Beardslee/Mack questionnaire; the other for junior secondary and elementary students (grades 5, 7, 9) using a modified version of the Beardslee/Mack questionnaire.

SSQ. The Senior Secondary Questionnaire (SSQ) used in grades 10, 11 and 12 was a Canadianized replication of the questionnaire used in the 1980 Beardslee/Mack Study for the American Psychiatric Association. It was administered to 395 students in seven Burnaby secondary schools selected at random.

EJQ. The Elementary/Junior Secondary Questionnaire (EJQ) used in grades 5, 7 and 9 was a modification of the SSQ with some additions. While the information gathered through the administration of both questionnaires derived from the same content areas, both language and concepts were simplified in the EJQ. Additional questions regarding peace education needs and practices in Burnaby schools were added to

the EJQ. This questionnaire was administered to 337 students in nine Burnaby schools selected at random.

Analysis of Data

The questionnaire responses to closed questions were keypunched for computer analysis. Descriptive statistics were assembled on each item by grade, age, sex and for the total group. Cross tabulations were performed on some key items. Open-ended responses were coded by hand according to certain theoretically and empirically relevant categories. Items common to both the SSQ and EJQ were compared for common trends and for differences.

Definition of Key Terms

In this study the following terms are defined as followed:

peace: a dynamic state of co-operation and harmony between individuals and nations characterized by mutual trust and freedom from intimidation;

peace education: includes education for and about peace;

education for peace: the transmission of skills and attitudes to enable people to act as peacemakers in personal and global contexts;

education about peace: the transmission of knowledge and understanding about peace (or war) as historical or political phenomena in both personal and global contexts;

disarmament education: a subset of peace education which includes the transmission of skills, attitudes, knowledge and understanding which serve to promote disarmament;

curriculum: a set of intended learnings for schools;

curriculum development: the process whereby a set of ideas is shaped into a set of intended learnings for schools;

implementation: the process whereby a curriculum becomes adopted for usage by educators;

personal agency: the purposeful use of thoughts, feelings and behaviours so as to alter the direction of ongoing change between an individual and his/her environment (Martin, N.D.);

collective agency: the purposeful exercising of
influence on human-environmental systems made possible
through the behaviors, thoughts and feelings of
organized human groups.

Limitations

This study has several noteworthy limitations:

1. This study is limited to Burnaby students aged 9 to 19.
   While in a strict technical sense, there is no basis
   for generalizing results or conclusions beyond this
   district, it may well be that the Burnaby school
   district is broadly similar to other metropolitical
   school districts in the Vancouver region.
   Consequently, the findings of this study may well be
   replicable with similar samples from other metropolitan
   districts.

2. The questionnaire is solely concerned with nuclear
   issues, which may act as a cue to the respondent,
   creating a heightened sense of the importance of the
   issue.

3. The questionnaire is a self-report questionnaire and is therefore, subject to subjective bias.

4. The lower mainland clearly has a well-developed social consciousness surrounding nuclear issues and this may create heightened awareness not found elsewhere.

5. All schools and classes that participated were required to give their consent. Some declined, and this may reflect a sympathetic stand on the issue which may create bias.

6. Those students who took part did so because their parents gave consent. Other respondents declined. This may reflect some bias.

Organization of the Thesis

Chapter I provides a brief overview of the study including the contextual background and statement of the problem.

Chapter II offers a review of the literature in three major areas pertinent to the overall study. These are:

1. psychological responses to a perceived nuclear threat

2. peace education

3. problems of implementation.

The chapter concludes with a discussion of strategies for the implementation of peace education.

Chapter III reports the method of the study including the data collection procedures, sample characteristics and data analysis techniques. The results of the study are presented and analysed in Chapter IV. Chapter V presents a summary and discussion of the results and of the implications for further research and curriculum implementation.

CHAPTER II

REVIEW OF THE LITERATURE

The introduction of peace education in schools is a process requiring a synthesis of information from a variety of sources. The purpose of this literature review is to identify and describe these divergent sources, then to create a synthesis of that information as a basis for proposing strategies to effect the implementation of peace education in B. C. public schools.

A starting point in most curriculum projects is a needs assessment. In this study, the needs assessment involved the administration of two questionnaires designed to survey young people's attitudes regarding nuclear issues. In order to understand fully the significance and implications of the questionnaire findings, the first part of this literature review looks at the broad area of nuclear anxiety and focuses particularly on studies similar to this one, which analyze young people's attitudes to nuclear war.

The next section of the literature review looks at peace education, its definition, history and dilemmas. It seeks to define the scope and nature of peace education and to identify the components of a peace education curriculum.

The last section of the literature review examines the curriculum implementation process. The purpose of this section is to apply effective curriculum implementation theory to the dynamic of the peace

education process.

The review is divided into these three parts in order to sketch more completely the context for this study. The chapter concludes with a synthesis of this information in the form of suggested strategies for the implementation of a peace education curriculum.

Adults Response to the Nuclear Threat

The psychological impact of living in the nuclear age received little attention until the landmark publication in 1967 of R. J. Lifton's, Death in life. In that volume Lifton used the term "psychic closing-off" (pp. 31-34) to describe the total emotional shutdown experienced by Hiroshima survivors. He explains, "For survivors it was a necessary defense mechanism, since they could not have experienced full emotions in response to such scenes and remained the same." (p. 101). As natural and necessary as this response was at the time, this lack of feeling did not usually end when the immediate danger passed.

> It would continue over weeks, months or even years, and became associated with apathy, withdrawal, depression, despair or a kind of survivor half-life with highly diminished capacity for pleasure, joy or intense feelings in general" (Lifton, 1982, pp. 101-102).

This Lifton has termed "psychic numbing" (p. 32).

He explains,

> What I am calling psychic numbing includes a number of
> classical psychoanalytic defense mechanisms;
> repression, suppression, isolation, denial, undoing,
> reaction formation, and projection, among others. But
> these defense mechanisms overlap greatly around the
> issue of feeling and not feeling ... we do well to
> devote to it a single overall category [psychic
> numbing] which we can observe operating in different
> ways and under different conditions in virtually every
> individual mind. (p. 103)

In simple terms, psychic-numbing is the inability to feel much of

anything in response to a nuclear threat.

In _Death in life_ and subsequent volumes (1969; 1970; 1982) Lifton

went on to describe the process of collective psychic numbing which,

he speculates, is presently affecting most of the adult population at

any given time. He describes this as a

> psychological process of 'learning to live with the
> bomb', which scientists came to share with political
> and military leaders along with the rest of us;
> specific forms of numbing evolved that blocked out what
> happened at the other end of nuclear weapons and
> enabled them to get on with things. (1982, p. 203)

So, he argues, in order to function effectively in the nuclear age one

must live on two levels; one, knowing the threat of nuclear war is a

present reality and, the other, acting as though it can't happen.

This tension describes a paradox: "The degree of numbing necessary

for individual comfort is at odds with the degree of tension, or even

anxiety, that must accompany the nuclear awareness necessary for

collective survival" (1982, p. 108). In other words, one cannot deal

effectively with a threat unless that threat is felt.

Until very recently little scholarly attention, apart from Lifton's work, focused on the psychological responses of adults to life in the nuclear age. One could claim that fact as further proof of the operation of psychic numbing, evidence of the adult population's reluctance to confront nuclear issues.

Kramer, Kalick and Milburn (1983) examined responses to nuclear related items embedded in public opinion poll questionnaires over the period of 1945 to 1982. Their findings are relevant to this review in the information they provide regarding the relationship between the respondents' pessimism and anxiety. Support for the use of nuclear weapons has decreased steadily throughout the period. In 1982 74% of the American population surveyed favoured the discontinuance of the production of nuclear weapons. Over 50% believed that they would not survive in a nuclear war. Between two-thirds and three-quarters of the American public surveyed over this period indicated that they believed a major war involving the U. S. would become a nuclear war. Emotional reaction to nuclear weapons as reported in public opinion polls has shown a remarkably modest increase in apprehension since earlier years. Findings reveal an increase in worry over the prospect of nuclear war from 14% in 1958 reporting themselves to be very worried, to 28% reporting themselves to be very worried in 1982. The researchers observe that those reporting high levels of worry are clearly in the minority, substantially exceeded by those who say they

have worried about nuclear war hardly ever or not at all.

So, although 51% of the population in 1982 believed there is little likelihood that they could survive a nuclear war and 79% believed that a war between the U. S. and the Soviet Union would become a nuclear war, only 28% of the population sampled in the same year reported to be very worried about the prospect. These findings appear incongruous on the surface. On the other hand, they may substantiate Lifton's theory of psychic-numbing.

In 1964, the Group for the Advancement of Psychiatry (GAP) report, <u>Psychiatric Aspects of the Prevention of Nuclear War</u> was published (in Beardslee & Mack, 1982, p. 67). It showed that adults had not altered their concepts of war in accordance with the new realities of war in a nuclear age. There has not been an accommodation in the Piagetian sense between the "givens" of war and our thought patterns regarding war. Beardslee and Mack (1982) suggest "this gap is maintained by psychological factors such as denial" (p. 67). This argument was expanded by Frank (1968). He argued that an accumulation of nuclear weapons decreased security, rather than increased it as in the case of an accumulation of conventional weapons. He took the present drive to increase nuclear arsenals as evidence of an outmoded attitude. Taken together,

> what the Gap report and Dr. Frank's work emphasize is
> that, in view of the arms race, new ways of thinking
> are necessary and that defensive processes such as
> denial, dehumanization, and perceiving nuclear war in

the context of traditional war make reasonable public
debate and decision-making nearly impossible.
(Beardslee & Mack, 1982, p. 68)

These psychological defense mechanisms suggest a formidable
barrier in the development of peace education. They provide an
explanation for the peculiar reluctance of adults, both parents and
teachers, to address nuclear issues with children. It is as if adults
have entered into a conspiracy of silence with each other, agreeing
implicitly that it is better not to know. Children, however, "are
inexperienced at such avoidance techniques" (Beardslee & Mack, 1982)
and do not share with their parents the ability to shut out nuclear
fear.

Children and the Nuclear Threat

Escalona Study

In 1965, Escalona published the results of a questionnaire study.
Over 350 children aged four to adolescence were asked, "Think about
the world as it may be about ten years from now; what are some of the
ways in which it may be different from what it is today?" (Escalona,
1982, p. 602). Over 70% "spontaneously mentioned the bomb -- either
by envisaging a gruesome existence underground, or in terms of
possible wholesale destruction" (p. 602). Although the data were
somewhat "flawed by the fact that the samplings of children were quite
varied and the questions asked of children also varied depending on
which particular examiner posed them" (Beardslee & Mack, 1982, p. 69),

the pessimism displayed about the future is quite startling. This

data led Escalona to conclude that living in the shadow of a nuclear

threat had an impact on personality formation and on successful

completion of developmental tasks in children. She concluded;

> Growing up in a social environment that tolerates and
> ignores the risk of total destruction by means of
> voluntary human action tends to foster those patterns
> of personality functioning that can lead to a sense of
> powerlessness and cynical resignation. (p. 602)

Escalona elaborated on the effect on ego functions and

corresponding skills. She stated,

> It is clear that knowing there may be no future makes
> everything provisional. This awareness is likely to
> encourage an investment in the here and now. It
> weakens the readiness to invest energy and self-control
> in the attainment of distant goals. (p. 606)

She goes on to describe how difficult it is for children to develop

skills of personal or collective agency within the current milieu.

She speaks of a lack of trust and confidence in adults and their

degree of control in the face of global danger. These observations

are congruent with findings in other studies.

Schwebel Studies

Also in 1965, Schwebel published results of a large-scale

American questionnaire study. It detailed responses by high school

students to a series of questions:

> Do I think there is going to be a war?
> Do I care?
> Why?
> What do I think about fallout shelters   (p. 608)

Questions were posed to groups of students at the time of the Berlin crisis in 1961 and during the Cuban crisis in 1962, both times of acute international tension. Parallel questions were also given to elementary and secondary students in the wake of the Three Mile Island accident in 1979 when a major melt down was threatened, and a nearby Pennsylvania town evacuated. The responses Schwebel collected articulate some disturbing attitudes. In short, Schwebel reports, that the young people he surveyed,

> said that in the event of a nuclear war they would have
> the most to lose. Time and again, in response to
> questions about nuclear conflict, they said ... that
> they would pay the highest price. They would be denied
> a chance to live, to love, to work, to bear children
> and raise a family. They would lose ... the largest
> portion of their lives. (Schwebel, 1982, p. 608)

These young people display attitudes of denial, resentment and helplessness. They are angry with adults who have not been able to leave them a safe world. They learn to live for the moment, because their future is in jeopardy. They become narcissistic, placing hope in their survival through bomb shelters or luck. Much of the time they resort to denial and avoid thinking about the threat altogether.

Beardlsee/Mack Study

Beardslee and Mack (1982) working on a task force of the American Psychiatric Association between 1978 and 1980 surveyed 1151 young people from grades 5 through 12. Questionnaires were administered in Boston, Los Angeles and Baltimore. The findings have been widely publicized and have generated a great deal of public awareness.

They found that the majority of those surveyed were aware of nuclear developments by age 12, mostly through the media. Most believed they could not survive a nuclear attack. A large number felt there would be a nuclear war in their lifetime. About 50% felt nuclear advances had affected their thoughts about marriage and plans for the future. Their subjective comments graphically described nuclear holocaust. Feelings of fear, hopelessness, and resentment of adults were evident.

Doctor/Goldenring

In 1983 Ronald Doctor and John Goldenring produced the results of a study which surveyed 913 adolescents in Californian schools. The young people were asked to list spontaneously their three greatest worries and then to rate twenty major worries on a scale of one to four. Then they were asked to rank their top five out of these twenty worries. Only after this were they asked any questions specific to the issue of nuclear war.

In summer of 1983, a team of three American psychiatrists

including John Mack took the Doctor/Goldenring questionnaire to the Soviet Union. The questionnaire was administered to 293 Soviet children between the ages of 10 and 15. The responses were compared to an age-matched sub-sample of the Doctor/Goldenring study. In the first section 98.6% of Soviet children rated nuclear war as disturbing or very disturbing, compared to 58.2% of the American sample.

Table 2-1 summarizes the results.

Table 2-1

Item Comparison between Soviet and American Youth on Goldenring
Questionnaire by Percent of Each Group

	Soviet	American

1) Do you think a nuclear war between the US and USSR will happen during your lifetime?

	Soviet	American
Yes	11.8	38.5
No	54.5	16.0
Uncertain	33.7	44.5

2) If there were a nuclear war, do you think that you and your family would survive?

	Soviet	American
Yes	2.9	16.5
No	80.7	41.5
Uncertain	16.4	41.1

3) If there were a nuclear war, do you think that the US and the USSR would survive it?

	Soviet	American
Yes	6.1	22.0*
No	78.9	38.0
Uncertain	15.0	39.5

* American children were asked about survival of the US.

4) Do you think nuclear war between the US and USSR can be prevented?

Yes	93.3	65.0
No	2.8	14.5
Uncertain	3.9	20.0

(International Physicians for the Prevention of Nuclear War, N.D.)

The Soviet youth were better able than the Americans to imagine the consequences of a nuclear war, yet they were more optimistic that a nuclear war could be prevented. Mack explains,

> we found this difficult to explain and suspect that it is part of taking part in state-sponsored peace activities, such as collecting petitions, writing cards to the United States and attending meetings, which creates a feeling of working toward a common goal. (Mack, N.D.)

Finnish Study

In 1983, a study was undertaken in Finland (Solantus, Rimpela, & Taipale, 1984) to supplement the numerous studies done in the United States regarding young people's attitudes to the nuclear threat. It sought information on how young people from a country not particularly involved in the arms race would feel. The purpose of the survey was to chart the extent of the fear of war as compared to other fears in the minds of young people aged 12 to 18 in Finland. In every age group, fear of war exceeded all other fears. It was mentioned first by 79% of the 12 year olds, 72% of the 14 year olds, 57% of the 16 year olds and 48% of the 18 year olds. The decrease in reported fears with rise in age is consistent with other studies (see Sommers

below). Forty-six to sixty-five percent reported being able to
discuss war and peace with friends, but only about 30% reported being
able to do so with parents. Eight percent reported daily fears.

Toronto Study

In metropolitan Toronto a study was conducted by Dr. Frank
Sommers, based on the Finnish model. Over 1000 students from grades
six to thirteen were surveyed. Worries about nuclear war and
unemployment were mentioned equally often (by 51% of the sample),
although nuclear war was most likely to be mentioned first (29%).
Worries about nuclear war decreased with increasing age, while worries
about unemployment rose. "Students felt that they, their parents and
Canadians in general had least control over the threat of war followed
by unemployment and job plans" (Sommers, Goldberg, Levinson, Ross &
LaCombe, 1984).

Lifton

When R. J. Lifton spoke before the U. S. House of Representatives
Select Committee on Children, Youth and Families in September, 1983,
he raised several concerns about the negative effects of growing up in
the nuclear age. He spoke of a sense of futurelessness, a growing
doubt among young people that they will be able to live out their
lives; a feeling of living a double life, making plans but knowing it
may all be a sham; a feeling of resentment and lack of trust of the

older generation, a suspicion that adults had ruined young people's lives for them. Lifton went on to say that it is time that adults overcome the barriers that inhibit them in dealing with this issue with children and youth. He stressed the need for wisdom and sensitivity in order to build a sense of hope. That is the challenge of peace education.

Peace Education

> The unleashed power of the atom has changed everything save our mode of thinking and we thus drift towards unparalleled catastrophe. (Einstein, Letter to the New York Times, June 12, 1953)

These prophetic words spoken by Albert Einstein more than thirty years ago contain an urgent prescription for peace education. With the capacity to destroy all of civilization in an instant we find ourselves possessed of a power we dare not use. Nuclear superiority is meaningless now that each super power has the capacity to destroy the population of the world many times over. Old concepts do not fit present realities. The abolition of war is not simply an ideal to be desired but is now in all likelihood a necessary condition of human survival. The time has come to learn new concepts so that we might find alternatives in the resolution of international conflict. Herman Wouk put it this way,

Either war is finished or we are ... war is an old
habit of thought, an old frame of mind, an old
political technique, that must now pass as human
sacrifice and human slavery have passed. (Wouk, 1978,
foreward)

A Concept of Peace

"Since war begins in the minds of men, it is in the minds of men
that the defenses of peace must be constructed" (UNESCO constitution,
in Alberta Teachers Journal, 1984, 6(3)). To many peace is a negative
concept. It is simply the absence of war or overt violence. It has
connotations of weakness, passivity.

When teachers in the Boston Chapter of Educators for Social
Responsibility conducted a Day of Dialogue with their students in
October of 1982, they reported four difficulties in teaching students
about nuclear issues. The first of those mentioned was that "while
students had a concrete concept of war, their concept of peace was
often abstract, or simply the absence of war. They often saw peace as
... boring" (Educators for Social Responsibility, 1983).

At best, peace might be considered utopian and therefore,
unattainable, illusory. It is clear that here at a conceptual level
problems exist which impede the development of peace education
materials. There is work to be done in formulating a strong, active
and positive concept of peace. In the interim, the following
definition will provide a working tool: peace is a dynamic state of
co-operation and harmony which may exist between individuals and

nations that is characterized by mutual trust and freedom from intimidation.

Inherent in this and any definition of peace must be the notions of equality and justice. "if you want peace, proclaimed Pope Paul VI, 'work for justice'" (in Copred, N.D. p. 1). Violence is not always overt. Subtle forms of violence include institutionalized injustice like racism, sexism, imperialism, neo-colonialism and ageism.[1] McGinnis of the Institute for Education in Peace and Justice concluded, "Working for peace is working for the kinds of relationships among persons and groups (of whatever size) and for the kinds of institutions (political, economic, social, educational) that promote the well-being or development of all persons." (Copred, N.D., p. 1)

With the inclusion of justice and equality in the definition of peace, one runs the risk of defining peace education as something so expansive it eludes our grasp and evades implementation. On the other hand, peace without justice is primarily a negative concept that offers no tangible, active steps to take in implementation. So in effect, the inclusion of equality and justice in the concept of peace permits formulation of concrete steps to take in working to achieve peace.

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[1] An example of institutionalized ageism is compulsory retirement. A more subtle form of ageism is the expectation that older people will work as volunteers rather than as paid employees.

In an address to the Adlerian Psychology Association of B. C. on October 12, 1984 in New Westminster, B. C., Dr. J. Valusek explained his thesis that violence in the world could be eliminated if we developed a new ethic that simply stated is, "people are not for hitting". Just as chairs are not for breaking, tables not for walking on, people are not for hitting. He went on to describe his experiences in delivering this message to groups and recounted how invariably someone in the audience would ask, "But what do we substitute for spanking?". It was not enough to say "no spanking", people needed something to put in its place.

This anecdote reflects the perceptual difficulty inherent in the implementation of a negative (in the sense of withdrawing from the environment) concept. When peace is understood simply as the absence of war or of overt violence, it is something very difficult to incorporate into behaviour.

A Concept of Peace Education

Peace education is not a new concept. It has its roots in moral and ethical philosophy as well as in religious studies. As noted by the editor of the Teachers College Record, "There is a long tradition of peace education that goes back at least to the beginning of this century, if not earlier, and that encompasses a far wider range of war-peace-educational issues than the nuclear alone" (Sloan, 1982, p. 199). It is fair to say, however, that since 1945 and the first

use of atomic bombs in warfare, a sense of urgency has breathed new
life into peace studies. As Berkeley professor, Michael N. Nagler
observed, "since around 1948, American colleges and universities have
been adding courses, and in some eighty cases programs or majors,
designed to help students deal specifically with the huge issues of
peace and world order" (1982, p. 108). The addition of these programs
or courses has not been a quiet and simple matter of enlarging the
curriculum, but has necessitated a fundamental re-thinking of
educational practices at many levels. Some of these Nagler (1982)
identifies as

> profound reorganization of traditional educational
> compartments, explicit concern for the forbidden area
> of values (here the neo-Piagetian revolution
> association with Lawrence Kohlberg is of interest),
> assumption of a mandate to do not only planning for the
> future ... but planning of the future. Most radically
> of all, by their very coming into being these studies
> challenge the entrenched "Manichaean" presupposition
> that war and conflict are real, while cooperation and
> peace are not" (p. 108)

As Nagler (1982) points out, many educational theorists view these
changes as "part of a 'paradigm shift' of major, perhaps millennial
proportions that is now affecting not education only but civilization
as a whole" (p. 108, 114). This shift can only take place with
significant human learning which is both the goal and substance of
peace education.

Education 'For' And 'About' Peace

Understanding of the concept of peace education is facilitated by sub-dividing peace education into two, not mutually exclusive, categories: education for peace, and education about peace.

"Education for peace" is the transmission of skills and attitudes to enable people to act as peacemakers in personal and global contexts. It is the foundation necessary for understanding education about peace.

"Education about peace" is the transmission of knowledge and understanding about peace (or war) as historical or political phenomena in both personal and global contexts.

Peace education is both structure and content of the curriculum. If peace includes mutual trust and freedom from intimidation, then teachers need to develop relationships based on mutual respect, not power in classrooms. If equality is a component of peace, then classroom dynamics need to be democratic, not autocratic. Systematic Training for Effective Teaching (Dinkmeyer, McKay & Dinkmeyer, 1980), one of many programs designed to help teachers become more democratic in their classroom practices offers this comprehensive description of the characteristics of democratic and autocratic classrooms:

Figure 2-1

Styles of Leadership and Classroom Atmosphere

Democratic	Autocratic
Mutual trust. Mutual respect.	Control through reward and punishment. Attempt to demand respect.
Choices offered wherever feasible.	Demands. Dominates.
Motivation through encouragement. Identification of the positive.	Focus on weaknesses and mistakes.
Freedom within limits. Balance between freedom to work and responsibility to work.	Limits without freedom. Promotion of dependency and/or rebellion.
Intrinsic motivation. Teachers and students set goals together.	Extrinsic motives and punishment.
Democratic	Autocratic
Success-oriented activities designed to build self-confidence.	Activities focus primarily on producing superior products.
Cooperation, shared responsibility.	Competition.
Discipline as educational process. Self-discipline encouraged.	Discipline is to establish external control.
Goals are aligned.	Goals are set by teacher.
Ask for ideas, contributions.	Teacher decides all issues.

(Dinkmeyer, D., McKay, G., & Dinkmeyer, D., Jr., 1980)

Education for peace is communicated primarily through the
structure of power relationships both inside and outside classrooms.
Sissel Volan, an Information Officer with UNICEF (1982), has said,

> education for peace cannot be effected only by giving
> them [children] more information and impressions. It
> must also include actions, practice and personal
> experience. Children must feel that they are equal and
> be permitted to take part in dialogue with each other
> and with the adults surrounding them. (p. 216)

He added, "education for peace is not just an abstract goal, but an
every day task" (1982, p. 217).

Douglas Sloan in his preface to a special volume of the Teacher's
College Record devoted to peace education in 1982 described the
long-term tasks of peace education as having "two dimensions or
orientations: those concerned on the one hand, with the structures of
society and, on the other, with the structures of consciousness" (p.
9). Most peace education, he claims, focuses on the former -- "the
institutions, the procedures and norms of institutional relationships,
and the means of governance and regulation of them" (p. 9). While it
is true that peace education has looked to inherent injustice in our
social structure and to the values and attitudes necessary to make
changes in those, he argues "in most cases, however, this growing
interest in values, for example, does not begin to touch the deeper
questions -- ethical, epistemological, ontological -- raised by the
need for a fundamental change in our thinking" (p. 11). In probing

the meaning of Einstein's statement that the bomb has changed everything except our mode of thinking he asserts that "positivism" is the dominant mode of thinking currently. He explains,

> The dominant modern view of how we know, of what we can know, and, therefore, of what life and the world and their potentialities hold for us has been shaped by the positivist assertion (in its various modern forms) that all knowledge is acquired only through "the positive data of science", which has meant, in effect, only through that which can be counted, measured, and weighed. The central positivist claim is that science provides our only way of knowing and our only source of genuine knowledge. This claim has its corollaries, namely, (1) that all problems are scientific and technological problems, including all human problems, which are to be cast exclusively in scientific and technological terms and dealt with accordingly; and (2) that quantitative science provides an adequate, all-embracing picture of the world -- the so-called scientific and technological world view, a mechanistic, quantitative world in which there is no place for normative values, ethics, final causes, meaning, and above all qualities and the feelings, sensations, consciousness, and intangible, inner webs of relationships in which qualities inhere. The world that thus can be known and the world that results is one in which the only consideration is quantity -- power. (p. 2)

Education for peace seeks to alter fundamentally not only our mode of thinking but also the hierarchical power structure that shapes our world. As such it is a thoroughly 'radical' idea.

Categories Within Peace Education

Not all peace educators define their task as broadly as does Sloan. Roberta Snow, president of Educators for Social

Responsibility, calls her field of studies, "nuclear education".
"Many ... speak of nuclear issues as if there were some clearly
defined set of concerns that comprise nuclear education. In fact, no
such consensus exists." (Harvard Educational Review, 1984, preface).
Although this term is not explicitly defined, its scope can be
inferred from Snow's curriculum projects (for Educators for Social
Responsibility and Facing History and Ourselves). They focus on
nuclear issues, with the emphasis on nuclear war and choose as a
starting point young people's awareness of this issue. With the
youngest school children she suggests that they may have inadequate
concepts of war, peace and related issues and to listen to their
dialogue while they engage in play in order to assess their conceptual
development or understanding. Although some of the exercises deal
with conflict resolution or peacemaking, the specific focus of these
curricular projects and of nuclear education, is nuclear war
(Hemphill, 1984, p. 359). Most of their content is "education about
peace". Many other current curriculum projects could best be placed
in this category of nuclear education (Union of Concerned Scientists,
1983; French & Phillips, 1983). The bulk of this material is designed
for secondary students.

Another designation within the broad category of peace education
is disarmament education. UNESCO researcher, Betty Reardon, uses this
term to mean "education for the promotion of general and complete
disarmament" (Reardon, 1979, p. 366). She defines general disarmament

as

> the goal of reducing arms among nations to only those
> necessary to maintain domestic order, a goal virtually
> synonymous with 'a peace system' in which institutions
> appropriate for conflict resolution, peacekeeping and
> the defense of the rights of nations and persons have
> been established collaterally with the reduction of
> arms. (p. 366)

> Disarmament education must deal not only with
> armaments, but also with conflict, human rights,
> economic development, and policies for structural
> change. (p. 366)

Unlike nuclear education, disarmament education seeks to eliminate all

war, not simply nuclear war. The necessary attitude change involved

places the emphasis in this curriculum on "education for peace",

although much of the content must be organized around the details of

the arms race and nuclear war. As Volan (1982) is quick to point out,

however, "the whole approach to disarmament will be fundamentally

different, depending on whether complete pacifism is the goal, or

whether the control of military power is sought as a sufficient

objective" (p. 216).

Disarmament education as defined by Reardon (1982) is part of the

broader study known as world order inquiry.

> World order ... refers to the academic inquiry, action,
> research, and education related to the pursuit of world
> order values and to the changes in the global system
> necessary to the fulfillment of these values... Just

world order [is] defined as the fulfillment on a global
scale of the values of peace, social justice, economic
equity, ecological balance and political participation.
Disarmament is the current control task of the longer
range and even wider reaching global transformation
espoused by world order inquiry. The central task is
two-fold: to change the international system to the
process of fulfilling the world order values of
economic equity and social justice. (p. 138)

World order studies are closely related to global education, with some

clear distinctions. Global education

is a summary term to indicate awareness about the
interdependent nature of the planet earth and the
peoples of the planet and of global problems. Most
widely attended to among these problems are population,
ecology, poverty and conflict. (Reardon, 1979, p. 5)

Two major differences exist between global education and peace

education;

1) Many global education programs never address the issue

of war and/or the arms race (e.g. Interpares,

Teaching for a Changing World, N.D.), even though they

deal with conflict, and

2) Much global education attempts to be value free in the

sense that traditional science is value free.

Normative Orientation of Peace Education

Peace education moves "beyond an awareness of global problems, at which most global education stops, toward the normative resolution of the problems" (Reardon, 1980a, p. 6). When viewed in this light, peace education can be seen to be at the very heart of the educational enterprise; it is not something attached to the periphery. It is clearly bound up with the notion of the purposes of education and provides an answer to the questions, "What should schools teach?; "What ought children to know?".

Nagler (1982) offers the following analogy

> [peace education is] ... to the entire academic enterprise what ecology is, for example, to the 'pure' disciplines of natural science -- or more indistinctly, religious studies to philosophy, ethnic studies to the humanities, and so forth: the moment they exist you realize that they should have been represented in, if not been made the heart of, their respective units all along. (p. 108)

Aims of Peace Education

The aims of peace education are summarized in the recommendation made in 1974 by the General conference of UNESCO in Paris concerning education for international understanding, co-operation and peace and education relating to human rights and fundamental freedoms:

- to foster awareness of the problems created by the arms race and the need for disarmament;

- to foster attitudes of cooperation and tolerance by
  training pupils in conflict solving;
- to deglorify violence (and the use of it) on an
  individual, national and international level;
- to create a deeper understanding of the concepts of
  peace and the necessity for personal involvement in
  'building' peace. (Volan, 1982, p. 217)

This is clearly a vast undertaking which spans traditional disciplines

and with a synergistic effect creates new categories of learning.

One educational author and practitioner has identified two such

skill areas which he suggests can and must be learned if human beings

are to be able to resolve successfully current problems of

"overpopulation, starvation, poverty, potential nuclear conflict,

interpersonal violence, environmental pollution, and general economic

recession" (Martin, N.D.b, p. 2): they are, personal and collective

agency. Personal agency is exercised when "human beings use their

thoughts, feelings, and behaviors in purposeful ways to alter the

direction of ongoing change between themselves and their environments"

(p. 7). Most importantly "personal agency can be taught and learned"

(p. 7). The development of this skill gives people a sense of power

within their lives, a sense that they can affect their future. Some

of the components of a personal agency curriculum at the secondary

level might include, basic self instruction skills like goal-setting,

problem solving, gathering information, evaluating; health education

skills like stress/anxiety reduction, diet and exercise management; or

academic skills like decision-making, time management, study skills

(Martin, N.D.b, p. 3). The underlying emphasis in such a program is

fostering a sense of responsibility in the learner. As important as this might be, it "probably is of secondary importance to the development of collective agency. Collective agency is the purposeful exercising of influence on human-environmental systems made possible through the behaviours, thoughts and feelings of organized human groups" (Martin, N.D.a, p. 8). This skill builds on skills acquired through the development of personal agency. Considerable evidence suggests a strong positive relationship between perceived personal efficacy and social action (Abramson & Aldrich, 1982; Forward & Williams, 1970; March, 1977; Muller, 1979; Tyler & McGraw, 1983). Some of the components of a collective agency curriculum might include group decision-making and consensus-building; conflict resolution; communication skills; co-operation and sharing. Martin (N.D.a) notes "ample evidence that skills basic to personal and collective agency can be taught and acquired in the context of public schooling (e.g. Carledge & Milburn, 1980; Manster, 1977)" (p. 12).

Peace Education Within Traditional Boundaries

Peace education does not necessarily require the creation of new categories of learning like personal and collective agency.

It is possible to find areas within traditional disciplines to insert education "for" and "about" peace. In Figure 2-2 is an example of how peace education might fit within the British Columbia Social Studies Curriculum.

Figure 2-2

Meeting the Objectives of the Public School Curriculum
Through Peace Education

Teaching For Peace   Teaching About Peace

- teaching and modeling   - presenting information
  co-operative attitudes   about the arms race and
  and behaviour   militarism

- teaching and modeling   - teaching about the causes
  problem-solving skills   of violent conflict, the
                                    way the international
- developing communication   community tries to solve
  skills   conflict between nations

- working co-operatively   - presenting information
  toward group decisions   about other cultures

- developing a sense of   - teaching about our poli-
  personal worth and power   tical system and how
  in the social system   citizens can make their
                                    voice heard

Based on these objectives from the Social studies curriculum
guide;

Problem solving   Locating information
Decision making   Organizing information
Evaluation information   Acquiring information through
Citizenship skills   reading
Communicating orally and   Acquiring information through
  in writing   listening and observing
                                 Evaluating information
                                 Citizenship skills

This chart was developed by the Public Education Resource Centre

of New Westminster in 1984.

It is not possible to be exhaustive in a description of peace

education, partly because of the scope of the field, but also because

to do so requires new ways of thinking which can only emerge through

embarking upon a study of peace education. That is to say, this field

is so new and radical that it requires conceptualizations that at present are only vague visions. Indeed, one of the tasks of peace education is to define itself.

Obstacles to Peace Education

Betty Reardon (1980a) in a research paper for UNESCO identified three major categories into which obstacles to disarmament and peace education fall. These are: political, perceptual and pedagogical. Her framework of analysis structures the following discussion.

Political Obstacles

One of the major obstacles to the development and implementation of peace education curricula is the fact that war is an acceptable option of nations in the international sphere. Moreover, the necessity to mobilize an army depends on a willing populace. State sponsored or public education might legitimately question the desirability of education which could undermine the willingness of citizens to take up arms or to support the development and deployment of new missile systems. The military-industrial complex in the U. S. for example, depends on public support for policies which suggest that the Russians are the enemy and that an increase in armaments is necessary so that the U. S. can be protected against Soviet aggression. Peace education which attempted to foster attitudes of tolerance for other's differences might be viewed as subversive.

Lack of public support for arms manufacture could seriously threaten sources of government revenue. Educators for Social Responsibility in the Palo Alto and Santa Cruz school districts encountered just such opposition to the implementation of a nuclear war curriculum. "Critics of nuclear education fear that indoctrinated teachers will indoctrinate students to support the nuclear freeze and oppose military spending" (Editor, San Jose Mercury, 1983, p.,8B).

Moreover, these political realities seem beyond the power of individuals to affect or alter. As Reardon (1979) observes,

> From this perspective, of course, the political problems are as much the problems of attitudes, of acceptance, and of lack of creative imagination as they are problems of power politics and political structure; and as such they are essentially educational problems which should be the concern of educators. (p. 356)

Perceptual Obstacles

It is in this area that education stands to have its greatest impact, affecting the perceptions which make both peace and peace education difficult. In a survey between November 1976 and March 1977 given by Betty Reardon to a number of peace educators, three perceptual obstacles were "most frequently mentioned as most severe: fear, militarism, and ignorance" (p. 356).

Fear. Much of the work cited in the section dealing with adults'

anxieties describes how fear presents an obstacle to the development and implementation of peace education materials. Fear evokes a range of psychological defense mechanisms described by Lifton (1967) as "psychic numbing". This response creates an almost impenetrable barrier to consideration of nuclear issues.

Reardon (1979) identifies three major fear responses which emerged from her survey:

> fear of the economic consequences of disarmament, of unemployment, and of economic dislocation, in particular,; second, fear of 'the enemy' and of being defenseless in a world in which one party or several, but not all, might be disarmed; and finally, but less clearly articulated, fear of the unknown. (p. 356)

One suspects fear of the unknown also contains elements of the unimaginable, peace being such a nebulous concept.

Militarism. Militarism has been defined as "a system institutionalizing the use of technology and force to control society" (Hoffman, 1982, p. 6). It is perhaps best exemplified as an almost blind obedience to authority. In many societies good citizenship is measured by the degree of unquestioning loyalty to authority.

> The belief that social order depends on obeying military authority is quite widespread, as is an equation of dignity with strength or strength with violence.... People educated by the public authorities usually equate support of the military with patriotism and virtue, and dissent therefrom with lack of

> patriotism, treason, ignorance or naivete. (Reardon, 1979, p. 357)

In societies where the armed forces seem not to play a significant role, militarism can be observed in a hierarchical power structure with obedience flowing from the bottom to the top and authority flowing from the top down.

Reardon's (1979) questionnaire respondents also observed

> a close relationship between not only the concepts of military strength and 'national security' but also the concepts of personal identity and 'national security'. The preservation of the nation preserves one's identity, and the military provides a symbol of selfless (even ultimate) sacrifice in the public -- hence the personal-interest. (p. 357)

Ignorance. Although most adults have well-developed concepts of violence and aggression, reinforced by the media and the teaching of history, they do not seem to have equally well-developed notions of peace. Little information is available to inform individuals about peace and peace-related issues. Consequently, there exists a conceptual vacuum regarding peace which presents a major obstacle to the development of peace education. This is particularly true insofar as peace is viewed as withdrawal of violence. In this instance, peace can be seen as "letting down our guard", being unprotected. A concept of peace which is more than simply the absence of violence needs to be developed.

The technical nature of much of the information related to arms development makes it incomprehensible to many people. Some could argue that this information is presented in a highly technical fashion in order to maintain ignorance, in much the same way as "nuke-speak"[2] is used to disguise meaning. "Most [educators in Reardon's survey] felt that this lack of interest is due primarily to the failure of the media and political leadership to present disarmament issues in a manner comprehensible to most citizens" (p. 357)

Pedagogical Obstacles

Pedagogical obstacles to peace education flow from political and perceptual obstacles and fall into two areas: the affective and the cognitive domain.

Affective domain. Confronting issues of peace and disarmament is a highly emotionally charged endeavour. One encounters a labyrinth of psychological defense mechanisms. Education must be sensitive to these obstacles and deal with them in such a way that young minds open to explore the issues in constructive ways and not close off in despair.

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[2] "Nuke-speak" is the language of euphemism and clouded meaning foreshadowed by George Orwell in much of his writing. Nuke-speak tries to render the horrific aspects of nuclear technology sterile. For example, nuclear war becomes nuclear exchange; a new missle is called "The Peacemaker".

Fears need to be confronted in order to determine "whether ...
fear of loss of security as a consequence of disarmament really stems
from ignorance of alternative security systems, or if it stems from
... fear of change" (Reardon, 1979, p. 357).

Lack of trust of others and of oneself inhibits belief in the
conditions necessary for a world in which peace resides. Hatred of
others, especially

> hatred of an enemy who threatens our security, our
> life, and our identify; and who does so because of
> values and behaviours which appear less than
> 'civilized' because they are different from our own
> (Reardon, 1979, p. 358)

presents an obstacle to peace. Peace education "should try to
overcome such hatred by seeking to eradicate irrational prejudices, be
they cultural or ideological, from all educational materials and
practices" (p. 358).

Ideological prejudice is often a component of nationalism, based
on the mistaken notion that in order to feel particular esteem for
one's own country it is necessary to devalue others. This is the
competitive ethic which works against the realization of cooperation.
Peace education needs to help students adopt a global perspective
which minimizes differences between peoples and seeks instead the
common planetary heritage.

Reardon (1979) has summed it up succinctly, "the most essential
correction to the emotional obstacles of fear, hatred and prejudice is

a fundamental (affective) respect for human life and dignity" (p. 358)

Cognitive domain. Nationalistic and colonial world view bias social studies in a way that perpetuates the competitive relations between nation states. Traditional subject divisions reinforce the status quo and offer little opportunity to conceptualize a global world order which is the embodiment of peace.

Linear, chronological and other forms of "straight-line" thinking do not permit the kind of creativity necessary to solve problems of this kind. The use of utopian model-building as a means to find radical new ways of creating social progress is one way to move beyond the straight-jacket of traditional disciplines.

Complexity of technical material is another cognitive obstacle to peace education. This is beginning to be less a problem as more materials are developed for classroom use (e.g. Choices, 1983), although most of this material is appropriate only for late secondary students. The secretive and classified nature of some of the information about nuclear developments within particular countries also makes accurate up to date treatment of the subject difficult.

Particular Aspects of the Obstacles to Peace Education

Obstacles at the Elementary Level

Serious obstacles to peace education are present at this level,

developed in many cases even before the child reaches school age.
Reardon (1979) identifies a number of these.

Young children lack familiarity with cultures or lifestyles
beyond those of the immediate family. Many also are engaged in a
"socialization process which enforces a belief that the child's own
culture is preferable if not superior to most other cultures"
(p. 359). This gives rise to a competitive ethic which fosters "the
notion that every cultural group is competitive with other groups and
must struggle against them to achieve fulfillment and survival" (p.
359). The clear foundations for this belief are established in
families where competition is reinforced at an individual level, where
there is an emphasis on "winning" or being "the best". Society too
reinforces the notion that some people are better than others.
Reardon observes

> blame for ... competition is not to be laid only at the
> feet of parents. It must be directed also to societies
> in general, most of which place a higher value on some
> persons than on others, thereby encouraging competition
> and ultimately nurturing beliefs in force, aggression,
> and other competitive modes for self-assertion and
> identify. Such forms of behaviour provide a
> psychological base for the acceptance of the
> competitive nation-state system and of the
> psychological, social and political environment which
> makes the arms race possible. (p. 359)

Although parents and teachers of young children usually
discourage overt expressions of violence between children, that
message is undermined by the fact that "the larger social order

constantly reinforces the lesson that force and violence are effective and acceptable means for achieving goals, especially when imposed against those who are 'different'" (p. 360). Reardon provides examples of two societies or cultural groups in which this is not the case. One of these is the recently discovered stone-age peoples living in the Philippines, the Tasaday, who live "according to a cooperative ethic, ... [and] who have no word for 'war' in their language" (p. 360). The other example is Mexican-American children who have experienced difficulty in "the strongly competitive individualistic U. S. school system" (p. 360). These children come from a tradition which values the group more highly than the individual, and fosters cooperation within the ethnic group. These two examples suggest that individualistic, competitive attitudes are neither natural nor inevitable.

A study by Galtung, Beck and Jarstad prepared for UNESCO in 1973, entitled "Educational Growth and Educational Disparity" and quoted by Reardon (1979, p. 30) made the following observations. "The highest degree of competitive socialization exists in those societies which are the most active in the arms race, and that there is in these societies virtually an inverse ratio between individualism and self-confidence" (p. 360). That means the more actively individualistic a society is, the less confident it is that it can pursue its objectives without recourse to "force and extensive weapons systems" (p. 360).

The educational implications of these findings are primarily that within and beyond the classroom and home, powerful reinforcers of attitudes at odds with peace are operational. Many of these are so deeply ingrained that they are nearly automatic and operate almost unconsciously. Peace education needs first to expose these attitudes and to make them obvious to educators, before they can be replaced with peace-related attitudes.

Another major obstacle at the elementary level is the "development of national identity and loyalty" (p. 360). While loyalty is clearly a virtue, it becomes an impediment to peace if it is used as a tool of competition. Belief that one's country is superior to others, or that one's family or ethnic group is superior to any other clearly does not foster peaceful relations. Belief that one's country is worthy or good, rather than superior, does not deny the right of other countries to be the same.

An insidiously pervasive obstacle operational at this and every age level is the image conveyed by the media. Young children and other pre-literate persons are particularly susceptible to visual imagery, especially those combined with oral messages and presented through the media (Reardon, 1979, p. 360). There is controversy over the effects of violence in the media on behaviour, however, there are many who "believe that the media impact negatively on the ability of children to comprehend the real human consequences of violence, the facts of death and destruction, and the true nature of war" (p. 361).

While that may or may not be the case, it is certainly true that the media in general, and television in particular offers violent solutions to conflict in the vast majority of instances, and rarely, if ever, presents non-violent conflict resolution as an option. This fact, coupled with the knowledge that young people lack a well-developed concept of peace suggests a missed opportunity, if not a barrier to peace education.

Obstacles at the Secondary Level

Most of the obstacles at this level are not altogether new, having grown out of the more general aspects and being refinements of obstacles present at the elementary level.

The first of these is the formal political education which occurs during the years from approximately 13 to 18 years of age. Through courses in social studies, law, history, geography, and economics students learn the ideology that fuels their political system and the mechanics which make that system work. Thus the general nationalistic impressions of elementary school are replaced with specific detail. The bias which is naturally reflected in the telling of one's own history can provide an obstacle to peace education. Reardon (1979) writes,

> The extreme nationalism of the study of history has been researched and found to have given a distorted view of the behaviour of nations, particularly as regards nations which have been at war with one another. (p. 362)

In addition, the study of history is largely the study of the history of wars, which one writer (Nagler) has likened to "studying the hole, instead of the doughnut" (1982, p. 105). This represents an obstacle to the development of peace education in that history trains students to place great importance on war and at the same time to ignore or treat as insignificant avoided wars or peaceful solutions to conflict situations. Furthermore,

> such history reinforces the attitude that war is
> inevitable, to be expected as a continuous part of the
> human experience, and that there are few if any
> alternatives to war for playing out international
> competition in the pursuit of national goals.
> (Reardon, 1979, p. 362)

Peace education operates on the assumptions that war is not inevitable, but in fact, can be made obsolete.

Within some schools, particularly in the United States, recruitment into the military is carried out as part of the counseling and guidance program. It is estimated that there is one recruiter for every 330 high school seniors in the U. S. and in addition ROTC (Reserve Officers Training Corps) have established pre-military training in public high schools. While this is not currently the situation within Canada, the suggestion has been made at the federal government level in the past few months to adopt a conscription program as an antidote to youth unemployment.

Obstacles to peace education exist at every level of schooling.

Implementation theory offers insights to aid in removing those
obstacles.

Implementation of Educational Innovations

The period of intense educational reform during the late 1950's
and 1960's amounted, in the eyes of some, to a "revolution in
education" (Carlson, 1965, p. 3). Indeed, numerous innovative
projects occurred during these decades. Benham (1977) concluded,
nevertheless, that little, if any, change occurred in schools as a
result. One response to this has been to characterize the problem as
an "implementation" failure and therefore, to develop a whole new body
of knowledge about curriculum implementation. Unfortunately, much of
the literature on implementation of curriculum innovation discusses
strategies for implementation independent of curriculum theory. This
has serious implications for the reform process.

The division between curriculum theory and implementation theory
is based on the assumption that each process is self-contained,
although related. Implementation becomes something one "does" to
curriculum, after that curriculum is developed. Implementation
becomes a technological "fix".

The relationship between curriculum development and
implementation, however, is not linear but iterative. Both processes
are interdependent and need to occur simultaneously.

Fullan (1982) offers the following schemata of the process of

change:

```
 _____      _____      _____      _____
|             |  |                    |    |                   |    |                  |
| Initiation  |<-->| Implementation   |<-->| Continuation      |<-->|     Outcome      |
|             |  |                    |    |                   |    |                  |
|_____|  |_____|    |_____|    |_____|
```
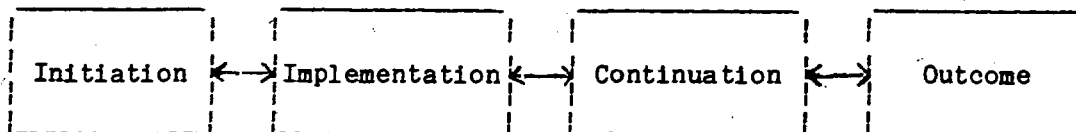
(p. 40)

For the purposes of this discussion, what is important in this model are the double-headed arrows which indicate a back and forth movement through the stages. Hence at the implementation stage one is still wrestling from time to time with the questions about the need for a change and the implications for practice that need suggests.

Teachers involved in implementation which is "after the fact" of curriculum development come to view implementation as pressure to give up the familiar programs they use comfortably for something else; something unfamiliar that threatens failure and much discomfort. It represents a challenge to the autonomy of teachers in their classrooms. By the same token, it represents an outside authority -- the Ministry of Education, an elite group of teachers, ivory-tower academics -- setting themselves up as knowing best what is needed in the classroom. Such a process is bound to meet with massive resistance, if not certain failure.

School reform is a slow and sometimes impossible task. Many thousands of dollars have been spent on the production of glossy and sophisticated curriculum materials.

Equal amounts have been spent on in-service training and slick technology designed to 'sell' the product. All too often these have occurred prior to teacher involvement with the curriculum. If that is the case, chances are, little thought has been given to what teachers want and how they feel, to how they perceive their needs. Yet, the success of any implementation process depends finally on what teachers are prepared to do. The fundamental change involved in implementing new teaching practices is changing the attitudes and beliefs of the teacher. Such a change cannot happen overnight. It does not arrive on the doorstep with the box of new books. Nor does it follow a weekend of workshops. Change is a slow process which must proceed over a period of time.

Shared Belief As An Essential Element in Implementation

A critical condition for success in any implementation project is the "shared belief" of the agents involved in the process (Schwab, 1973; Werner, 1980). Downey (1975) documents the failure of the implementation of the Alberta Social Studies Program for grades one to twelve. Over fifteen years was spent implementing this program, with very little success. The central reason which emerges was "that this program was based upon and implied beliefs, including procedural and substantive assumptions about teaching social studies, which were not understood nor accepted by practitioners (e.g. teachers and administrators) or the public (e.g. parents)" (Werner, 1980, p. 58).

Without that fundamental agreement little change could occur. Fullan (1982) has observed that "the hubris of the change agent becomes the nemesis of the implementers ... Hubris occurs ... when policy-makers assume that the solutions they have come to adapt are necessarily the right ones" (p. 85).

Fundamental to the change process is agreement between proponents of change and implementers of that change on certain principles basic to the innovation. Fullan (in Common, 1980) stated that "teachers must believe in, accept, and be committed to the changes implied by the use of the curriculum" (p. 5). This realization accounts for the movement away from top-down change models or Research Development, and Diffusion models as described by Havelock (1973) and toward more complex models of implementation—which allow for adaption of the program to the institutional environment in which the implementation is to occur (e.g., Fullan, 1979, 1982; Schmuck, Murray, Smith, & Runkel, 1975; Schmuck, Runkel, Arends, & Arends, 1977). As one B. C. Curriculum Director put it, "the persons being asked to change must be party to decision-making and to evaluation of what is as well as of should be" (Grieve, 1980, p. 52).

Werner (1980) questions the implementation process from "a sociology of belief perspective" (p. 54). He concludes that the role of belief in that process is often ignored or forgotten with detrimental effect. He postulates that the degree to which a discrepancy exists between the beliefs upon which a program is based

and the beliefs held by those required to implement the program is the

degree to which the program succeeds or fails.

> When these beliefs overlap to a larger degree,
> implementation becomes primarily a logistical and
> administrative task of information/material dissemina-
> tion ... However, when program participants do not
> share or understand the beliefs that underlie a
> program, implementation becomes an interpretive task of
> making beliefs explicit and modifying them to suit
> situations (p. 59).

Implications of the Importance of Shared Belief to the Process of

Implementation

If shared belief is an essential component of the implementation

process, there exists some important implications for the success of

implementation projects. Four of these are offered by Werner (1980).

1. Implementation is an ongoing construction of a shared
   reality among group members through their interaction
   with one another within the program.

2. The process of reaching shared belief implies certain
   tasks:

   a. ferreting out the beliefs on which the program is
      based and making them explicit

   b. having practitioners clarify their own beliefs
      underlying their educational practice

   c. having practitioners negotiate discrepancies
      between their own beliefs and those implied by the
      program

3. A major social mechanism of implementation is
   conversation through which members came to share a
   common set of beliefs.

4. The outcome of implementation will necessarily be variation in terms of situations. (pp. 62-64)

The achievement of shared belief implies mutual understanding and negotiation. These are most easily achieved where communication channels are well-established and effective. This communication needs to be on-going not a sequence of isolated occurrences. Finding the common ground of shared belief is a process which takes time.

Making Change Happen

Fullan (1982) in a definitive work on the meaning of educational change synthesizes the results and experiences of twelve years of intensive research. His framework provides the structure and much of the content of the following discussion.

Fullan has identified fifteen factors which fall into four main categories (Figure 2-3). These factors affect whether or not an agreed upon change "happens in practice" (p. 54). Fullan defines implementation as "the process of putting into practice an idea, program, or set of activities new to the people attempting or expected to change" (p. 54).

These fifteen factors interact over time to produce change. The more factors supporting a given innovation, the more likely it is to occur. If any one or more of these factors is working against the implementation, the less likely the change process will be effective.

- Figure 2-3

Fullan's Outline of Factors Affecting Implementation

A. Characteristics of the Change
  1. Need
  2. Clarity
  3. Complexity
  4. Quality and practicality of program (materials, etc.)

B. Characteristics at the School District Level

  5. The history of innovative attempts
  6. The adoption process
  7. Central administrative support and involvement
  8. Staff development' (in-service) and participation
  9. Time-line and information system (evaluation)
  10. Board and community characteristics

C. Characteristics at the School Level

  11. The principal
  12. Teacher-teacher relations
  13. Teacher characteristics and orientations

D. Characteristics External to the Local System

  14. Role of government
  15. External assistance
                                        (p. 56)

The following discussion examines the fifteen factors within four major categories identified by Fullan as key in the implementation process. Particular attention is paid to the role played by belief. Intersections between Werner and Fullan's analysis are highlighted.

A. Characteristics of the change

Within this category are four major aspects which are related to

successful implementation. They are: need, clarity, complexity and quality and practicality of materials (product quality).

1. Need

Success in implementation has been linked to the degree to which the change was perceived to address an unmet need (Emrick & Peterson, Louis & Sieber, in Fullan, 1982; Rosenblum & Louis, 1979). This finding seems to confirm Werner's (1980) hypothesis of the central role of shared belief in implementation success, agreement on need being a function of shared belief.

2. Clarity

Lack of clarity about goals and means has been a problem "in virtually every study about significant change" (Fullan, 1982, p. 57). Often means of achieving goals are deliberately left vague in order to allow for individual adoption, however, the result has been to create confusion and bewilderment about how to put the idea into practice (Downey, Robinson, & Simms in Fullan, 1982).

Another problem has been a sense of "false clarity" which occurs when a change is viewed in a superficial way, without understanding the underlying "beliefs and teaching strategies" (Fullan, p. 58). This point serves Werner's identified need for clarification of beliefs of program and practitioners.

3. Complexity

Complexity refers to the "difficulty and extent of change required of the individual responsible for implementation" (p. 58). Surprisingly, more change occurs when more is attempted (Berman & McLaughlin, 1978; Crandall in Fullan, 1982). Complex changes need to be broken down into specific components and targeted effectively (Rosenblum & Louis, 1979).

4. Quality and practicality of program

The quality and practicality of programs refers in this instance to whether or not the materials work in practice. Doyle and Ponder (1977-78) show that teachers accept or reject curriculum changes partly based on the practicality of the program. Furthermore, unless the change will adapt to the specific needs of teachers within a given setting it will likely be unusable (Connelly, Elleaz, Huberman, Roberts, in Fullan, 1982). Fullan (1982) concludes, "For implementation to gather any momentum, teachers and others must experience some sense of meaning and practicality relatively early in the process of attempting change; otherwise they will eventually abandon the effort" (p. 62). In essence the point being made is that meaning needs to be made explicit to such a degree that it is clear in practical terms what is expected and that those implementing the change need to be a part of that process. As Fullan says so succinctly "implementation is a problem of individuals developing

meaning in relation to specific policy on program directions" (p. 62).

B. Characteristics at the school district level

The social conditions of the change including the setting and context in which the change is conducted provide the focus for the remaining three categories. "Context" here refers to the general environment, including demographics, history and policy while "setting" more specifically refers to relations between people.

The local school district, as both a context and setting for educational change, represents a major factor for success or failure of an innovative program. Fullan has isolated six particular ways in which school districts can affect the implementation process. They are: the history of innovation attempts, the adoption process (if the change involves a district decision), central administrative support and involvement, staff development approaches, the time-line and information system, and board/community characteristics.

5. The district's history of innovative attempts

Fullan (1982) offers a proposition:

> the more the teachers or others have had negative
> experiences with previous implementation attempts in
> the district or elsewhere, the more cynical or
> apathetic they will be about the next change regardless
> of the merit of the new idea or program. (p. 63).

He observes that "districts, provinces or states, and countries can

develop an incapacity for change as well as a capacity for it" (p. 62). A major key in this capacity is the psychological history of change shared by its change agents. So once again the importance of the role of belief emerges. Beliefs regarding the viability of change may sabotage the whole endeavour, or in schools, may lead to the kind of coalition-building which makes change possible (Berman, McLaughlin Lambright in Fullan, 1982).

6. The adoption process

Research shows that widespread participation at the adoption stage does not necessarily secure implementation success and may in fact negatively influence it (Giaquinta in Fullan, 1982; Rosenblum & Louis, 1979). Fullan (1982) states: "If the planning process (regardless of whether it is participatory) results in a specific, high-quality, needed innovation, or in a broad-based flexible program whose general direction is compatible with the needs of the district, it will have been a sufficient start" (p. 65). The key here is the clear recognition of a need as a foundation on which to build change in practice. Teachers are required to make decisions about what does and does not work, and to agree that a change is needed, but it is not necessary for teachers to articulate the change if someone else can do so effectively.

7. District administrative support

The almost obvious finding here is that district-wide change requires the support of central administrators. Individual teachers and principals can bring about change within their own spheres, but cannot effect district-wide change. Furthermore, a large measure of classroom autonomy (number of decisions the teacher can make on his or her own) was found to be negatively related to district-wide implementation, while superintendent authority (number of decision areas influenced by superintendent) was found to be positively related to district-wide implementation of a new program (Rosenblum & Louis, 1979, p. 179). Fullan concludes, "the administrator affects the quality of implementation to the extent that he or she understands and helps to manage the set of factors and processes described" (p. 65).

8. Staff development and participation

Much has been written about staff development and in-service training. Much of this writing has been a response to the often bitter discovery that in-service education is not a universal panacea for the problems of implementation. Many just assumed that the way to get teachers to use new ideas or programs was to bring in an expert and do a pre-implementation workshop. This simply did not work (Berman & McLaughlin, 1978; Downey et al., 1975; Smith & Keith, in Fullan, 1982, p. 60).

One of the reasons this did not work was because it was done as a

singular, self-contained event. In order for staff development to be an effective implementation tool it must be ongoing, interactive and provide the cumulative learning necessary to develop new conceptions, skills and behaviour (Fullan, 1982, p. 66). This is understandable when one considers that implementation is a "process of resocialization" (p. 62). That can only occur over time. The most effective staff development programs include "concrete teacher-specific training activities, ongoing continuous assistance and support during the process of implementation, and regular meetings with peers and others" (p. 67). Fullan emphasizes the processes of "interaction" and "staff development" as crucial to any change program. He characterized the nature of these processes as "developing the subjective meaning of change" (p. 68) which Werner (1980) would describe as reaching "shared belief".

9. Time-line and information systems (evaluation)

Time is a factor which is often unrealistically planned in the implementation process. Allotted time needs to be sufficient, yet not so open-ended that progress becomes inapparent or casually interpreted. For change to happen at an individual level, a slow development is to be expected.

Fullan makes three observations on information or evaluation systems in the implementation process:

1. Information on student achievement by itself has little
   effect on the implementation process.

2. When information on achievement is linked to
   instructional improvement procedures they can
   facilitate change.

3. Information counts most at the school and class level.

10. Board and community characteristics

While it is not always necessary or desirable to involve school
boards, parents or community members in implementation programs, it
must be remembered that they have veto power (Gold & Miles, in Fullan,
1982; Smith & Keith, 1971). If an innovation is likely to cause
controversy it is best to involve parents in the implementation.
"Neither highly stable or highly turbulent school communities
constitute effective environments for implementation" (Fullan, 1982,
p. 70).

C. School-level factors

This section deals with the heart of any innovation. The
interaction of teachers with the principal and with each other
fundamentally affect the success of any implementation project. Three

factors at the school-level are discussed here: the role of the principal, teacher interaction and teacher orientation.

11. The role of the principal

It is clear that opposition to an innovation by a principal usually means that implementation will not take place (Emrick & Peterson, in Fullan, 1982). Research indicates those innovations which have the active support of the principal during the implementation phase are most likely to be successful (Berman & McLaughlin, 1977). Fullan explains this phenomenon as evidence that principals, not necessarily acting as leaders or experts, need to gain some understanding of the role of belief and teaching behavior in putting the change into practice. When principals understand the dimensions of change they are better able to provide support for teachers in the change process.

12. Teacher-teacher relationships

As Fullan has said many times in many ways throughout his work (1982) change requires social learning, and interaction is the primary basis for acquiring that learning. "New meanings, new behavior, new skills depend significantly on whether teachers are working as isolated individuals (Lortie, 1975; Sarason, 1971) or exchanging ideas, support and positive feelings about their work (Little, 1981; Rutter et al., 1979" (p. 72). Werner (1980) identified conversation

as "the major social mechanism through which people share, construct, and modify beliefs" (p. 65). It is this interactive process which enables individuals to articulate and to attain the collective goals which emerge from a shared belief, which makes implementation possible.

13. Teacher characteristics and orientations

There does not seem to be agreement in the literature on characteristics of teachers and effective change. The one teacher trait related strongly to implementation success is, 'teacher sense of efficacy', which is defined as "a belief on the part of the teacher that he or she could help even the most difficult or unmotivated students" (p. 72). It seems almost self-explanatory to say that the ability to make changes depends on a degree of confidence that the changes will be successful, which is the basis of efficacy. What is most interesting here, however, is the finding that it is not the characteristics of isolated, independent individuals which most affects implementation success, but rather, the quality and nature of their interactions.

D. The external environment

The external environment is provided by the broader context of Canadian society. In this instance Fullan is speaking primarily of provincial ministries of education and of agencies, governmental and

non-govermental, which make funds available for school programs.

14. Government agencies

Reforms initiated at this level depend for their success on "the congruence between the reforms and local needs, and on how the changes are introduced and followed through" (p. 74). By the latter Fullan means whether the emphasis is on "paperwork or people work". He talks about mediation between the subjective worlds of each side and of the quality of relationships across the gulf. Once again it is clear that agreement between key agents is necessary at the level of belief, particularly about the need for a certain innovation.

15. External assistance

Fullan observes, "outside assistance can influence implementation very greatly provided that it is integrated with the factors of the local level described above" (p. 75). If the school is truly the unit of change (Goodlad, 1975) then it is obvious that the many bureaucratic layers that separate the school from external agencies weaken the impact of those agencies unless there is congruence between agency policy and the needs and beliefs within the school.

This review of Fullan's comprehensive treatment of factors affecting implementation has highlighted certain key characteristics of the implementation process: the central role of belief, change as a process of resocialization, the interactive nature of the key

factors, and the collective aspect of change. These findings support the observations made by Werner (1980) cited earlier regarding the central role of shared belief.

Implications From the Literature on Implementation of Peace Education

The previous discussion has focused on three distinct areas. These include literature on nuclear anxiety, peace education and implementation of educational innovations. The following set of statements is the product of a synthesis of these three areas, which together provide implications for the implementation of peace education.[3]

1. The idea of peace education must grow out of the shared belief in the need for peace education materials and programs.

2. Because this is likely to be a controversial issue, the broader community needs to be involved.

3. For the same reason the securing of central administrative support is advisable.

4. The school as the main unit of change needs to have effective internal communication channels between teachers and between teachers and principal.

5. The school also needs to have effective external communication channels with parents, the school board, district

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[3] Peace education here is an "idea" rather than a set of activities or a program and is in line with Fullan's (1982) definition of implementation. (p. 54).

administrators and the community at large.

6. A skilled facilitator or group of facilitators will be needed to help those involved in implementing the change, overcome the barriers presented by "psychic numbing".

7. The needs assessment phase is a significant first step in the process of reaching shared belief and should receive a major emphasis.

8. The needs assessment phase will probably be lengthy as it most likely requires an attitude change from being unwilling to address youths' anxiety surrounding the nuclear issue to being willing to look at youths' anxiety.

9. Media publicity of the needs assessment will help create awareness of children's concerns.

10. Implementation of peace education will be facilitated in schools where the setting (relations between people) is conducive to the democratic model implicit in "education for peace".

11. The implementation must involve strategies that permit change over time to occur.

12. The response of individual schools to the needs assessment should be various, some implementing education for peace and others implementing education about peace, depending on situational factors and the belief of those participating in the change process.

Strategies for the Implementation of Peace Education

Based on the preceding information, a decision was made to embark

on the implementation of peace education with a needs assessment which had the following characteristics:

1. It assessed the level of awareness and concern of young people regarding a perceived nuclear threat through a questionnaire.

2. It first received endorsement from the central administrators of the district chosen.

3. It then received support from principals in randomly selected schools.

4. Involvement with as many schools as possible was desirable in order to have a broad base for later selection of pilot schools.

5. Parents were involved through the distribution of a letter to every parent of every child participating in the study asking for their consent.

6. Linking of this needs assessment with the one done by the American Psychiatric Association in 1980 facilitated the enhancement of general media information with personal identification.

7. Wide media coverage of this needs assessment was sought in order to facilitate erosion of "psychic-numbing".

8. The needs assessment took over a year from the time the first contact was made with district administrators

until the final phase of parent-school information nights based on the results of the questionnaire in order to allow for attitude change over time.

9. Recognition of key related agencies[4] was sought in order to create an undisputable image of credibility in the eyes of the key change agents (district personnel, principals, teachers, parents, community representatives).

10. Administration of the questionnaire and subsequent follow-up contact with schools was done by someone trained in dealing with psychological defense mechanisms.

11. A documentary film, "In the Nuclear Shadow, What can the children tell us", was used as a device to enhance the meaning of the study findings because of the acknowledged impact visual media has had regarding this issue.

These strategies describe the first phase of an implementation process, the needs assessment phase. It is that needs assessment which is the main focus of this study.

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[4] E. g., Presentations of questionnaire results were given to B. C. Association of Psychologists; U.B.C. School of Social Work; Social Studies P.S.A.; P.I.T.A.; etc.

CHAPTER III

METHOD AND PROCEDURE

This chapter includes a discussion of the instrumentation, the setting, the population and the sample used in the data collection. Following this is a discussion of the data collection procedures and of the problems encountered during data collection. Finally the procedure used in the analysis of the data is detailed.

Instrumentation

Replication studies have a particular value in that they provide an opportunity to test the validity of a piece of research, as well as the universality of its findings. In this case, replication of the Beardslee/Mack study not only provides information which allows for understanding of the Beardslee/Mack study, but also offers a basis for comparison between the American and Burnaby youth surveyed. A careful replication provides an opportunity to bring into sharp relief the effects of the particular variables selected for analysis and manipulation. In this case, the manipulative variables are those of time and place. For reasons outlined in Chapter I, it became desirable to collect information documenting local young people's perception of a nuclear threat. In addition, it was particularly desirable to make a comparison between the attitudes of local youth and those in the Beardslee/Mack study.

Beardslee/Mack Study

In 1978, the American Psychiatric Association commissioned a task force to investigate the psycho-social impact of nuclear advances on American youth. Members began with a review of the literature (Beardslee & Mack, 1982) which convinced them "that basically little is known about what young people feel about nuclear weapons and nuclear power, and [they] embarked on [their] study assuming that [their] youth were relatively isolated from the nuclear debate" (p. 73).

Group members together designed a questionnaire to be used as the major research instrument in the study (Appendix I). Refinements were made in wording later in 1978 (Appendix II) and in 1980 (Appendix III), while content areas remained the same. These changes were made in order to facilitate quantitative scoring. The questionnaire sampled attitudes toward nuclear power and nuclear weapons.

The questionnaire was administered to 1151 elementary and high school students over a three year period by members of the Task Force in the areas in which they lived -- Boston, Los Angeles, Baltimore, Philadephia. Students in both public and private schools participated. The responses were pooled and analysed together. The results were intended to be representative of American youth because of the size of the sample and the diversity of ages, educational background and geographic area within the sample. Task Force members

were quick to point out however that this is "not a systematic population survey in any standard epidemiological sense" (p. 74).

Three samples were examined. Sample One in 1978 included 434 young people in grades five to twelve, mostly in the younger grades. Seventy-five questionnaires in this sample were administered by Drs. Beardslee and Mack in a private high school in the Boston area and in a public high school north of Boston. Beardslee and Mack (1980) spoke of the number of unscorable answers due to "... the difficulties of assigning open-ended responses to discrete categories" (p. 86). Consequently, only the comments in this small group of Sample One were analyzed. Sample Two in 1979 included 389 high school students. Sample Three in 1980 included 328 high school students. Most of the students were from public schools in urban and suburban areas of Los Angeles, Boston and Baltimore.

Quantitative analysis was purely descriptive. Responses were assigned to one of several pre-determined categories, then percentages were calculated to determine ratios of those within each sample responding in that group. Each sample was considered separately at first, then combined to give percentages for the whole group. Only one sample, Sample Three, was analyzed for age and sex trends.

Replication of the Beardslee/Mack Study

Contact was established with Dr. William Beardslee of the Harvard Medical School. He expressed interest in co-operating in a Canadian

replication of the study. He sent copies of the revised questionnaires (Appendix II and III) and agreed to provide additional information as required.

Examination of the questionnaires revealed cumbersome language, sophisticated concepts and awkward formatting. It was immediately apparent that only secondary students would be able to understand the instrument. It was decided to replicate Sample Three because that sample used upper secondary grades and because the instrument used in it was most refined and to administer the questionnaire to grades 10, 11 and 12.

Senior Secondary Questionnaire (SSQ). (Appendix IV)

Changes were made to the questionnaire format to facilitate scoring and analysis. Language remained unchanged except where it was specifically American. For example, a reference to "an American city" was changed to "any city". Awkward phrases remain intact, for reasons of comparability of response.

This questionnaire was administered to 395 students in Burnaby schools.

Elementary/Junior Secondary Questionnaire (EJQ). (Appendix V).

Although it was not possible to administer the Beardslee/Mack questionnaire to elementary or junior secondary students for reasons cited earlier, it remained desirable to gather information about their

attitudes in the same areas. It was decided, therefore, to design a
new questionnaire (EJQ) for grades five, seven and nine which would
include some of the same questions from the SSQ. Common questions
could then be pooled for analysis as a whole group including grades 5,
7, 9, 10, 11 and 12.

Additional questions included modifications of some of the more
awkwardly phrased questions from the SSQ, as well as some totally new
questions implied in the Beardslee/Mack questionnaire, for example:

14. Do you feel frightened about the possibility of nuclear
    war?

15. Who can you talk to about nuclear war?

It was also decided to ask directly some questions particularly
relevant in the development of curriculum on peace education, for
example:

8. How much have you learned about nuclear issues in school?

9. How much do you think you should be learning about
   nuclear issues in school?

16. Where would you like to be able to talk and learn about
    nuclear war?

17. What would you like to be able to learn more about?

The EJQ was administered to 337 students in Burnaby Schools.

Setting

Two school districts were originally approached as possible sites for the study. After months of negotiation and meetings, one finally declined to participate because it was too late in the year. The other district's administrators agreed with the study, but were unwilling or unable to endorse it. It seemed unlikely, in that case, that principals and teachers would agree. A third district was approached.

Burnaby School District was chosen as the site to conduct the study for a number of reasons. Its proximity to the university made it geographically accessible as well as organizationally receptive to the conduct of research. It is a highly mixed demographic area, with large expensive single family dwellings in the Deer Lake and Capitol Hill areas; apartment hotels and apartments above store fronts along Kingsway and Hastings Streets; large suburban subdivision areas of middle-low income families in the centre of the district, and lower income townhouse and condominium developments throughout.

Burnaby School District Staff representatives showed great interest in the study at a presentation made to them in April. The Burnaby School Board endorsed the April Walk for Peace in Vancouver. This action created a climate of support for school administrators in their decision to participate in the study.

Population and Sample

Sample Design

Two groups were made necessary when it became apparent through a small pilot study that the language and concepts employed in the questionnaire used by Beardslee and Mack were too sophisticated or confusing for students below grade ten. Grade five was chosen as the lowest grade for two reasons: that was the lowest grade used in the Beardslee/Mack study, and teachers and parents of children younger than grade five were perceived to be more anxious about their children confronting these issues. As a result the sample in this study consisted of students in grades five, seven and nine and in grades ten, eleven and twelve in Burnaby schools.

Five classrooms at each grade level were identified as the ideal number of classes providing adequate sample size (Krejcie, 1970). Because of the limited number of secondary schools in the district, all were chosen as potential sites for the study. A random selection of elementary schools was made because of their larger number. One class at each of the appropriate grade levels (seven and five) was surveyed at each school. At each participating junior secondary school one grade nine, ten, eleven and twelve class was chosen. See Table 3-1 for a complete summary.

Table 3-1

Numbers of Schools, Classes and Students in Sample With
Estimated School Population by Grade

Grade	Estimated School District Population	Number of Schools in Sample	Number of Classes in Sample	Number of Students in Sample
5	1203	5	5	76
7	1319	5	5	129
9	1359	5	5	124
10	1535	5	5	131
11	1341	4	6	128
12	1523	4	7	136

Procedure for Securing District Participation

The initial approach was made to the Burnaby Superintendent of Schools. He responded with approval in principle, subject to scrutiny of the research instruments and design by the Burnaby District Research Review Committee. A number of telephone conversations between the researcher and the chairman of the Research Review Committee ensued. Discussion focused mainly on the wording of the consent letter to go home to parents of each child in the study. It was decided to revise the letter. Emphasis was to be placed on the study as an "information" exercise, designed to assess what young people knew of these issues.[1]

A proposed plan for Parent Information Nights was deleted because it offered a potential source of confrontation. Only the most essential pieces of information were included; all elaboration was deleted.

A brief letter was drafted (Appendix VI) which in addition to describing the study, required parents to return a signed form to the school indicating whether or not their child might participate.

A letter of approval for conducting the study in the District was sent to the researcher. It was made clear that such a letter would

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[1] Two different sources confirmed the necessity of "neutral" language. The staff at Burnsview Secondary School in Delta when planning a peace education week discovered the words "peace" and "disarmament" were inflammatory. Similarly, the Public Education for Peace Society was advised to use the name Public Education Resource Centre, rather than Peace Education Resource Centre. Hence, the name "Nuclear Information Study" was chosen for this questionnaire.

facilitate, but not guarantee, access to schools. Access to individual schools was ultimately the decision of principals and teachers.

Procedure-For Securing Secondary School Participation

Each principal was initially contacted by phone, then sent copies of the questionnaire and sample letter to parents. A follow-up interview or phone call secured participation.

The first principal contacted (senior secondary) said that this was not a contentious issue and that his greatest concern was with the complication of monitoring parental consent forms. He indicated that students would be insulted at having to obtain parental consent and seriously doubted that many students would take them home. He recommended that another version of the consent letter be drafted such that only those parents who did not wish their child to participate could send the form back to school (Appendix VII). Consent letter B was drafted and approved. No response from parents was taken to indicate consent for participation. All secondary school students subsequently used this consent form.

Directions were given to each principal to choose the requisite number of classes at each grade level according to the principle of least disruption. In grade twelve, for example, Community Recreation classes were often chosen because they were well-attended classes that were not preparing for a government exam. Most principals delegated

selection of classes to their Social Studies Department Heads, because
the content area of the questionnaire seemed to fall most within the
scope of social studies. Subsequent conversations with these
individuals revealed that the principle which most often guided
selection was scheduling co-ordination.

During the last few weeks in the school year when these data were
collected, a number of events were occurring which reduced attendance
in classes. These included: band field trips, student council
elections, graduation preparation, and school picnics. Selection was
made on the basis of which fully attended classes could be scheduled
subsequently so that information could be collected in the shortest
possible time frame.

An early decision to select students randomly within schools was
rejected because of the heavy demands already placed on schools in
this year of budget cutbacks, teacher walkouts, and ministry
examinations. The principle of least disruption seemed most likely to
secure co-operation under these circumstances and especially this late
in the school year (May and June). A principal of a junior/secondary
later confirmed that he would probably have declined participation had
he been requested to select students randomly.

Seven out of eight secondary schools participated in the SSQ.
These included: two senior secondary, two junior/senior secondary,
and three junior secondary. One junior/senior secondary declined to
participate.

Procedure for Securing Elementary Participation

Four of the secondary schools participating in the SSQ also supplied students for the EJQ at the grade nine level. Grade five and seven classes were supplied by five elementary schools selected at random. Initial contact was made with twelve elementary schools. Seven refusals were received.

Four schools refused right away; one because the school was primarily French Immersion, the others because of the number of outside interferences already experienced that year. In another school, a positive interview with a principal who seemed quite supportive, later resulted in a refusal on the part of teachers who felt too many outside demands had been placed on them that year. Two other principals refused after lengthy interviews with many probing questions and subsequent discussion with others about the matter.

One of these had experienced much student trauma and parent backlash after the Green Thumb Players production of "A Thousand Cranes", which is a play about a girl who dies of radiation sickness as a result of the bombing of Hiroshima in 1945. This was presented at the school in the week following the screening of "The Day After" on television. That show depicted a nuclear war and its aftermath. The principal reported a diversity of student reactions ranging from hysteria to belligerent, false bravado. He exclaimed, "Not one (of the students) was indifferent!" He decided that under these circumstances, he did not want to open the subject with his students

again at that time.

Another principal declined because he had doubts about the benefits of raising these issues with children in schools. He felt that the mention of these issues may create anxiety where none already existed. He also had some comments about some perceived deficits in the questionnaire regarding the beneficial aspects of nuclear technology.

Of the five schools that agreed to participate, two were not comfortable with the revised consent form.[2] In those two cases Consent Form A (Appendix VI) was used. That meant a signed form from each child was required in order to secure participation. In each of those cases, participation was less than 50% of the total possible (45/110; 23/57).

In classes with the other consent form, the rate of participation was over 90%, with the greatest number of parent refusals occurring at the grade five level. Refusals tended to increase as the age of the child decreased. A notably high refusal ratio occurred in one grade five class where a class of 33 students returned 20 negative responses using Consent Form B. The teacher was quite surprised and commented that parents usually respond positively to requests from the school.

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[2] A much later conversation with playwright Colin Thomas of Green Thumb Players revealed that one of these schools had been the school selected for the premiere of "A Thousand Cranes". That particular performance met with such a negative reaction that the play's bookings were postponed while the play was re-written. I wondered why the principal never left me alone for a moment!

The grade seven class in the same school has only one negative response. Later discussion with the Head Teacher revealed that this school had seen "A Thousand Cranes" on the morning after the television screening of "The Day After". In this school, however, there had been no parent backlash and no apparent student trauma. He added that most classes had continued with related peace education activities for the week. He could find no reason to explain the high refusal rate in the grade five class.

In the EJQ 337 students participated in all, with 76 in grade five, 129 in grade seven and 124 in grade nine. Eight students were in grades six, eight or ten.

Data Collection Procedures

Once participation in the study had been agreed to by teachers, the researcher delivered consent forms to them. Arrangements were then made to administer the questionnaire in not less than five school days, allowing time for parents to respond to consent forms.

The researcher administered all questionnaires to students in regular class time. A minimum of 20 minutes was allotted, with students taking up to 40 minutes for completion. The study was introduced as part of a larger study that was asking young people all over the world for their thoughts and feelings about nuclear developments. It was suggested in the researcher's opening remarks that some may not have thought about these issues at all, while others

might have some ideas they wanted to share. Participants were encouraged to use this as an opportunity to express what, if anything, was on their mind. The information page was read aloud before students began.

All except two groups responded in their regular classrooms. In the two cases where Consent Form B was used and the groups were therefore much smaller, students were removed from their classrooms to an unused room in the school.

As students completed the questionnaires, they handed them to the researcher and continued with other work quietly at their desks, or returned to their classrooms. Follow-up discussions, when they occurred, focussed on the purposes of the study, rather than on the content of the questionnaire. Students were thanked for their participation and assurance was given that results would be made available to schools when ready.

Problems of Data Collection

A number of unforeseeable events conspired to almost sabotage the data collection process.

The process for gaining entry to schools was very slow and tedious. The study was originally targeted for administration in two other districts. After several months of negotiation and of revision to the instrument, one district finally refused, because the schools had experienced too many demands on their time that year. In the

other district, the superintendent was in sympathy, but alleged that district policy made it impossible to give endorsement from the Board office.

Burnaby was not approached until May. Although approval was quite rapid, the pre-administration process was very time-consuming. Most schools required three visits and at least two phone calls before data could be collected.

Most administrators could not be reached directly by phone, except during brief prescribed times. Most expected to be able to return calls. These conditions created problems for the researcher who had to travel to schools by bus and who made calls to administrators from phone booths while waiting to transfer to the next bus. These difficulties seemed minor, however, when days after this process began, the busses stopped running due to a labour dispute. Arrangements had to be made for a rental car.

With all these delays, data collection did not actually take place until the last week of May and the first two weeks in June. By this time in the school year, a great many interruptions were taking place. If one were lucky enough to find students in classes, one had to hope they could be persuaded to divert their attention from end of the year frivolity to more serious concerns. Fortunately, this was not a problem in this instance. Teachers commented again and again about how involved the students seemed to be. Within seconds of beginning the questionnaires, any snickering that had occurred ceased

and students were writing in an intense silence. A large number continued writing past the allotted minimum time to fill the margins and backs of pages with comments.

Data Analysis

After an initial clarification of ambiguous responses, they were keypunched. These responses were then entered into a computer file.

Analysis of this data involved descriptive analysis of each item by whole group, by age, sex and grade using the SPSS computer program. Cross tabulations were conducted between selected variables. Responses to selected open-ended items were scored by hand.

EJQ. A number of respondents (25%) chose to write in a response to the question "What would make the world a safer place?". They rejected the choices "more nuclear weapons" or "less nuclear weapons". An analysis was made by hand of the written-in response.

Hand analysis was also made of those respondents who provided an explanation of how the threat of nuclear war was currently affecting their lives.

Item 19. A careful reading of findings from other similar studies revealed some common attitudes; feelings of powerlessness, no hope for a future, denial, anger, etc. A group of 12 main categories drawn from these sources and suggested by this data were used to

organize the responses to item 19, "We would be interested to hear any comments or ideas you might have about this questionnaire or about nuclear issues". This analysis was done on both the EJQ and SSQ samples.

CHAPTER IV

RESULTS AND ANALYSIS

This study set out to address two main problems: nuclear anxiety in youth, and peace education needs. Two sets of questions were formulated, each to deal with one of these problems. These two sets of questions guide this investigation and provide a framework for discussion and analysis of the findings.

The first set of questions focuses on awareness of and attitudes toward nuclear developments. Each question is addressed separately in light of the pertinent information the study yields. The questionnaire items which provide answers for the first set of major questions are indicated in Table 4-1.

"Do Burnaby Young People Perceive Nuclear Developments As A

Blessing Or As A Threat?"

PJQ Findings

Three questionnaire items yield information relevant to this question: five, ten and eleven. The responses to these items are summarized in Table 4-2.

These responses indicate a mainly negative or threatening association with the word "nuclear" by these young people. While nuclear weapons could have a positive value if they were seen to offer

Table 4-1

Questionnaire Sources of Information Used to Answer Major Questions

Major Questions	EJQ	SSQ
1. Do Burnaby young people perceive Nuclear Development as a blessing or as a threat?	4, 10, 11	4, 8, 10, 18
2. What impact, if any, is this having on their lives?	12, 13, 14, 18	14, 15, 11, 12, 13, 16, 17, 18
3. At what age do Burnaby youth become aware of nuclear development?	5	5
4. What is the origin of their awareness?	6, 8	6
5. What are they doing currently to learn about nuclear issues?	7	7
6. How do responses of Burnaby senior secondary students compare to American students in the same grades in the Beardslee/Mack study?	not applicable	4, 5, 6, 7, 8, 10, 11, 14, 15, 16, 17, 18
7. Is there any age at which concern is significantly greater?	4, 9, 10, 11, 12, 13, 14, 15, 18	7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
8. What attitudinal differences exist between older and younger students?	19	19

Table 4-2

EJQ:Item Results Related to the Question:"Do Burnaby young people perceive nuclear development as a blessing or a threat?"

5. Association with the word "nuclear".

Power	Technology	War	Weapons	Nothing	Other	Missing
9%	4%	61%	19%	1%	5%	2%

10. Do you feel nuclear weapons protect us from war?

Yes	No	Don't Know	Missing
13%	75%	10%	2%

11. What would make the world a safer place?

More Nuclear Weapons	Less Nuclear Weapons	Don't Know	Other	Missing
3%	63%	7%	25%	2%

protection from war, item ten makes it clear most of this group do not feel that is the case. Hand-coding of the "other" category revealed that out of that group of 85 students, 67 wrote in explanation, "no nuclear weapons". When that group is added to the group that chose "less nuclear weapons" one finds 83% who do not believe that more nuclear weapons would make the world a safer place.

It is clear from these results that students in the grade five to nine sample see nuclear developments as a threat, not a blessing.

SSC Findings

Four questionnaire items yield information relevant to this question: four, eight, ten, eighteen. The results are summarized in Table 4-3.

Question four. In item 4 the SSQ question 4 respondents were asked to rank their responses to the question, "What does the word 'nuclear' bring to mind?" the responses to this item are summarized in Table 4-3. Some particular problems emerged in analyzing this data which illustrate the general statement made in Chapter One regarding the cumbersome language and sophisticated concepts in the Beardslee/Mack questionnaire. Two problems emerged in scoring this item.

Table 4-3

SSQ:Item Results Related to the Question "Do Burnaby youth
perceive nuclear development as a blessing or a threat?"

4. Association with the word "nuclear".

	Power	Weapons	Technical, Scientific Medical Uses	Other
First Choice n = 329	22%	69%	3%	6%
Second Choice n = 300	66%	25%	8%	1%
Third Choice n = 269	14%	4%	76%	5%
Fourth Choice n = 98	0	6%	30%	64%

8. How do you feel about the benefits and dangers of nuclear power plants?

	Dangers, No Benefit	Some Benefits Some Dangers	Benefits No Dangers	Missing
n = 395	39%	57%	2%	3%

10. How necessary do you feel nuclear weapons are for our national security?

	Necessary	Not Necessary	Not Certain	Missing
n = 395	28%	46%	25%	2%

18. Do you believe that radiation from nuclear wastes and power plants will shorten your life?

	Yes	No	Missing
n = 395	77%	17%	6%

For some unexplainable reason, a large number of students (about 20%) ranked more than one response as the first thing that came to mind, and about 5% also had two second choices. This could be reflective of ambivalence on the part of students who were unable to decide between two different, but equally attractive choices. Hand-coding, however, suggests otherwise. There seems to have been confusion regarding meaning of terms. Those responses which did not follow directions to rank in order of preference were not considered in the scoring of this item. Scoring was done on the basis of total valid responses.

Confusion over the meaning of terms was evident in responses like the following: "power: U. S. and Russia both gathering nuclear arms in case of a war; weapons: missiles, shells, bombs." (S515) (Quotations from the questionnaires are followed in brackets with an S or E indicating whether the quote is from the SSQ or the EJQ, and that letter is followed by an identity number which was assigned to each questionnaire.) In cases like these students marked a "1" by both power and weapons.

Some students thought of power as nuclear superiority while others thought of it as a big explosion. "Power: the power of destroying us all in the fraction of a second" (S366). Similarly, a large number of students who chose "other" explained it as, "Death, end of the world" (S503). One wonders how many students who did not offer explanations of their choices assumed similar meanings.

In spite of this confusion, it is clear that the majority of students first think of weapons when they hear the word "nuclear". That majority is undoubtedly higher than indicated, due to the confusion with terms.

Subjective responses to item four. In order to try to sort out the assumed and intended meanings of response of students to the open-ended sections of item 4, it was decided to hand code this item. Responses in any part of question four were considered together as one group for each respondent. These comments were sorted into one of four possible categories: positive, negative, ambivalent, and missing/uninterpretable. Comments that suggested both good and bad effects or aspects of nuclear developments were coded as ambivalent. Those that mentioned only negative associations like "war, death, destruction" were coded as negative. In about five cases out of a total group of 215 valid responses in the positive, negative or ambivalent categories, respondents elaborated at great length about the negative effects and also said something like, "Maybe there's good uses too, I guess" (S522), almost as an afterthought. These responses were coded as "negative", because of their overwhelming negative tone. Positive responses were those that mentioned only the good effects of nuclear developments. Results are shown in Table 4-4.

A few responses were uninterpretable, responding with something like, "Power: because of the media" (S518). This gave no clear

indication of positive or negative value, so was coded as "missing/uninterpretable".

Table 4-4

Attitudes Regarding Nuclear Developments from Comments
to SSQ Question 4 (n = 215)

Positive	Negative	Ambivalent
2%	62%	36%

When these figures are combined with the ranked responses, it is clear that in the SSQ most stated associations with the word "nuclear" are negative.

Item eight, ten, and eighteen. Respondents voiced some concern over nuclear power plants. Few see only the benefits. The majority are ambivalent, while a large portion see only dangers. Most respondents did not view nuclear weapons as an aid to national security. Seventy-seven percent believe that radiation will shorten their lives.[1]

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[1] In retrospect and noting high levels of students who responded yes to item eighteen, it appears there may have been some ambiguity in the item as stated. Some may have assumed that radiation would shorten their lives, "if exposed". Other researchers using the questionnaire would be advised to re-phrase this question.

Summary

A large majority of respondents in item 4 associated the "nuclear" with weapons or power and wrote about largely negative associations with nuclear developments. While power could be a positive value, it seems hardly likely when so many are either ambivalent or negative about the value of nuclear power plants and especially when 77% believe their lives will be shortened by radiation. Weapons could also have a positive value if they increased national security, however, most believe they do not. It is clearly the case that SSQ respondents do not see nuclear developments as a blessing and are only too aware of the threats they pose.

"What Impact, If Any, Is This Having On Their Lives?"

EJQ Findings

Two kinds of responses were analyzed for pertinent information. These were certain closed-response items (12, 13, 14, 18) as well as subjective comments from item 14. The results are summarized in Table 4-5.

Most believe neither they, their city, nor their country would survive a nuclear war. Eighteen percent believe nuclear war is either very likely or certain, while 68% believe it is at least possible. Sixty-eight percent say nuclear war is likely to occur within their lifetime. Thirty-four percent are frightened often or all the time.

Table 4-5

EJQ:Item Results Related to the Question:
"What impact is this [threat] having on their lives?"

12. If a nuclear war happens?

	Yes	No	Don't Know	Other	Missing
(a) Would Canada be safe?	2%	79%	15%	4%	1%
(b) Would Vancouver be safe?	4%	77%	16%	2%	1%
(c) Would you be safe	4%	72%	17%	5%	2%

13.(a) Do you think there will be a nuclear war?

Impossible	Very Unlikely	Possible	Very Likely	For Sure	Missing
3%	9%	68%	13%	5%	2%

13.(b) When do you think a nuclear war will occur?

Within a Few Years 1-3	More Than 3 yrs. But Within My Lifetime	Not in My Lifetime	Missing
6%	62%	18%	15%

14. Do you feel frightened about the possibility of nuclear war?

Never	Sometimes	Often	All the Time	Missing
11%	53%	18%	14%	3%

18. Is the threat of nuclear war affecting your life in any way at the present time?

Yes	No
24%	75%

In item 18, 23% described how the threat of nuclear war was currently affecting them. Out of the 77 students who responded, 47 expressed fear, while 20 spoke of feeling threatened.

It is difficult to reconcile the large numbers in question 14 who admit fear at least sometimes, if not often, with the large numbers who say the threat of nuclear war is not affecting their lives in any way. On the other hand, many may have assumed that question 18 meant what effect, other than fear, is the threat of nuclear war having on your life. Fear had already been discussed in item 14. Otherwise, the results of this item seem discrepant when compared to the others.

On the whole, it is clear that one impact the threat of nuclear war is having on these lives is a sense of fear that most experience some of the time and some experience often. Over two-thirds suspect their lives will end in nuclear war. That suggests a provisional sense of future and a very tenuous foundation on which to build a life.

SSQ Findings

Eight items yield information relevant to this question: 14, 15, 11, 12, 13, 16, 17, 18. These are summarized in Table 4-6.

Item fourteen. Those who said that nuclear developments had affected their thoughts about marriage and having children offer a range of explanations;

Table 4-6

SSQ:Item Results Related to the Question
"What impact is this [threat] having on their lives"?

11. What do you think about civil defence?

Worthwhile	Worthless	Not Certain	Missing
36%	47%	16%	2%

12. How likely do you think it is that any city would be held hostage by a terrorist group with a powerful thermonuclear weapon?

Impossible	Very Unlikely	Possible	Very Likely	Absolutely Certain	Missing
4%	25%	53%	12%	5%	2%

13. If you think it will happen, do you think it will happen soon?

Within a Few Years 1-3	More than 3 Yrs.	Missing
18%	65%	17%

14. Have thermonuclear developments affected your:

	Yes	No	Missing
(a) Thoughts about marriage and having children	29%	68%	3%
(b) Thoughts about where you will live and work	14%	82%	5%
(c) Day-to-day thinking/ feeling	47%	49%	4%

Table 4-6 (Continued)

16.(a) Do you think there will be a nuclear war?

Impossible	Very Unlikely	Possible	Very Likely	Absolutely Certain	Missing
4%	14%	50%	24%	7%	1%

16.(b) When do you think it might happen?

Within a Few Years 1-3	Distant future. More than 3 Years	Missing
12%	70%	18%

17. If a limited nuclear war is begun, how likely is it that it will be kept limited and not grow into a nuclear war which would destroy North America?

Impossible	Very Unlikely	Possible	Very Likely	Absolutely Certain	Missing
30%	31%	17%	13%	6%	4%

18. Do you believe that radiation from nuclear wastes and power plants will shorten life?

Yes	No	Missing
77%	17%	6%

"I wouldn't want to bring a child into a world that is
going to be destroyed." (S529)

"Yes, I want to get married right away, paradoxically,
I want to have more children." (S516)

"Why have children in a world where their survival is
not guaranteed." (S532)

"You don't know if your (sic) ever going to have the
chance." (S533)

Those who said nuclear developments had not affected their plans

for marriage or for having children might be expected to have done so

because they have no concern about nuclear developments. Explanatory

comments do not support that expectation.

"But I think it will affect my children." (S520)

"I'll have a wife and children no matter what." (S366)

These responses suggest an underlying concern, although one makes

plans in spite of it. Most talked about getting on with life in spite

of nuclear threats:

"Our life shouldn't be spent worrying about the bomb."
(S527)

"You have to live your life. Sure it may happen in
your lifetime or your children's but there is a chance
it may not." (S367)

Although most respondents said that their thoughts about marriage

and children were not affected by a perceived nuclear threat, it is

clear from their comments that this does not imply lack of underlying concern about the future.

The second part of this item asked, "Have thermonuclear developments affected where you will live and work?" Eighty-six percent said "no" and only 14% said "yes". In explanation those who said yes wrote of the dangers of being in close proximity to nuclear plants or weapon sites:

> "To a limited extent; while I don't plan to live in a cave, I refuse to live in a high-likelihood area of strategic importance. Washington, for example." (S516)

> "Would not live next to nuclear plant or missile site." (S532)

> "Dangerous." (S539)

A range of explanations accompanied the "no" response:

> "We have no nuclear anything here." (S533)

> "not yet" (S549)

> "Other factors are more pressing." (S547)

> "they would be inescapable." (S537)

Once again, the fact that nuclear developments are not a factor in choosing where to live and work does not mean that nuclear developments are not an underlying concern. Some believe there is no safe place, while others are deferring that decision. Others feel uninvolved in such decisions because they believe British Columbia

does not have nuclear power plants or missile sites. Still others suggest that although a concern exists, other factors are more important.

Item fifteen. Those who said that nuclear developments affected their day-to-day thinking described a range of responses:

fear

"I guess there is a constant fear that it could happen any time." (S367)

"I always wonder if a bomb would drop in Vancouver." (S366)

"I think about it a lot. I get very scared." (S373)

desire to live for the moment

"I'm not worry as much about future plans, just living for today." (S542)

"I have a greater drive to experience things (travel, meet people)" (S520)

"I want everything to happen quicker." (S371)

worry about the future

"Will there be a tomorrow?" (S372)

"I'm worried if there is going to be a future." (S535)

depression

"It makes me feel depressed. It is also the first thing that comes to mind when I am upset." (S376)

cynicism

"Yes, extreme and possibly overbearing cynicism."
(S516)

miscellaneous

"it's given me a different look on life and new
governments have a lot of control over us." (S527)

"It kills it [thoughts, feelings] by destruction."
(S546)

"It makes you think about death and the pain of
suffering." (S549)

These comments are included in order to suggest the range and
nature of responses in this category. Because a number of students
made no comment, and because those who did expressed a wide array of
attitudes, often within the same response, these data were not
quantifiable.

Those who said nuclear developments were not affecting their day
to day thinking offered the following range of responses:

unconcerned

"Never give it much thought." (S381)

"I am on (sic) optimist". (S547)

live for today

"I just live one day at a time and don't let things
like that bother me, because if I did I would be a
depressed person." (S377)

"Not at all. I live day to day and make the best of
everything." (S388)

avoidance

"I have my life to live at my age I can't deal with
what may happen to me. Of course I am concerned with
the future of my world and in a few years I may be able
to help." (S370)

powerlessness

"I don't think anything will happen soon, there is
always a threat for it to happen but I'm not going to
worry because there isn't much I can do if it does
happen." (S369)

"I do not feel that I should worry myself over
something that I have very little control over."
(S386)

These comments provide illustration of the type of attitudes
present within the "no" responses. Some seem genuinely unconcerned,
while others seem to have suppressed or ignored their concerns in
order to get on with life.

Responses to items 14 and 15 suggest that the majority have not
altered plans for the future because of nuclear developments, but that
many experience an underlying concern on a day-to-day basis. The
nature of that concern emerges from analysis of the following
questions.

Item eleven. This item asks "What do you think about civil
defence?" Forty-seven percent said it is worthless, while 36 percent
said it is worthwhile and 16 percent were not certain. Those who
chose "worthwhile" offered the predictable explanation that embodied
the hope that civil defence would offer protection in the event of a

nuclear blast. Those who said civil defence was "worthless" also offered the predictable explanation that there can be no protection against nuclear annihilation. Some, however, said it more eloquently than others:

> "[Civil defence is] ... a total waste of time. I would
> go in the openest area possible and hope to be killed
> instantly. I don't want to be around to have my hair
> fall out, my skin peel off and to suffer. You cannot
> rebuild once a nuclear bomb is dropped we might as well
> kiss the world good-bye." (S549)

Most of those who answered this question expressed feelings similar to those above. They believed if a nuclear bomb were to drop, they would not be safe.

Items Twelve and Thirteen

The following comments illustrate the range of responses to the likelihood of a terrorist group obtaining a nuclear device.

absolutely certain

> "Absolutely. The technology is off-the-shelf and
> relatively portable. I'm surprised that the PLO or
> Baader-Meinoffs haven't done it yet, they've got the
> money." (S516)

very likely

> "There are so many nuclear type weapons in the world
> that it will only take one maniac with one bomb to
> destroy it." (S377)

possible

"There are more and more people becoming sick, who knows what will happen." (S373)

"Crazy people are everywhere therefore making it a possibility, although I think unlikely." (S372)

"It's getting very tense." (S527),

very unlikely

"I would hope and think no one would go that far." (S384)

impossible

"You've been watching too many ficticous (sic) TV movies, and reading too many ficticous books." (S374)

Most believed this scenario possible, although in the more distant future.

Item sixteen. Most believe nuclear war possible or likely, but place it in the distant future. The following comments illustrate the range of responses.

very likely

"There will be unless we can come up with a solution to our world problems." (S702)

"Because of the Russians trying to out do the Americans and so on."

"Somebody is going to push the button and that will be the end." (S703)

<u>possible</u>

"If U. S. and Russia keep up their communication (sarcastic)." (S699)

<u>absolutely certain</u>

"All the countries are too greedy." (S694)

<u>very unlikely</u>

"Not if the 'super-powers' have any sense at all - there is no choice." (S653)

<u>impossible</u>

"The world will be destroyed." (S675)

<u>Summary</u>

Although most do not say nuclear developments have affected future plans, almost half report nuclear developments have affected their day to day lives. Those who say there is no effect on future plans or day to day lives often have an undercurrent present in their comments which suggest concern about nuclear developments.

These findings indicate a less than secure image of the future. As in the EJQ, the future is tenuous. This concern about the threat of nuclear war seems to provide an undercurrent to much of their thinking and feelings. Analysis of specific attitudes will be discussed in the analysis of item 19.

"At What Age Do Burnaby Youth Become Aware Of Nuclear Developments?"

EJQ/SSQ Findings

Reported mean age of awareness of nuclear power in the EJQ is 10.5 years and in the SSQ is 12.9 years. Reported mean age of awareness of nuclear weapons in the EJQ is 10.7 years and in the SSQ is 12.4 years. Table 4-7 summarizes the overall findings for both the EJQ and the SSQ.

These results indicate that most young people become aware of nuclear developments in late elementary school. They also suggest that awareness has been occurring at an earlier age in recent years, with almost two-thirds of the EJQ reporting awareness by age 11.

"What Is The Origin Of Their Awareness?"

EJQ/SSQ Findings

The findings are summarized in Table 4-8. These results indicate that little awareness has derived from schools and that most has come from the media, particularly from television in the younger age group.

Table 4-7

EJQ/SSQ:Item Response to question:
"At what age do youth become aware of nuclear developments?"

Awareness of Nuclear Power by Cumulative percent	Age													
	5	6	7	8	9	10	11	12	13	14	15	16	17	18
EJQ	1	3	6	13	28	49	67	87	94	98	100			
SSQ			1	3	5	12	19	40	59	74	91	98	99	100

Awareness of Nuclear Weapons by Cumulative percent	Age													
	5	6	7	8	9	10	11	12	13	14	15	16	17	18
EJQ	1	3	7	12	23	43	63	83	93	98	100			
SSQ	1	1	3	6	9	21	28	48	68	82	93	98	100	

Table 4-8

EJQ/SSQ: Item results related to the question,
"What is the origin of their awareness?"

EJQ6. How did you first find out about nuclear ...

	Teacher	Parent	Friend	Newspaper	T.V.	Movie	Other	Missing
(a) power	10%	18%	3%	4%	44%	7%	10%	4%
(b) weapons	9%	18%	3%	7%	45%	8%	7%	4%

EJQ8. How much have you learned about nuclear issues in school?

Nothing	Very Little	Quite a Bit	A Lot
18%	57%	22%	3%

SSQ6. How did this awareness come about?

	School Classes	Media	Active Participation
first choice n = 353	24%	67%	9%
second choice n = 334	57%	29%	13%
third choice n = 272	20%	6%	75%

"What Are They Doing Currently To Learn About Nuclear Issues?"

The results of the EJQ and the SSQ are summarized in Table 4-9.
These samples report quite different levels of activity. One possible
reason is that the SSQ did not offer films or T.V. as an option. A
small number in both groups are reading books or are involved in
school projects. Very few gain information through political action
or affiliation.

"How Do The Responses Of Burnaby Senior Secondary Students Compare To American Students In The Same Grades In The Beardslee/Mack Study?"

SSQ and Beardslee/Mack Study

Although percentage responses to all items on the Beardslee/Mack
questionnaire in Sample Three were provided for comparison, Dr.
Beardslee requested that the figures not be reported or quoted. This
is because the available data is incomplete, that is, only percentages
are available for males and females without any indication of the
number of each.

Comparisons with the Beardslee/Mack data must be made by using
the general summary of findings (Beardslee/Mack, 1982) published in
the APA Task Force Report. This summary uses very general language
and does not permit precise comparison. All quotes are from this
source.

Table 4-9

EJQ/SSQ:Items Related to the Question:
"What are they doing currently to learn about nuclear issues?"

EJQ7.(a) **Are you doing anything now to learn about nuclear issues?**

	Yes	No	Missing
	69%	31%	1%

EJQ7.(b) **What?**

Reading Books	12%
School Research	5%
Watching Films or T.V.	28%
Belonging to Groups	1%
Attending a Peace March	2%
Attending Demonstrations	2%
Other	6%

SSQ7.(a) **Are you currently involved in activity related to nuclear technology and development?**

	Yes	No	Missing
	7%	91%	3%

SSQ7.(b) **What?**

	Gathering Information	Belonging to Groups	Political action
first choice n = 39	49%	13%	38%
second choice n = 21	38%	24%	38%
third choice n = 17	6%	53%	41%

Item four.   "Few children thought about the technical or
scientific uses of nuclear technology when asked what the word
'nuclear' brings to mind. Most thought either of nuclear weapons or
nuclear energy or a combination" (p. 87).   This finding is quite
consistent with the SSQ, including the detail about combining nuclear
weapons and power.   (SSQ first choices - 69% weapons, 22% power, 3%
technical, scientific).

Item five.   "... the majority in Sample Three became aware of
nuclear developments before age 12" (p. 87).   This is similar to the
findings in the SSQ which suggest that respondents became aware of
nuclear power by 12.9 years and nuclear weapons by 12.4 years.

Items six and seven.   "The majority of all respondents reported
that the media was the main way they became aware; followed closely by
classroom information.   Few had participated directly in any activity
related to nuclear weapons or nuclear power" (p. 87).   In the SSQ most
(60%) cited the media as the first source of information, with school
classes following next (49%).   One hundred and twenty students out of
a possible total of 395 reported being actively involved in learning
about nuclear developments.   This included conversation as well as
political activity.   The next item (7) indicated only seven percent
were currently involved in activity related to nuclear technology and
development.   In these general terms, the Beardslee/Mack and SSQ

appear quite similar.

Item eight. "The majority of the young people questioned did not

feel there were unequivocal benefits [to nuclear power plants] or that

safety margins were sufficient. Rather, most said benefits and

dangers, or simply dangers" (p. 87). In the SSQ, 57% said benefits

and dangers, while 40% said only dangers. These findings are quite

similar to the Beardslee/Mack sample.

Item ten.

> In terms of the importance of nuclear weapons for
> national security, the responses were fairly evenly
> divided between those who felt that nuclear weapons
> were necessary for national security and those who felt
> that they were unnecessary, or who, while recognizing
> the need for such weapons, felt conflicted about their
> presence." (p. 87)

This response is the first that indicates a real difference between

the two groups. In the SSQ, respondents were not "fairly evenly

divided" on the necessity of weapons for national security. Most

(46%) feel they are not necessary, while 28% felt they are necessary

and 25% not certain.

Item eleven. "The majority of all groups in Sample Three thought

it [civil defence] worthwhile" (p. 87). This reveals another

difference. Forty-seven percent of the SSQ felt civil defence plans

were worthless. Only 36% thought such plans worthwhile.

Item sixteen.

> In ... Sample Three, the question asked, 'Will there be
> a nuclear war?' and the majority thought that it was at
> least possible with substantially more indicating it
> is likely. Those who felt it would occur, felt that it
> was most likely to occur in the far distance future.
> (pp. 86-87)

In the SSQ, 50% thought nuclear war possible, 24% very likely, and 7%

thought it certain. This finding is similar to that of Beardslee and

Mack. Seventy percent felt it would occur in the distant future in

the SSQ. This appears similar to the Beardslee/Mack study as well.

Item seventeen.
"Could a nuclear war be kept limited?" Over 50%

of the girls and 40% of the boys said it was unlikely that a nuclear

war could be kept limited" (p. 88). In the SSQ, 67% of the boys did

not believe it could be kept limited. While the size of the

majorities differ between Beardslee/Mack and SSQ the trend of more

girls than boys who feel nuclear war could not be kept limited is

similar.

Items fourteen and fifteen.

> "In Sample Three, the majority of all students sampled
> in all age groups felt that thermonuclear developments

had affected their thoughts about marriage and
children. And again the majority felt that thermo-
nuclear developments had affected their daily thinking
and feeling." (p. 88)

This finding differs from the SSQ result in which 68% said
thermonuclear developments had not affected thoughts about marriage or
children, while 49% said thermonuclear developments had not affected
their day to day thinking and feelings.

Item eighteen. "Over 70% of the girls and about 50% of the boys
felt that radiation from nuclear wastes and nuclear power plants would
shorten their lives" (p. 88). In the SSQ seventy-two percent of the
boys and 88% of the girls believed radiation would shorten their
lives. The general trend here is similar once again, with a
difference of higher numbers for both boys and girls in the SSQ.

Summary

There appears to be a high level of congruence between the
Beardslee/Mack study and the SSQ. In general terms trends are
similar, with the following notable exceptions.

Students in the SSQ were mainly not convinced nuclear weapons
provide national security, unlike those in the Beardslee/Mack sample
who were fairly evenly divided on the question. Nor did the majority
of SSQ respondents believe in the worth of civil defence plans, unlike
their Beardslee/Mack counterparts. Again, most SSQ respondents did

not feel nuclear developments had affected their thoughts about marriage and children, nor their plans for the future. Most of the Beardslee/Mack sample felt the opposite.

"Is There Any Age At Which Concern Is Significantly Greater?"

EJQ Findings

Cross tabulations. Age was cross tabulated with response in a number of items which might indicate concerns (Items 4, 9, 10, 11, 12, 13, 14, 15 and 18). No significant relationship was found between age and any of the items except for those listed below.

Item twelve. A Chi square analysis revealed a significant relationship between age and response to this question (X^2 = 20.02, d.f. = 9, p = 0.0178). The results are summarized in Table 4-10.

The thirteen and fourteen year olds in this sample overwhelmingly reject the notion that Canada will be safe in a nuclear war. Out of 154 students in this group, 134 chose "no". A lower percentage of this group when compared with the total sample chose the "don't know" response, while a higher percentage in the 9 and 10 year old group chose "don't know". The actual numbers represented by these percentages are small, however, with 13 students choosing that response in each group.

Table 4-10

EJQ:Cross Tabulation of Age with Responses to Question 12:
"If nuclear war happened, would Canada be safe?"
by Percent of Group

	Yes	No	Don't Know	Other
Whole Group n = 337	2%	79%	15%	4%
9 & 10 yr. olds n = 42	2%	64%	31%	2%
11 & 12 yr. olds n = 84	5%	73%	18%	4%
13 & 14 yr. olds n = 154	1%	87%	8%	4%
15 & 16 yr. olds n = 57	2%	81%	14%	4%

Item thirteen. Cross tabulation between age and response to item 13 revealed a significant relationship ($X^2 = 36.86$, d.f. = 12, p = 0.0003). These findings are summarized in Table 4-11.

For the group as a whole, as well as for each age category, the most frequent choice was "possible". Distribution by age for this response corresponded to population by age group within the sample. Variation occurred in the "impossible", "very unlikely", "very likely" or "for sure" categories. Nine and ten year olds were much more optimistic about the possibility of avoiding nuclear war than other age groups. Pessimism peaks at ages 13 or 14. It is interesting to note that this finding is somewhat consistent with the results to question 14, where 39% of the 13 and 14 year olds reported fear "often" or "all the time". This was not significantly higher than other age groups, however.

No other significant relationships were observed between age and response in this sample.

SSQ Findings

No significant relationships were observed between age and responses which might indicate concern. Cross tabulations were performed by age and response on all items from seven to 18. No relationships of significance were observed between any of the variables.

Table 4-11

EJQ:Cross Tabulation of Age with Responses to Question 13,
"Do you think there will be a nuclear war?"
by Percent of Group

	Impossible	Very Unlikely	Possible	Very Likely	For Sure	Missing
Whole Group n = 337	3%	9%	68%	13%	5%	2%
9 & 10 yr. olds n = 41	12%	17%	68%	0%	2%	1%
11 & 12 yr. olds n = 82	4%	13%	73%	7%	2%	1%
13 & 14 yr. olds n = 151	1%	6%	67%	20%	7%	0%
15 & 16 yr. olds n = 56	2%	7%	70%	16%	5%	0%

"What Attitudinal Differences Exist Between Older And Younger

Students?"

SSQ and EJQ Findings

This question draws on the whole group of EJQ and SSQ for an answer. Item 19 which says on both questionnaires, "We would be very interested to hear any comments or ideas you might have about this questionnaire or about nuclear issues. Please add them here." provides an opportunity to uncover attitudes within subjective comments. Twelve categories were identified for hand-coding the data. These were drawn from the literature on children's attitudes toward nuclear developments and from the data itself. The categories are:

```
Wants  to be  heard
Absurdity
Wants information
Anger/Anti-authority
Fear
Denial
Resignation
Hopelessness
Other - (Catharsis, Nuclear Peace, Religious)
Or, none of any of above categories.
```

Although the "other" category included elements of "catharsis", "nuclear peace", and "religious" attitudes, none was sufficiently well represented to exist as a separate group. No other large category was apparent within the "other" group.

Denial, resignation and hopelessness were also collapsed into one

group because their numbers did not warrant separate categories.

The results to item 19 are summarized in Table 4-12 by indicating the percentage of each grade group and of the whole which displayed identified attitudes in their comments on this item.

Desire to be heard. On the whole, the desire to be heard is expressed most often in both the EJQ and the SSQ. Respondents in this category offered a prescription for curing nuclear madness or expressed a wish for the future.

> "You should give some of these questionnaires to the people that make and use the nuclear weapons and see what they can do." (E313)

> "I wish there was just peace on earth. No bombs!! No weapons!! No U.S.S.R.!!" (E186)

> "All I have to say is why us?" (S624)

> "I think it is good that the survey is being done because it is true that the young people's thoughts about nuclear issue is not taken much into consideration. I think our point of view should be seen and heard because it is our future that is in jeopardy. We have our whole life ahead of us and certain plans. It is frightening to know that it would be ended by a nuclear war." (S645)

Absurdity. In the grade 9 and 10 groups, this attitude peaked and exceeded any other attitude in frequency mentioned. This attitude was expressed in comments like:

> "I really hope nuclear war never develops; even though

Table 4-12

Attitudes Emerging from Comments on Question 19 in EJQ and SSQ
by Percentage of Responses Within Each Grade and Percent of Each Group

Attitudes		5	7	9	EJQ Whole Group	10	11	12	SSQ Whole Group	EJQ & SSQ
	n =	76	129	124	329	131	138	126	395	724
Wants to be heard		11	16	19	16	14	17	21	17	17
Absurdity		7	7	20	12	17	9	7	11	11
Wants Information		5	12	13	11	7	5	3	5	8
Anger/Anti-Authority		1	3	2	2	2	4	4	4	3
Fear		5	7	6	6	1	3	6	3	5
Denial/Resignation/Hopelessness		1	2	4	4	7	9	10	9	6
Other		14	16	8	13	13	10	13	12	12
Missing		56	37	28	36	39	43	36	39	38
Total		100	100	100	100	100	100	100	100	100

the way things are going these days. I think nuclear
war is a stupid thing because both countries involved
will be hurt in the same way, so why even bother with
it?" (S429)

"We've become advanced, too advanced in technology for
our own good. Idiocy, complete idiocy." (S427)

"I think nuclear wars and anything else to do with it
are stupid. In a war if nuclear weapons were used, no
country would win because these weapons could wipe out
everything on earth except bugs but who wants just bugs
on earth, anyways." (E132)

"I think nuclear war is stupid. It won't solve
anything. Whomever pushes the button wants to have all
the power, well as I see it, he won't have a world to
run so what's the points. It will ruin our world and
kill everyone and everything. Whomever pushes first
will die and know one will know who did it so there's
no sense in doing it. I think it's stupid and should
be disarmed. It won't solve a single thing. It makes
me very scared and mad." (E216)

Wants information. The desire for information peaks at the grade

seven and nine level and tapers off evenly both before grade seven and

after grade nine. Comments in this category included:

"I think we should learn more about nuclear war in
school instead of in the streets and movies." (E265)

"Would you survive the nuclear war if you make a little
house in the earth?" (E60)

"I know some people don't like to talk about nuclear
war (adults especially) but I think there should be
someone we can talk to about it." (E18)

"I'd like to know more about radiation and the effects
of it." (S647)

"I don't know very much about nuclear war and I'm sure
other students don't either. I think that maybe
teachers should spend a bit of time explaining to their

students the dangers and benefits of nuclear war, weapons and power." (S446)

Anger/anti-authority. These attitudes are displayed more frequently in grades eleven and twelve and next by grade nines. The anger is usually directed at authority figures, adults in general or government figures. Comments included the following:

"This probably won't accomplish anything but if it will show the jerks who are running this country that people care maybe they'll might do something to help stop nuclear war." (S608)

"This questionnaire may be something you're interested in but I'm not! If you really feel this way yourselves, build a bomb shelter, don't bother us, me anyways, with silly questionnaires. Cheer up, society will smarten up before any "nuclear wars" occur. There's a lot of years left in this planet, yet!" (S374)

"Why are today's adults screwing up our future? If we're the adults of the future, let us have a bigger say in our own destiny." (E35)

"These guys that have the control of the nuclear weapons should be smart. I don't want any body ending my life before it should be. There is a lot of things to do in the world and I want to be a part of a lot of them. If the guys want to use nuclear weapons strap them to one and send them to outer space. They can't control other people's lives with a button." (E225)

"I think this was a good idea and I just wish that you could use this information to stop the super powers from toying around with us. We don't need this much pressure it's like we're a time bomb and by a push of a button they can kill the world. It (sic) just not fair!" (S376)

Fear. Fear is mentioned most often by students in grade seven;

grades nine and twelve are close behind. Some of the comments which

displayed fear follow:

> "I think about it a lot and it scares me but I don't
> know a lot about it so I try not to think about to
> (sic) much. I just hope that if it has to happen that
> it happens in 1000 years and far away." (S412)

> "I wish nobody ever invented it. The leaders of
> countrys (sic) won't get killed so what are they
> worried about. They'll kill all of us, and escape
> until things are better. They won't die. If they want
> to fight let them have it out together; don't use us.
> Don't they realize if we have a nuclear war, there
> won't be anybody left to rule? Why can't things be
> more relaxed than they are now. I know I'm not the
> only person who lies awake at night thinking about it."
> (S373)

> "At times I am very afraid of a Nuclear war because I'm
> afraid if I get up one morning and nobody is there. I
> wish sometimes the nuclear power or nuclear anything
> was never invented." (E92)

> "If a nuclear war occurred I wouldn't run to a bomb
> shelter. I would go to where the bomb would hit
> because if you survive there would be to much suffering
> and probably no one to talk to like my family. To me
> it used to be a nightmare but now I know its reality.",
> (E20)

Denial/resignation/hopelessness. Psychological defense mechan-

isms such as denial or resignation or feelings of hopelessness

increase with an increase in age. These attitudes are most apparent

in the senior secondary grades, particularly grade twelve. The

following comments illustrate how students displayed these attitudes.

Denial

"I don't know anything about it and don't want. to know." (E85)

"Nuclear war is on my mind, but I don't really think about it. When a nuclear war starts, it starts. I'll worry about it then. Meanwhile, I'll just take life one day at a time." (E111)

Resignation

"It's good to be aware that the threat of nuclear war is there but not to over do it and lose sleep over it. If we go, we go and that's all. While I'm around I'll live it up with wine and women." (E33)

"I don't think it's likely we'll have a nuclear war, but if it does I have no complaints. I'd rather be burnt to a crisp in a millisecond than be sick for years and go through a lot of pain." (E222)

Hopelessness

"If I believed my comments would make a difference and would stop the creation of nuclear weapons, I'd scream it on top of mountains, but it won't, so no comment." (S371)

"I wish more people would have become active in the disarmament of nuclear weapons a few years ago because it probably would have helped. But I feel it is too late now and that is too bad because life is too good to waste." (S490)

Other. This group of miscellaneous responses was quite evenly distributed across the grades. Some selected comments are included here in order to provide a sense of the attitudes present within this category.

Catharsis

"I thought this questionnaire was really neat and I enjoyed it because now somebody knows my thoughts about nuclear war, so I feel a lot safer and better now someone else knows." (E8)

"I think this survey is very important. I don't know about anyone else but I felt I might be making the future look brighter by letting other people know how I feel." (E267)

Nuclear Peace

"Weapons are needed as a deterrence. A nuclear weapon free world would be a utopian idealist's fantasy. Soviet expansionism will never cease." (S463)

"I have come to the conclusion that unless the whole world disarms simultaneously, we need arms for deterrence purposes. I don't think anybody who is sane has the guts to blow us away because they are also taking away their own lives. Nuclear war is ugly but life's not wonderful." (S462)

Religious

"I believe that Jesus is going to come before the end of the world and that he is going to take everyone that is a Cristian (sic) up to heaven with him so that we will not have to be left on the earth during the war." (E17)

"I don't know much about this, well nothing really! I don't find it interesting! If there is a war, I hope I'm hit first and close up so I don't have to live and go through all the pain. If I do I'm going to heaven and its better there than here anyways! I guess that's why I'm not scared, but I can see why some people would be." (S706)

Summary of Attitudes

These comments have provided a basis through which to analyze attitudes emerging from the questionnaires. Differences appear

between older and younger students. Older students express more denial, resignation and hopelessness. They also express slightly more anger and feelings of anti-authority. Younger students express slightly more fear than older ones. This is confirmed in responses to question 14 where grade sevens most frequently reported fear.

Students in grades seven and nine have the greatest desire for information, while expressions of the absurdity of nuclear weapons is most frequently mentioned by those in grades nine and ten.

Peace Education

The second set of questons guiding this investigation is concerned with peace education needs. The first two questions in this set are addressed in this chapter, while the last two are addressed in chapter five. The first question in this set asks,

"What Particular Areas Or Specific Questions Do Young People Want Schools To Deal With?"

EJQ Findings

The preferences of students in the EJQ regarding peace education are summarized in Tables 4-13 and 4-14.

The results in Table 4-13 indicate students in this group have more interest in learning about nuclear war than about peace. A chi square analysis by age for each option revealed significant

Table 4-13

EJQ: Item Response to question, "What particular areas or specific questions do young people want schools to deal with?"

17. **What would you like to learn more about?**

n = 331	% of EJQ	Response
	59	– the effects of nuclear war
	54	– nuclear weapons
	40	– nuclear power
	36	– U. S. and the Soviet Union
	34	– nuclear technology
	34	– how students are responding to nuclear threat
	30	– Canada and the arms race
	28	– U. N.'s disarmament plans
	28	– Trudeau's peace plan
	25	– how adults are responding to the nuclear threat
	7	– other

Table 4-14

EJQ: Cross Tabulation of Age and Response to Question,
"What would you like to learn more about?"

Group	Item and % of age group making choices			
	Nuclear technology	U.S./U.S.S.R.	U.N. Disarm. Plans	Effects of N. War.
9 & 10 yr. olds n = 42	12	21	7	38
11 & 12 yr. olds n = 84	33	32	19	63
13 & 14 yr. olds n = 154	37	42	37	62
15 & 16 yr. olds n = 57	40	35	30	63
X^2 =	10.84	7.55	18.8	9.0
d.f. =	3	3	3	3
p. =	0.0126	0.0562	0.0003	0.0289

differences in response pattern for each of the four options, as shown in Table 4-14.

The findings in Table 4-14 show that nine and ten year olds have less interest in learning about nuclear technology, the U.S. and U.S.S.R., U.N. disarmament plans, and the effects of nuclear war than those in other age groups. Thirteen and fourteen year olds have a higher interest than others in learning about the United States and the Soviet Union. Response pattern to other identified items in this question did not show any variation by age.

SSQ Findings

No similar question was asked of this group. The only indication of specific questions which they might have is contained within the responses to item 19 which fell into the "wants information" category. There are only thirty-six cases out of 395. They yield little tangible information. A selection of these follow.

> "What do you think will happen in the future? Also what could happen to Vancouver?" (S475)

> "... our government would certainly not allow us to see everything. They want us to give our ignorant opinion on a subject we know nothing about. I want to know the truths." (S549)

A number of these comments also express difficulty students had understanding questions within the questionnaire, particularly with the term "thermonuclear".

This sample does not really provide information which answers the question.

"What Is The Perception Of Young People Regarding The Schools' Treatment Of These Issues Currently?"

EJQ Findings

Once again, only the EJQ provides a source of information with which to answer this question. Items eight, nine and sixteen address this question directly. The responses are summarized in Table 4-15.

Table 4-15

EJQ: Item response to question, "What is the perception of young people regarding the treatment of nuclear issues by schools.

Item	Response by Percent (n=337)				
	Nothing	Very Little	Quite a bit	A lot	Missing
8. How much have you learned about nuclear issues in school?	18	57	22	3	0
9. How much do you think you should be learning in school?	5	12	55	28	1

	Home	School	Church	By Myself	Nowhere	Other
16. Where would you like to be able to talk and learn about nuclear war?	43	63	5	20	10	6

The discrepancy between what students feel schools are doing and what they feel schools should be doing suggests that students are dissatisfied with the current treatment of nuclear issues in schools. In addition, students in this sample state that schools are their preferred choice as a place to learn about nuclear war.

EJQ: Differences in Response Pattern by Gender

An analysis of response pattern by gender revealed some unexpected findings. These findings are summarized in Table 4-16.

These findings suggest that girls associate the word "nuclear" more often with war than do boys. Boys more often associate "nuclear" with weapons than do girls. Boys also associate "nuclear" with power, technology and other more often than do girls.

Table 4-16

EJQ: Item Response by Gender Where Differences Are Significant,
By Percent of Gender

4. Choose the first thing you think of when you hear the word "nuclear".

	Power	Technology	War	Weapons	Nothing	Other
Girls n = 174	8	2	72	15	2	2
Boys n = 155	11	5	50	24	1	9

$$X^2 = 2.13, \text{ d.f.} = 5, \text{ p} = 0.0008$$

Table 4-16 (Continued)

7. (a) Are you doing anything new to learn about nuclear issues?

	Yes	No
Girls n = 178	23	78
Boys n = 154	60	40

$X^2 = 11.45$, d.f. = 1, p = 0.0007

10. Do you feel nuclear weapons protect us from war?

	Yes	No	Don't Know
Girls n = 173	9	76	16
Boys n = 155	18	78	5

$X^2 = 15.23$, d.f. = 2, p = 0.0005

Table 4-16 (Continued)

12. If a nuclear war happened

(a) would Canada be safe?

	Yes	No	Don't Know	Other
Girls n = 177	3	74	18	5
Boys n = 156	1	87	10	3

$x^2 = 9.009$, d.f. = 3, p = 0.0292

(b) would Vancouver ... be safe?

	Yes	No	Don't Know	Other
Girls n = 177	6	68	23	3
Boys n = 156	3	87	9	1

$x^2 = 16.70$, d.f. = 3, p = 0.0005

(c) would you be safe

	Yes	No	Don't Know	Other
Girls n = 174	6	67	22	6
Boys n = 156	3	80	12	5

$x^2 = 8.50$, d.f. = 3, p = 0.0366

Table 4-16 (Continued)

14. Do you feel frightened about the possibility of nuclear war?

	Never	Sometimes	Often	All The Time
Girls n = 175	3	59	21	17
Boys n = 151	21	50	17	12

$$x^2 = 25.17, \text{d.f.} = 3, p = 0.0000$$

15. Who can you talk to about nuclear war?

	Mother	Father	Teacher
Girls n = 179	64	60	64
Boys n = 156	48	42	36
	$x^2 = 7.63$, d.f. = 1, p = 0.0057	$x^2 = 3.24$, d.f. = 1, p = 0.0716	$x^2 = 7.32$, d.f. = 1, p = 0.0068

17. What would you like to learn more about?

	Nuclear Power	U.S./ U.S.S.R.	The Effects of Nuclear War	How Adults Are Responding To The Nuclear Threat
Girls n = 179	45	26	69	33
Boys n = 156	33	47	49	17
	$x^2 = 4.04$, d.f. = 1, p = 0.0444	$x^2 = 15.29$, d.f. = 1, p = 0.0001	$x^2 = 13.0005$, d.f. = 1, p = 0.0010	$x^2 = 10.8$, d.f. = 1, p = 0.0010

Girls report that they are doing little to learn about nuclear issues, while boys report that many of them are doing something to learn about nuclear issues. This may help to explain why girls more often choose the "don't know" response when asked questions about the strategic and technical aspects of nuclear weapons (Items 10; 12 a,b,c). Girls indicate a slightly higher incidence of fear of nuclear war which one might attribute to girls' lack of current learning about nuclear issues (Item 7a). This speculation is not supported, however, by the interest demonstrated by girls in item 17 to learning about a number of nuclear issues, including the effects of nuclear war.

Girls report greater willingness than boys to talk to adults about nuclear war (Items 15; 16). Boys are slightly more interested than girls in learning about this issue on their own (Item 16).

These gender differences were not anticipated, consequently this questionnaire was not systematically designed to elicit responses for analysis of variation in response by gender.

SSQ: Differences in Response Pattern by Gender

Unexpected findings were also revealed in the response pattern by gender to certain items in the SSQ. These findings are summarized in Table 4-17.

Girls are less equivocal than boys about the benefits of nuclear power plants (Item 8). They more often see only dangers, not benefits.

Table 4-17

SSQ: Differences in Response Pattern by Gender

8. How do you feel about the benefits and dangers of nuclear power plants?

	Dangers No Benefits	Some Benefits Some Dangers	Benefits No Dangers
Girls n = 188	63	34	3
Boys n = 168	50	44	7

x^2 = 20.61, d.f. = 4, p = 0.0004

10. How necessary do you feel nuclear weapons are for our national security?

	Necessary	Not Necessary	Not Certain
Girls n = 210	25	46	30
Boys n = 180	33	48	19

x^2 = 6.23, d.f. = 2, p = 0.0443

17. If a nuclear war is begun, how likely is it that it will be limited and not grow into a nuclear war which would destroy North America?

	Impossible	Very Unlikely	Possible	Very Likely	Absolutely Certain
Girls n = 203	34	37	16	11	4
Boys n = 176	27	27	19	18	9

x^2 = 11.62, d.f. = 4, p = 0.0204

Table 4-17 (Continued)

18. Do you believe that radiation from nuclear wastes will shorten your life?

	Yes	No
Girls n = 195	88	12
Boys n = 175	75	25

$$x^2 = 8.54, \text{ d.f.} = 1, \text{ p} = 0.0035$$

11. What do you think about civil defense?

	Worthwhile	Worthless	Not Certain
Girls n = 209	34	55	11
Boys n = 178	39	41	20

$$x^2 = 9.29, \text{ d.f.} = 2, \text{ p} = 0.0096$$

14. (a) Have thermonuclear developments affected your thoughts about marriage and having children?

	Yes	No
Girls n = 208	35	65
Boys n = 177	24	76

$$x^2 = 4.79, \text{ d.f.} = 1, \text{ p} = 0.0285$$

Both boys and girls agree for the most part that nuclear weapons are not necessary for national security (Item 10), although more boys than girls think they are necessary, fewer girls than boys are uncertain. This may indicate a lower degree of confidence in girls about technical or strategic matters.

Boys are slightly more confident than girls about the value of civil defense (Item 11) and at the same time more are willing to admit uncertainty about this question.

Girls indicate a slightly higher incidence of thermonuclear developments affecting their plans for marriage and having children than boys (Item 14a). Girls also have less confidence than boys that a nuclear war can be kept limited (Item 17). Radiation from nuclear wastes is believed to be life-shortening more often by girls than for boys (Item 18).

Like the findings from the EJQ, these were unanticipated and not part of a systematic design.

Chapter V

SUMMARY AND DISCUSSION

Eight questions guided this investigation. Six have been addressed; two remain:

> "What are the psychological and political factors blocking the development of peace education materials?", and

> "How can these barriers best be overcome?"

These questions are now addressed together in a point-counter-point debate on the implementation of peace education. The debate focuses on the salient issues that have emerged in this study as well as in the general educational milieu. The issues are presented in the form of barriers to implementation and the ensuing discussion suggests means of overcoming the barriers.

Issue #1: "Our kids don't know or care about nuclear war"

This is a frequent response from parents, teachers and administrators, heard often in the course of this study. In fact, statements like these originally voiced in an attempt to block peace education materials in schools, provided the impetus for the study.

The pattern of consent of parent and schools to participation in the study showed a decrease in willingness to participate with a decrease in age of child. A common sentiment was that nuclear war

could be discussed with teenagers but not with elementary school students. The justification was that elementary students were unaware or disinterested.

Even before the analysis was formally completed, it was quite apparent that this statement was largely false. During the administration of the questionnaires, all students appeared very involved. They wrote many optional comments and exceeded time limits to do so. Reading the comments later revealed that elementary students expressed a strong desire to be heard as well as a need for information. Expressions of fear were greatest at the grade seven level.

Analysis of the closed response items also confirmed these findings. Awareness of nuclear issues occurred mostly in late elementary school in both samples. A great deal of caring about nuclear issues was evident in student responses. Many made fervent pleas for adults to hear what they were saying. Only in later secondary grades did students begin to show signs of not caring through their expressions of cynicism and hopelessness.

It is clear from the study and its findings that Burnaby youth are aware at an early age of the threat of nuclear war and that they are concerned. It is strongly suggested that adults are either not hearing or are ignoring these concerns.

Lifton's (1967) work helps explain the reluctance of adults to confront this issue with children. Psychological defense mechanisms operate to ensure that parents do not have to confront the painful

reality that they cannot guarantee their children protection in the event of a nuclear war, nor can they necessarily fulfil their obligation to see their children safely through to adulthood.

A first step for adults is to begin to engage in dialogue with children around these issues. Most importantly, adults need to be encouraged to listen to and to hear what children are feeling. Studies of this kind are a first step in this process.

Further research is also indicated in order to answer the following questions:

1. What do young people in other areas of the lower mainland feel? Are the study findings consistent in other locales?

2. Do rural young people experience the same concerns? What differences, if any, exist between urban, suburban and rural groups?

3. Would a questionnaire which does not mention "nuclear", but asks about greatest hopes and fears reveal findings consistent with this study?

4. What differences exist between levels of concern of young people who do and do not have adults to talk to about nuclear issues?

5. What role does gender play in anxieties about nuclear issues?

Issue #2: "Won't this just scare children more?"

This argument is usually presented first as "don't create fear where none already exists". That argument can be dismissed with results of this study and of others in Canada and elsewhere (Beardslee/Mack, 1980; Solantus et al., 1983; Sommers et al., 1984). These studies provide clear evidence that children and young people experience fear of nuclear holocaust, though this fear is largely unexpressed and hence invisible. The question is, will it scare children more to raise nuclear issues in schools?

This question is not easy to answer. Children say that not only are they frightened, but they become even more so when adults refuse to talk about their concerns. This silence confirms their worst fears.

Yet a number of teachers who participated in informal discussions in staff rooms during the administration of the questionnaire described how depressed their students seemed after class discussions about nuclear war. Indeed, one student in a grade eleven class that I observed left in tears during a discussion between the students and the teacher about the nuclear winter theory. She cried, "I don't want to hear how I'm going to die." Not all teachers had had such dramatic experiences, however, it was exceptional to find a teacher that did not express some doubt about the outcome of raising nuclear issues.

Clearly these experiences point to the need for further research, particularly in order to develop some psychologically defensible and

effective guidelines for peace education. Some of the questions which
need to be addressed are:

1. Can nuclear fear in students be decreased? How?

2. Should every teacher be allowed, or required to teach
   peace education or nuclear issues?

3. What knowledge is productive; what, counter-productive?

4. Is some knowledge more appropriate for certain ages
   than others?

Nuclear issues need to be addressed sensitively by teachers.
Research is needed in order to supplement that sensitivity with clear
guidelines about how to raise these issues without raising fear levels
at the same time.

Issue #3: "It's too emotional an issue. I don't have the skills to
deal with it in the classroom.

This is, in all likelihood, another manifestation of "psychic-
numbing", the urge to suppress the emotional aspect of the nuclear
threat. In this instance a rationalization is offered as a means of
avoidance. Like all rationalizations it contains an element of truth.

Clearly emotions accompany things we care about; deep emotions
accompany things we care deeply about. The survival of our species
and of our planet surely fall into the latter category. Both are also
surely the proper domain of education.

As to whether or not teachers have the skills to deal with such issues in the classroom, it is entirely likely they do not. This is not so much an obstacle as an opportunity for the development of peace education materials. Teachers need to acquire skills in order to effectively deal with nuclear issues. Materials need to be developed to help them acquire these skills.

The impact of media on youth in this area is documented in the results of the questionnaire. This finding is substantiated by the experience of resource centers which receive calls from teachers asking for assistance in answering questions young people have asked following T.V. shows like, "The Day After". No one has prepared teachers to discuss nuclear issues and in the words of one teacher, "It's all my students wanted to talk about."[1]

Research needs to be conducted to answer the following questions:

1. What skills do teachers need to deal effectively with the emotional aspects of nuclear issues?

2. How can these skills best be acquired?

---

[1] Participant at Voice of Women Conference, Vancouver, B. C., September 22, 1984.

Issue #4: "It's too political an issue. Schools must present an

unbiased view."

Avoiding issues that are politically controversial in classrooms

seems an effective way of reinforcing apathy in students. Surely it

is the responsibility of schools to help young people think critically

and to formulate their opinions on the basis of sound and reasonable

judgement. Those skills are not likely to appear at graduation if

they have not been cultivated up to that point.

Students become more effective participants in democratic society

when they have learned to detect bias. Representative materials that

offer a range of opinions on controversial issues provide an

opportunity to detect bias and to make a personal decision in the face

of several options.

Students want schools to help them deal with nuclear issues. At

the moment the main source of their information is the sensationalized

and distorted images portrayed by the media. Schools have both an

opportunity and a responsibility to help students come to grips with

the threat.

The questions that flow from these observations are:

1. What materials present a reasonable range of opinions

within the nuclear debate?

2. What role does teacher bias play? Should it be made

explicit?

3. Do schools have a responsibility to teach points of

view which are clearly inhumane or immoral although

significantly represented in the community? e.g.

racial bigotry.

4. What involvement should community or political groups

have in educational programming of these issues?

Issue #5: "We have to have support from ... (parents, staff,

administrators)

It is clear that emotionally and politically charged issues are

likely to produce a backlash if introduced without involvement of key

agents in the implementation process. The process of reaching shared

belief is fundamental to the implementation of peace education. One

of the urgent needs in this regard is to remove the general

inhibitions surrounding this subject and begin the process of

dialogue. A needs assessment of the kind conducted in this study is

one method of initiating this process. The prominent media attention

surrounding this study has created much discussion and helped create a

broad base of public support. Planned follow-up parent-teacher-

researcher meetings are designed to foster dialogue.

Questions for further action or research follow:

1. How can genuine dialogue be facilitated?

2. Who are the key agents in the implementation of peace

education?

3. What is the most appropriate unit of change? -- the

school? the district? the classroom?

4. What are the key elements of shared belief in this
   regard and how can they be achieved?

Issue #6: "We already have our hands full with larger classes,
smaller budgets, government exams."

Under these conditions it seems unlikely or unreasonable to
expect teachers to add something new or to take the time to learn new
ways of dealing with the familiar. If, however, teachers feel a need
to respond to students' concerns and that need has a high priority,
they will look for ways to respond in spite of stressful conditions.
Indeed, this may be a key to reducing the stress felt in classrooms.

It is also likely that this stress will seriously erode the sense
of efficacy felt by many teachers. With reduced efficacy, teachers
are unlikely to make changes. Fullan (1982) in fact identified
efficacy as the key characteristic of teachers that affects
implementation success.

Perhaps the key is to build a sense of efficacy on the part of
both teachers and students. This fits within the domain of "education
for peace" and is a necessary prior condition for "education about
peace". Further research is indicated here:

1. What is the relationship between efficacy and nuclear
   anxiety?

2. What role does teacher efficacy play in the

implementation of peace education?

3. Does a sense of personal efficacy create a favourable

climate in which to address nuclear issues?

4. In a period of educational restraint is education "for"

or "about" peace most acceptable?

Conclusion

This study served as a needs assessment for peace education. As

such it has identified and described concerns felt by Burnaby youth

surrounding nuclear developments, particularly nuclear war. It has

also generated widespread public and professional debate as a

mechanism for developing shared belief about the concerns of youth.

Further, it has identified directions for research and for action.

And this is just a beginning.

> "I am an eighth grader and I'm very scared about
> nuclear war. When I'm older I would like to be a
> psychiatrist or a pet store owner. But how can you
> expect kids to live normal lives when we could be blown
> up to smithereens in a minute?
>
> My teachers say we cannot study about nuclear weapons
> or what to do because it is not part of history or
> biology, math or English. Anyway, the principal
> decides what kids learn. I asked the principal and he
> said I should ask my parents or learn about it in
> church. My mom thinks we should have a course in
> school because it affects us so much. But my father
> thinks teachers should not be interested in politics
> and I should learn more enjoyable subjects.
>
> So do you have information that could teach me and my
> friends about nuclear war? My teachers might listen to

you. But please help us quick. Next year we'll be in
high school, and it's about time we got educated."
(Karen, in A.T.A. Magazine, 1984)

"I think they [teachers] should talk and tell us more
about nuclear issues. I feel people are starting to
tell kids, that ask about things such as nuclear war,
"That it won't happen to us." This, in my opinion, is
wrong and kids should be told about these sorts of
issues." (E239)

"I don't know much about nuclear war and I feel that we
should be learning a bit about it because I am
bewildered when adults talk about it. If it is going
to happen I think kids have a right to know what is
going to happen." (E93)

"I think this questionnaire helps to get some feelings
of nuclear war to come out of a person rather than
keeping it inside." (E311)

APPENDIX I

Task Force on Psychosocial Impact of Nuclear Advances

American Psychiatric Association - 1978

TASK FORCE ON PSYCHOSOCIAL IMPACT ON NUCLEAR ADVANCES
American Psychiatric Association - 1978

date _____   martial status _____
place _____   number of children _____
age _____
sex _____

1. <u>What does the word nuclear bring to mind</u>?

2. <u>Have you participated in any activity related to nuclear</u>
   <u>technology? (reading books, attending lectures, belonging to</u>
   <u>groups, being involved in protests)</u>

3. <u>When did you first think about nuclear advances? Tell me about</u>
   <u>it</u>.

4. <u>How do you feel about the benefits and dangers of nuclear power</u>
   <u>plants in your area</u>?

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5. <u>How important do you feel nuclear weapons are for our national security</u>?

6. <u>What do you think about civil defense? (bombshelters, sandbagging industries, evacuation plans)</u>

7. <u>If a neighboring city was being held and blackmailed by a terrorist group with a powerful thermonuclear weapon, how would you feel</u>?

8. <u>Have thermonuclear advances influenced your plans for marriage, having children, or planning for the future</u>

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9. <u>In other words what other ways have thermonuclear advances
   affected your way of thinking? (about the future, your view of
   the world, time?)</u>

APPENDIX II

Questionnaire on Impact of Nuclear Advances

American Psychiatric Association

QUESTIONNAIRE ON THE IMPACT OF NUCLEAR ADVANCES

Date_____ Grade_____

Age_____ Sex_____

Name (Optional)_____

1. List ideas and images that occur to you when you think of the word "nuclear".

_____

_____

_____

_____

2. Have you participated in any activity related to nuclear technology? (Reading books, attending lectures, belonging to groups, being involved in protests.)

_____

_____

_____

_____

3. How old were you when you were first aware of nuclear issues? Describe briefly what you thought or felt then and now.

_____

_____

_____

_____

4. How important do you feel nuclear weapons are for our national security?

_____

_____

_____

_____

5. What do you think about the utility of civil defense measures?
    (Bomb shelters, antiballistic missiles, sandbagging industries,
    evacuation plans.)

    _____

    _____

    _____

    _____

6. Do you think that a nuclear war will occur in your lifetime?

    _____

    _____

7. If you believe a nuclear war might occur, what is your estimate of
    the time interval before this will happen? How will it happen?

    _____

    _____

    _____

    _____

8. Do you think that you could survive a nuclear attack? Your city?
    Your country? The world? Describe some after-effects.

    _____

    _____

    _____

    _____

9. What is the place of the threat of nuclear war in your life?

    _____

    Do you think much about it?_____

    If so, how much of the time?_____

10. Do you think the threat of nuclear war is beoming greater, diminishing
    or remaining the same?

    _____

    _____

11. How would you describe the importance of "living with the Bomb" as compared with other scientific and technological phenomena?

_____

_____

_____

_____

_____

_____

12. Have nuclear advances influenced your plans for marriage, having children, or planning for the future?

_____

_____

_____

_____

_____

_____

13. Have nuclear advances affected your way of thinking? (About the future, your view of the world, time?)

_____

_____

_____

_____

_____

_____

APPENDIX III

Questionnaire on

Psycho-social Impact of Nuclear Advances 1980

American Psychiatric Association

PSYCHOSOCIAL IMPACT OF NUCLEAR ADVANCES   1980

Name: _____

Address: _____

Telephone: _____

Date: , _____

Place: _____

Age: _____

Sex: _____

Question 1.   What does the word "nuclear" bring to mind?   (Please
rank your answer, #1 being what first comes to mind, #2
what you think of next, #3 etc.)

      Nuclear power (explain)_____

      Nuclear weapons (explain)_____

      Technical, scientific,
      medical uses (explain)_____

      Other (explain)_____

Question 2.   At what age did you first learn about nuclear weapons?

     _____

     At what age did you first learn about nuclear power?

     _____

Question 3.   How did this awareness come about?   (Please rank your
responses with #1 being the first way of making you
aware, #2 the next way of learning, etc.)

      School classes (explain)_____

      Media (television, radio, newspapers)
      (explain)_____

      Active participation (visiting nuclear plants,
      reading, conversations) (explain)_____

Question 4.   Are you currently involved in activity related to
nuclear technology and development?

No. Go to Question #5.

Yes. (Please rank your responses #1 being the most
involvement, #2 the next most active participation,
etc.)

Gathering information (reading books, attending
classes, lectures). Please explain: _____
_____

Belonging to groups (regular meetings, civilian or
military, on nuclear power). Please explain: _____
_____

Being involved in political action (occasional
writing letters, occasional demonstrations). Please
explain: _____

Question 5.   How do you feel about the benefits and dangers of
nuclear power plants? Please circle number of your
answers.

Dangers Only	Some Dangers No Benefits	Some Benefits Some Dangers	Some Benefits No Dangers	Benefits Only
1	2	3	4	5

Please explain: _____

Question 6.   How do you feel about the benefits and dangers of
nuclear power plants within your area? (Please circle
number of your answer.)

Dangers Only	Some Dangers No Benefits	Some Benefits Some Dangers	Some Benefits No Dangers	Benefits Only
1	2	3	4	5

Please explain: _____

Question 7.   How necessary do you feel nuclear weapons are for our
               national security?

        Necessary

        Not necessary

        Not certain

        Please explain: _____

Question 8.   What do you think about civil defense? (bombshelters,
               evacuation plans)

        Worthwhile

        Worthless

        Not certain

        Please explain: _____

Question 9.   How likely do you think it is that an American city
               would be held hostage by a terrorist group with a
               powerful thermonuclear weapon?

Impossible	Very Unlikely	Possible	Very Likely	Absolutely Certain
1	2	3	4	5

        Please explain:

Question 10.   If you think it will happen, do you think it will happen
               soon? (within a few years or in the future). If you
               think it "impossible" in the question above, skip to
               Question #11.

        Within a few years (1-3)

        In the more distant future (more than 3 years away)

        Please explain: _____

Question 11. Have thermonuclear developments affected your thoughts
about marriage and having children? (Please elaborate)

  Yes (please explain) _____

  No (please explain) _____

Have thermonuclear developments affected where you will
live and work?

  Yes (please explain) _____

  No (please explain) _____

Question 12. Have thermonuclear developments affected your day-to-day
thinking/feeling about your life today?   Please
explain:

  Yes (please explain) _____

  No (please explain) _____

Question 13. Do you think there will be a nuclear war? (Please
circle the number of your answer.)

Impossible	Very Unlikely	Possible	Very Likely	Absolutely Certain
1	2	3	4	5

Please explain _____

If you marked "impossible" SKIP to Question 14.   If you
think it might happen, when will it happen?

  Within a few years (1-3)

  In the more distant future (more than 3 years away)

Please explain: _____

Question 14, If a limited nuclear war is begun, how likely is it that it will kept limited and not grow into a nuclear war which would destroy our country?

Impossible	Very Unlikely	Possible	Very Likely	Absolutely Certain
1	2	3	4	5

Please explain: _____

_____

Question 15. Do you believe that radiation from nuclear wastes and power plants will shorten your life? Please explain:

Yes (please explain) _____

No (please explain) _____

Question 16. If you have any additional comments please add them here:

APPENDIX IV

Nuclear Information Study - SSQ

NUCLEAR INFORMATION STUDY

This questionnaire which you are being asked to answer is part of a study being conducted by Simon Fraser University researchers. The study is investigating the feelings and knowledge of young people, grades 10, 11 and 12 about nuclear weapons and power. We feel that your views are very important; we want to know what you are thinking and feeling. Please answer all questions with care.

If at any time you should decide not to answer any more questions, or not to participate at all, you may do so.

All responses are confidential - we are interested only in the overall opinions of young people in your age group in Burnaby schools. All individual questionnaires will be destroyed after the information has been analysed.

Your school and classroom were randomly selected for this study. Over 350 students in Burnaby schools will be taking part. We thank you in advance for your participation. We are most anxious to hear what you have to say.

PLEASE CHECK ONE ANSWER ONLY, UNLESS OTHER INSTRUCTIONS
ARE GIVEN.

1.   What grade are you in?

        grade 10...............................33%.. ☐ 1

            11.................................35%.. ☐ 2   11

            12.................................32%.. ☐ 3

2.   How many years old are you?

        14......................................1%.. ☐ 1

        15.....................................15%.. ☐ 2

        16.....................................33%.. ☐ 3   12

        17.....................................33%.. ☐ 4

        18.....................................16%.. ☐ 5

        19......................................2%.. ☐ 6

3.   Are you a male or female?

        male....................................47%.. ☐ 1

        female..................................53%.. ☐ 2   13

4. What does the word "nuclear" bring to
mind? (Please rank your answer, #1 being
what first comes to mind, #2 what you
think of next, #3 etc.) - Rank

    nuclear power (explain)..................... ☐

    1 - 22%; 2 - 66%; 3 - 14%; 4 - 0
....

.... 14

    nuclear weapons (explain).................. ☐

    1 - 69%; 2 - 25%; 3 - 4%; 4 - 6%
....

.... 15

    technical, scientific, medical uses

    (explain).................................. ☐

    .1.-.3%;.2.-.8%;.3.-.76%;.4.-.30%...... 16

    other (explain)........................... ☐

    .1.-.6%;.2.-.1%;.3.-.5%;.4.-.64%....... 17

5. At what age did you first learn about nuclear

weapons?..... mean age 12.4 years .... ☐☐ 18-19

At what age did you first learn about nuclear

power?.......... mean age 12.9 years .... ☐☐. 20-21

6.   How did this awareness come about? (Please
rank your responses with #1 being the first
way of making you aware, #2 the next way of
learning, etc.)   Rank

    school classes (explain)....................☐

    1 - 21%; 2 - 49%; 3 - 14%; missing -
    ....17%...........

      22

    media (television, radio, newspapers)

    (explain).....................................☐

    1 - 60%; 2 - 25%; 3 - 4%; missing -   23
    ....11%

    active participation (visiting nuclear

    plants, reading, conversations) (explain)..

    1 - 8%; 2 - 11%; 3 - 51%; missing - ☐
    ....29%

      24

7. Are you currently involved in activity related
   to nuclear technology and development?

   no...........91%....... ☐ (go to question 8)   missing   . 25
                                                    - 3%
   yes...........7%....... ☐ (please rank
   your responses #1 being the most involvement,
   #2 the next most active participation, etc.)   Rank

   gathering information (reading books,

   attending classes, lectures) (explain)..... ☐

   1 - 5%; 2 - 2%; 3 - 0; missing - 93%
   ....

     26

   belonging to groups (regular meetings,

   civilian or military, on nuclear power)

   (explain)................................... ☐

   1 - 1%; 2 - 1%; 3 - 2%; missing - 95%   27
   ....

   being involved in political action

   (occasional writing letters, occasional

   demonstrations) (explain)................... ☐

   1 - '4%; 2 - 2%; 3 - 2%; missing - 92%   28
   ....

8. How do you feel about the benefits and dangers
   of nuclear power plants? (Please check one
   response only.)

   dangers only...........................31%.. ☐ 1

   some dangers, no benefits...............9%.. ☐ 2

   some benefits, some dangers...........57%.. ☐ 3   29

   some benefits, no dangers...............1%.. ☐ 4

   benefits only...........................1%.. ☐ 5

   please explain....(58%).....missing......3%..

     1   30

9. How do you feel about the benefits and dangers
   of nuclear power plants within your area?
   (Please check one response only.)

   dangers only............................36%... ☐ 1

   some dangers, no benefits...............15%... ☐ 2

   some benefits, some dangers.............35%... ☐ 3   31

   some benefits, no dangers...............3%... ☐ 4

   benefits only...........................2%... ☐ 5

   please explain..(52%).....missing - 10%....
                                                      1   32

   ....

10. How necessary do you feel nuclear weapons are
    for our national security? (Please check one
    response only.)

    necessary.............................28%.... ☐ 1

    not necessary.........................46%.... ☐ 2   33

    not certain...........................25%.... ☐ 3

    please explain..(62%).....missing - 1%....
                                                      1   34

    ....

11. What do you think about civil defense (bombshelters,
    evacuation plans)? (Please check one response only.)

    worthwhile............................36%.... ☐ 1

    worthless.............................47%.... ☐ 2   35

    not certain...........................16%.... ☐ 3

    please explain...(64%).....missing - 2%....
                                                      1   36

    ....

12. How likely do you think it is that any city would
be held hostage by a terrorist group with a
powerful thermonuclear weapon? (Please check
one response only.)

impossible...................................... 4% ☐ 1

very unlikely.................................. 25% ☐ 2

possible....................................... 53% ☐ 3   37

very likely.................................... 12% ☐ 4

absolutely certain............................. 5% ☐ 5

please explain..(52%).......... missing - 2%

                                                    1   38

....

13. If you think it will happen, do you think it will
happen soon?

within a few years (1-3)................... 18% ☐ 1

in the more distant future (more than 3   39

years away)............................... 65% ☐ 2

please explain..(50%).......... missing - 17%

                                                    1   40

....

14.(a) Have thermonuclear developments affected your
        thoughts about marriage and having children?
        (Please elaborate.)

                yes (explain)............................ 29% .... ☐
                                                                          1
                ....

                no (explain)............................ 68% .... ☐   41
                                            missing -   3%   2
                ....

   (b) Have thermonuclear developments affected where you
        will live and work?

                yes (explain)........\................ 14% .... ☐
                                                                          1
                ....

                no (explain)............................ 82% .... ☐   42
                ....missing - ....5%.....

15.   Have thermonuclear developments affected your day-
        to-day thinking/feeling about your life today?

                yes (explain)............................ 47% .... ☐
                                                                          1
                ....

                no (explain)............................ 49% ..... ☐   43
                ....missing -   4% ....

16.   Do you think there will be a nuclear war?
        (Please check one response only.)

            impossible.............................4%... ☐ 1

            very unlikely.........................14%... ☐ 2

            possible..............................50%... ☐ 3   44

            very likely...........................24%... ☒ 4

            absolutely certain.....................7%... ☐ 5

            please explain...(57%)..... missing - 1% ...
                                                                    1   45

        If you marked "impossible" skip to question 17.
        If you think it might happen, when will it happen?

            within a few years (1-3)..............12%... ☐ 1

            in the more distant future (more than 3 years   46

            away)................................70%... ☐ 2

            please explain...(45%)   missing - 18% ...
                                                                    1   47

17.   If a limited nuclear war is begun, how likely is it
        that it will be kept limited and not grow into a
        nuclear war which would destroy North America?
        (Please check one response only.)

            impossible............................30%... ☐ 1

            very unlikely.........................31%... ☐ 2

            possible..............................17%... ☐ 3   48

            very likely...........................13%... ☐ 4

            absolutely certain.....................6%... ☐ 5

            please explain...(50%)   missing - 4% ...
                                                                    1   49

18. Do you believe that radiation from nuclear wastes and power plants will shorten your life?

     yes (explain)........................77%... ☐

     1

     no (explain)..........................17%... ☐   50

     ....missing - 6%... 2

19. We would be very interested to hear any comments or ideas you might have about this questionnaire or about nuclear issues. Please add them here:

     1   51

     ....

     ....

     ....

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     ....

     ....

     ....

     ....

     ....

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APPENDIX V

Nuclear Information Study - EJQ

NUCLEAR INFORMATION STUDY

This questionnaire which you are being asked to answer is part of a study being conducted by Simon Fraser University researchers. The study is investigating the feelings and knowledge of young people, grades 5 to 9, about nuclear weapons and power. We feel that your views are very important; we want to know what you are thinking and feeling. Please answer all questions with care.

If at any time you should decide not to answer any more questions, or not to participate at all, you may do so.

All responses are confidential - we are interested only in the overall opinions of young people in your age group in Burnaby schools. All individual questionnaires will be destroyed after the information has been analysed.

Your school and classroom were randomly selected for this study. Over 350 students in Burnaby schools will be taking part. We thank you in advance for your participation. We are most anxious to hear what you have to say.

PLEASE CHECK <u>ONE</u> ANSWER ONLY, UNLESS OTHER INSTRUCTIONS ARE GIVEN.

1.   What grade are you in?

grade 4................................0... ☐ 1

      5...............................23%... ☐ 2

      6................................0... ☐ 3

      7..............................38%... ☐ 4   11

      8...............................1%... ☐ 5

      9..............................37%... ☐ 6

      10...............................2%... ☐ 7

2.   How many years old are you?

       9.⎫............................... ☐ 1
         ⎬   13%
      10.⎭............................... ☐ 2

      11.⎫............................... ☐ 3
         ⎬   25%
      12.⎭............................... ☐ 4   12

      13.⎫............................... ☐ 5
         ⎬   46%
      14.⎭............................... ☐ 6

      15.⎫............................... ☐ 7
         ⎬   17%
      16.⎭............................... ☐ 8

3.   Are you a boy or a girl?

                            53%
      girl.............................. ☐ 1   13

                            47%
      boy............................... ☐ 2

                   missing -   1%

4.   Choose the first thing you think of when you hear
     the word "nuclear".

     power.................................9%.. ☐   1

     technology............................4%.. ☐   2

     war..................................61%.. ☐   3

     weapons..............................19%.. ☐   4   14

     nothing, I don't know what it means....1%.. ☐   5

     other (explain:_____5%).. ☐   6
                          missing - 2%

5.(a) How old were you when you first learned about
      nuclear power?

     5.....................................1%.. ☐   01

     6.....................................1%.. ☐   02

     7.....................................3%.. ☐   03

     8.....................................7%.. ☐   04

     9....................................14%.. ☐   05

     10...................................20%.. ☐   06   15-16

     11...................................18%.. ☐   07

     12...................................19%.. ☐   08

     13....................................7%.. ☐   09

     14....................................4%.. ☐   10

     15....................................2%.. ☐   11

     16....................................0... ☐   12
                          missing -   4%

(b) How old were you when you first learned about nuclear weapons?

5.....................................1%	☐	01
6.....................................2%	☐	02
7.....................................3%	☐	03
8.....................................5%	☐	04
9.....................................10%	☐	05
10....................................20%	☐	06
11....................................19%	☐	07
12....................................19%	☐	08
13....................................10%	☐	09
14....................................5%	☐	10
15....................................2%	☐	11
16....................................0	☐	12
missing - 4%		

17-18

6. (a) How did you first find out about nuclear power?

teacher.................................11%	☐	1
parent..................................18%	☐	2
friend..................................3%	☐	3
newspaper...............................4%	☐	4
T.V.....................................44%	☐	5
movie...................................7%	☐	6
other (explain: (missing - 4%) 10%)..	☐	7

19

(b) **How did you first find out about nuclear weapons?**

teacher....................................	9%	☐	1
parent.....................................	18%	☐	2
friend.....................................	3%	☐	3
newspaper..................................	7%	☐	4
T.V..	45%	☐	5
movie......................................	8%	☐	6
other (explain:_____ 7%)..		☐	7

missing - 4%

7. Are you doing anything now to learn about nuclear issues?

no............31%... ☐ .. 1 (go to question 8)

yes...........69%... ☐ 2

missing - 1%

What? (check all that apply)

reading books.............................	12%	☐	1	22
school research or projects...............	5%	☐	1	23
watching films or T.V.....................	28%	☐	1	24
belonging to groups.......................	1%	☐	1	25
attending a peace march...................	2%	☐	1	26
attending demonstrations..................	2%	☐	1	27
other (explain:_____ 6%)..		☐	1	28

8. How much have you learned about nuclear issues in school?

nothing....................................	18%	☐	1
very little................................	57%	☐	2
quite a bit................................	22%	☐	3
a lot......................................	3%	☐	4

20

21

29

9. How much do you think you should be learning
about nuclear issues in school?

nothing...................................5%... ☐ 1

very little...............................12%... ☐ 2   30

quite a bit...............................55%... ☐ 3

a lot.....................................28%... ☐ 4
missing -   1%

10. Do you feel nuclear weapons protect us from war?

yes.......................................13%... ☐ 1

no..75%... ☐ 2   31

don't know................................10%... ☐ 3

explain your answer.......................0 ... ☐ 1   32
missing -   2%

11. What would make the world a safer place?

more nuclear weapons......................3%... ☐ 1

less nuclear weapons......................63%... ☐ 2   33

don't know................................7%... ☐ 3

other (explain: (missing - 2%)   25%).. ☐ 4

12.(a) If a nuclear war happened, would Canada be safe?

yes.......................................2%... ☐ 1

no..79%... ☐ 2   34

don't know................................15%... ☐ 3

other (explain: (missing - 1%)   4%).. ☐ 4

(b) Would Vancouver and neighbouring communities be
safe?

yes.......................................4%... ☐ 1

no..77%... ☐ 2

don't know................................16%... ☐ 3   35

other (explain: (missing - 1%)   2%).. ☐ 4

(c) Would you be safe?

yes... 4% ☐ 1

no.. 72% ☐ 2   36

don't know................................... 17% ☐ 3

other (explain:___(missing - 2%)___ 5%).. ☐ 4

13.(a) Do you think there will be a nuclear war?

impossible........ 3% ☐ 1 (go to 14)

very unlikely.... 9% ☐ 2 (go to 14)

possible....... 68% ☐ 3   37

very likely....... 13% ☐ 4

for sure.......... 5% ☐ 5
      missing - 2%

(b) When do you think a nuclear war will occur?

within a few years (1-3)................ 6%... ☐ 1

more than 3 yrs., but within my lifetime 62% ☐ 2   38

not in my lifetime..................... 18%... ☐ 3
                        missing - 15%

14.   Do you feel frightened about the possibility of
nuclear war?

never....................................... 11% ☐ 1

sometimes................................... 53% ☐ 2

often....................................... 18% ☐ 3   39

all the time................................ 14% ☐ 4
                        missing - 3%

15. **Who can you talk to about nuclear war?**
     (check all that apply.)

      mother................................... 56% ☐   1   40

      father................................... 55% ☐   1   41

      brother or sister....................... 33% ☐   1   42

      teacher................................. 34% ☐   1   43

      minister or priest...................... 8% ☐   1   44

      friend.................................. 57% ☐   1   45

      no one.................................. 9% ☐   1   46

      other (explain:_____ 7%).. ☐   1   47

16. **Where would you like to be able to talk and learn**
     about nuclear war? (check all that apply)

      home.................................... 43% ☐   1   48

      school.................................. 63% ☐   1   49

      church.................................. 5% ☐   1   50

      by myself............................... 20% ☐   1   51

      nowhere, not interested in it........... 10% ☐   1   52

      other (explain:_____ 6%).. ☐   1   53

17. What would you like to learn more about?
(check all that apply)

nuclear power..40% ☐ 1 54

nuclear technology...............................34% ☐ 1 55

nuclear weapons.....................................54% ☐ 1 56

Canada and the arms race.................30% ☐ 1 57

United States and the Soviet Union.........36% ☐ 1 58

Prime Minister Trudeau's peace plan...28% ☐ 1 59

United Nations disarmament plans..........28% ☐ 1 60

the effects of nuclear war................59% ☐ 1 61

how adults are responding to the nuclear
threat...25% ☐ 1 62

how students are responding to the
nuclear threat................................34% ☐ 1 63

other(s) (explain:_____ 7%

_____

_____). ☐ 1 64

18. Is the threat of nuclear war affecting your life
in any way at the present time?

yes...........24%..☐ 1

no...........75%..☐ 2 (go to 1)   65

if yes, how?__23%_____

_____

_____ 1 66

19. We would be very interested to hear any comments
or ideas you might have about this questionnaire
or about nuclear issues. Please add them here:

....   1   67

....

....

....

....

....

....

....

....

....

APPENDIX VI

Consent Letter A

Nuclear Information Survey

NUCLEAR INFORMATION STUDY

Simon Fraser University, in conjunction with Harvard Medical School, is currently conducting a research project in Burnaby schools. The Nuclear Information Study seeks to answer the following questions:

- What do children know about nuclear power, weapons?

- What is the source of this information?

- At what age is awareness occuring?

- Are young people concerned about nuclear developments?

- With whom do they want to discuss these ideas, feelings?

As part of the study, an information questionnaire is being given to students in your child's class.

Your consent is requested to authorize your child's participation. If you would like more information about this questionnaire, please call the school.

Please return the bottom of this form to the school before
_____.

Results of the questionnaire, when available, may be obtained from:

      Susan Hargraves
      Faculty of Education
      Simon Fraser University
      Burnaby, B.C.

- -

My child _____

    May _____

May Not _____

participate in the Nuclear Information Study.

             Date _____

          Signature _____

- -

APPENDIX VII

Consent Letter B

Nuclear Information Survey

NUCLEAR INFORMATION STUDY

Simon Fraser University, in conjunction with Harvard Medical School, is currently conducting a research project in Burnaby schools. The Nuclear Information Study seeks to answer the following questions:

- What do children know about nuclear power, weapons?

- What is the source of this information?

- At what age is awareness occuring?

- Are young people concerned about nuclear developments?

- With whom do they want to discuss these ideas, feelings?

As part of the study, an information questionnaire is being given to students in your child's class. If you would like more information about the questionnaire, please call the school. If you do not want your child to participate, please return the bottom of this form to the school before _____ _____.

Results of the questionnaire, when available, may be obtained from:

Susan Hargraves
Faculty of Education
Simon Fraser University
Burnaby, B.C.

- -

I do not wish my child, _____, to participate in the Nuclear Information Study.

Date _____

Signature _____

- -

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