

PREPARATION OF TEACHERS FOR A HUMANISTIC EDUCATION:  
A DESCRIPTION OF THE THIKOL INTERACTION LABORATORY  
AND ITS EFFECT ON EDUCATION STUDENTS

by

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## ABSTRACT

This pre-experimental study was undertaken to provide a preliminary description of the effects of the Thiokol Interaction Laboratory on first year Education students. The interaction laboratory is contained within a University course known as Education 197.

Education 197 was introduced in response to parental and education administrator's concerns in two areas,

- (a) that prospective teachers be screened before admission to the Faculty of Education, and
- (b) that training in human relationships be provided to education students.

The FIRO-B (Fundamental Interpersonal Relations Orientation-Behaviour) was administered in a pre-test/post-test format. The data obtained were analysed to detect changes in the students according to two criteria (a) d-score analysis and (b) Golden-Mean analysis.

The d-score analysis was based on the work of Schutz and Allen (1966) who theorized that a high differential between expressed behaviours (those behaviours that are made towards others) and wanted behaviours (those behaviours that are wanted from others) is associated with anxiety, social frustration or compulsion. The d-score analysis sought to detect changes in d-scores occurring during the period of Educ 197.

The Golden-mean analysis was based on an extension of the concept of the Golden-mean developed by Ryan (1977). The Golden-mean was defined as that pattern of FIRO-B scores associated with a mature and

balanced interpersonal orientation.

The Golden-mean analysis tested the assumption that individual FIRO-B post-test scores would tend towards the Golden-mean as compared with pre-test scores.


In order to test findings by Smallegan (1971) and Jacobson (1972) the total sample was divided into Low, Medium and High groups according to their pre-test scores. It was expected that the Low group would show larger changes than the other two groups.

The data resulting from the d-score analysis was somewhat mixed but a trend towards reduced d-scores was detected in the areas of Inclusion and Control for both High and Low groups. Affection scores remained remarkably stable. Overall, the Low group did not contribute more changes in the expected direction.

The Golden-mean analysis was even more mixed and inconclusive. Frequency counts of those showing a trend towards the Golden-mean were fewer than those moving away in most combinations of areas and groups. However, the standard deviations calculated against the Golden-mean values showed a general reduction in the post-test as compared with the pre-test.

An in-depth analysis of five individual case studies was made. Implications of these analyses for future research were discussed.

Examiners:



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## CHAPTER I

### BACKGROUND TO THE STUDY

One of the threads running through the history of Western Civilization has been man's search for intellectual, religious, political and personal freedom. In recent history this has been revealed in the development of the trade-union movement and the rapid growth of the women's liberation ideal. Student unrest was recently the dominant characteristic of North American campus life as students sought a share in their own education.

The breakdown of many traditional authoritarian systems of social control is apparent and well documented. The Church, family, and state are all equally helpless as the popularization of the humanistic ideals of self-determination and individual responsibility take over.

It is inevitable that the educational system should be involved in, and affected by, this process. Dearden, (1968) in writing of schools in England, has characterized the Elementary schools of the thirties as follows,

"...the ethos of the elementary school was authoritarian, and the authority of the teacher over the children was marked in many ways. He was physically separate from them and raised above the class, facing them from a dais or high chair. The children were required to observe various rituals of respect, such as prompt standing up on the appearance of authority-figures, speech richly punctuated with 'sir' and 'miss', procedures for gaining permission to move, or indeed to do anything..." (p. 4)

D.H. Lawrence, (1954) in his novel, The Rainbow describes the schools of his time,

"...the school teachers, drudging unwillingly at the graceless task of compelling many children into one, disciplined, mechanical set, reducing the whole set to an automatic state of obedience and attention, and then of commanding their acceptance of various pieces of knowledge. The first great task was to reduce sixty

children to one state of mind, or being. This state of mind must be produced automatically, through the will of the teacher, and the will of the whole school authority, imposed on the will of the children. The point was that the headmaster and the teachers should have one will in authority, which should bring the will of the children into accord." (p. 382)

Dearden (pp. 7-10) identifies two factors that are associated with movement away from this system of elementary education. The first of these was the need for high quality education to support technological growth. It was not sufficient anymore for the working mass to simply have basic knowledge of the three R's. The second factor was a movement away from traditional religious values that are encapsulated in statements like, "Spare the rod and spoil the child", and "The Devil finds work for idle hands".

Whatever the reasons, the philosophy and practice of elementary education has changed. However,

"the elementary-school tradition had at least one virtue. It made clear to the teacher what he was supposed to do, arranged a concerted programme of mutually supportive teaching, and provided institutional backing for such measures as the teacher had to take." (Dearden, 1968, p. 10)

This is clearly no longer the case. The educational professionals are no longer the benign despots that they were, and no longer do pupils and their parents submit unquestioning to the demands of the teacher. The situation now is characterized by uncertainty and role ambiguity. No one group involved in education is clear about who has decision making power, nor who should have it. There is uncertainty about what the goals of elementary education should be.

The 'back to basics' movement perceives the role of education as imparting knowledge to the pupils. Other groups argue that education

should give the pupils the skills that they need to survive in a rapidly changing world. Needless to say, these skills are variously defined.

The task of educating future teachers in this atmosphere is a complicated and difficult undertaking. In an attempt to shed some light on this matter, the British Columbia Education Commission sponsored a conference in 1974. Briefs were invited from all interested parties who wished to give their views on teacher education in British Columbia.

A review of these briefs reveals a common thread running through many of the submissions. A few examples will illustrate,

"The personality of the teacher plus his or her ability to relate to children should be a primary concern of the Educational Staff of the University...A course needs to be included in the curricula on communicating..." (Brief #1. Association for Children with Learning Disabilities)

"We recommend...that in teacher training programmes, provision be made for all future teachers to develop skills in...communication." (Brief #4. Association of Superintendents and Inspectors of Schools)

"...we feel strongly that all teachers should be equipped with a working knowledge of...the group dynamics of the classroom, and how to use them to promote cooperation and the mental health of both teacher and pupils...[and]...the knowledge and communication skills necessary to function as part of a team, not only with pupils, but also with other professionals..." (Brief #10. British Columbia Home and School Federation)

"The student teacher will demonstrate the ability to relate to pupils in a manner fostering mutual respect...Educational growth develops in a climate of mutual respect, in which teachers listen to students with empathy, preserve their confidences, and deal with them honestly and with integrity." (Brief #11. B.C. Teachers Federation)

"To function adequately in the classroom a teacher should have beginning understanding of the emotional components of the kid's messages, and beginning awareness of their responses to hers. I don't mean that the teacher has to function as an amateur shrink - but as a person who can hear what is happening, notice when a lesson loses someone, respond to children as thinking and feeling people. (Brief #26. Private submission)

"...certain qualities are necessary in all teachers. These involve their attitudes towards children and how to cope with them; their ability to communicate and to react positively under pressure of various classroom situations, and their personal qualities of leadership and open-mindedness...teachers should, from the earliest possible moment, present themselves as human beings...It is a definite fact that a classroom where the teacher is relating on a human level to the students is a much more relaxed one...Under such a relaxed type of atmosphere, the student feels greater confidence and is more receptive to new ideas." (Brief #37. John Oliver High School - Students)

The briefs quoted here have been selected to demonstrate the widespread nature of the concern for the perceived lack of relational skills in teachers. Of the seventy-five briefs submitted, nearly thirty touched on this aspect of teacher preparation. Thus it became apparent that beginning teachers were being evaluated on the basis of expectations for which they had received no formal preparation during their training.

Another frequently expressed concern was that potential teachers be carefully selected at the time of their entry to the teacher training programme. The British Columbia School Trustees Association recommendation #16 states that,

"...early in their training, student teachers should receive as a means of self-selection, a realistic exposure to the actual work of the school." (Brief #8)

The British Columbia Teachers Federation also notes that,

"...a greater degree of personal selection, based on self evaluation derived from a number of reality based experiences early in the pre-service programme, has potential, particularly if such experiences occur before a substantial investment in training has been made by the student." (Brief #11)

It was in response to these two areas of concern that the Faculty of Education of the University of Victoria redesigned the course, Education 197.

Education 197. (hereinafter referred to as Educ 197)

Educ 197 was already in existence as a first year level course in the Faculty of Education. It was decided to revamp this course in the light of the concerns expressed in the briefs to B.C. Education Commission Conference.

In a brief reviewing the course, Burbank (1977) makes the following observations,

"Conferences and commissions on teacher education, generally conclude with the recurring theme that there is a need for:-

1. Greater care in the screening and selection of students for teacher education with general emphasis on personal human qualities. It is suggested that self-evaluation and assessment be part of the screening and selection process.
  2. Greater emphasis on the development of self-awareness, communication skills, group dynamics and other experience that may result in more empathic teachers.
  3. Early classroom exposure for prospective teachers."
- (p. 1)

The brief goes on to observe that there was no experience specifically designed to meet these objectives prior to the third year of the programme, but that the evaluation of the students' practice teaching was often based on criteria that reflected these values. Thus,

"In many cases, students in the practice teaching experience were evaluated on skills, abilities and competencies for which they received no planned preparation." (p. 1)

It was in this context then, that Educ 197 was revised.

Educ 197 - Goals and Objectives:

The Educ 197 programme consists of two main components,

1. Interaction laboratory
2. School experience.

Interaction Laboratory for Teacher Development:

The Interaction Laboratory is a series of experiences designed to

develop basic skills in communications and interaction in a group setting. Developed by the Thiokol Corporation in Ogden, Utah, the laboratory consists of twenty-seven experiences; the equipment includes the trainer's manual, student journals, 16mm films, film strips, audio tapes, instrumental games and puzzles, and other instructional materials. The major focus is on the development of the students' awareness of the nature of teaching and their feelings about it.

### Objectives

The students will:

1. Become aware of the basic features of communication within a group setting.
2. Become aware of and knowledgeable about the nature of communication as it applies to the role of teaching.
3. Become aware of:
  - a. How they feel about themselves in social groups.
  - b. How they feel about others in social groups.
  - c. How others react to and feel about them in social groups.
  - d. How experiences in a, b, and c, apply in the teaching/learning situation in the schools.
4. Be encouraged to evaluate themselves, and to honestly consider whether they have the disposition, make-up and nature to become effective teachers.
5. When interviewed by the seminar leader at the end of the course, state good reasons why they feel a school district should hire them.

Nature of the seminar:

1. Each seminar group has 12 to 18 students.
2. Each seminar meets two evenings a week for 12 to 14 weeks.
3. Each seminar lab. session lasts for an average of two hours.
4. The seminars are conducted by trained leaders, most of whom are experienced classroom teachers.
5. During the seminars students are encouraged to continuously assess themselves as to their suitability to teaching.
6. At the conclusion of the seminars, the student evaluates him/herself and fills out an evaluation form.
7. The seminar leader completes an evaluation form for each student, and, in an interview, the seminar leader and student compare their evaluations. In this final interview the seminar leader and student openly discuss the students' participation and potential for becoming an effective teacher.

School Experience

The school experience is a two-week post-session practicum designed to assist the student in developing insight and basic skills in pupil-teacher interactions. It also permits screening through student self-selection according to their perceived personal suitability to teaching.

Nature of the School Experience:

1. The two-week practicum is generally in the students home town.
2. The students are to observe a variety of instructional settings and to perform functions similar to those of a teachers aide. They are not required to teach full lessons.

3. The students keep a log and complete an observation assignment.
4. The sponsor teacher(s) consults with the student throughout the practicum.
5. The sponsor teachers submit a report to the University which is used in counselling and advising students.

The revised Educ 197 was introduced in 1974 and became mandatory for all students training at the elementary level. The new course is now in its fifth year.

Burbank observed in 1977,

"Inasmuch as the Interaction Laboratory works in the Affective Domain ...and the two-week school experience does not involve teaching, it is very difficult to establish a quantitative evaluation. However, all reactions, reports and assessments of the program, both by seminar leaders and students have been positive. Their reports indicate that all of the objectives were achieved at a satisfactory level..." (p. 2)

This study was a preliminary attempt to deal with some of these difficulties. The first objective of this research was to define more precisely the issues and difficulties associated with studying the outcomes of Educ 197 so that additional, more rigorous studies are possible in the future.

## CHAPTER II

### THE NATURE OF THE STUDY

There has been no previous attempt to evaluate the extent to which Educ 197 meets the stated goals and outcomes. One of the difficulties is that the goals are wide ranging. This study therefore was limited to an examination of the Thiokol Interaction Laboratory (T.I.L.) section of the course and its impact on the students.

The study was of a preliminary nature. The primary goal was to describe changes that occurred in the students' fundamental interpersonal relations orientation during the period in which they were taking the T.I.L. No attempt was made therefore to establish causal links between observed phenomena. For the purpose of this investigation, the study sample was considered as being the whole population.

The present study then, was limited to a descriptive approach and addressed itself to an investigation of the following problems,

1. Is the FIRO-B a sensitive enough instrument to detect changes in students taking Educ 197?
2. Do the students change during the period in which they are taking Educ 197?
3. Are these changes in directions which will enhance their functioning as teachers?

#### The Subjects:

The subjects were all those students registered in Educ 197 during

the second, or Spring, term at the University of Victoria during the 1978-79 academic year. One hundred and twelve students completed the pre-test, and 90 the post-test. Seventy students completed both the pre-test and post-test. Of these, all but four were females; the vast majority being either 18 or 19 years old. Because they were registered in Educ 197, it can be assumed that they all intended to teach at the elementary level upon completion of their university programme.

The data:

The data consisted of the scores obtained by the students on the Fundamental Interpersonal Relations Orientation - Behaviour (FIRO-B) administered in a pre-test post-test format.

The pre-test was administered during the first meeting of the course in the second week of January. The post-test data was collected at the last meeting but one of the course at the end of March. It was decided to leave the final meeting for the 'closing' activities which are so important in any experience which has had an emotional content.

Other data available included the questionnaires routinely completed by Educ 197 students for the information of the course coordinator.

It should be noted that the period between the pre-test and post-test covers the T.I.L. component of the course only. The students disperse geographically for the two-week teaching experience, and do not appear as a group again until after the summer. Thus, of necessity, this study was limited to the T.I.L. component.

### The Scale:

The FIRO-B was developed by W. Schutz (1958). He theorizes that each person has three interpersonal needs. These are inclusion, control and affection, and that each of these may be expressed or wanted.

- Inclusion refers to the extent to which an individual prefers to be with others or alone.
- Control refers to the extent to which an individual prefers to be directive or directed in his/her interpersonal relationships.
- Affection refers to the extent that an individual is willing to become emotionally involved with others or wants to remain uninvolved.
- Expressed behaviour is behaviour on the three dimensions of Inclusion, Control and Affection that the individual directs towards others.
- Wanted behaviour is behaviour on the three dimensions that the individual wishes from others.

Thus an individual's normal pattern of interaction with others may be characterized in a six-cell diagram,

Table 1  
FIRO-B Six Cell Diagram

	Inclusion	Control	Affection
Expressed	I <sup>e</sup>	C <sup>e</sup>	A <sup>e</sup>
Wanted	I <sup>w</sup>	C <sup>w</sup>	A <sup>w</sup>

This represents the individual's Fundamental Interpersonal Relations Orientation (Schutz, 1958, 1978; Griffin and Patton, 1971, p. 90; Ryan, 1977, p. 5).

From this theoretical base, Schutz developed a series of scales designed to provide numeric values for each cell in the areas of behaviour (FIRO-B), feelings (FIRO-F), child-parent relationships (LIPHE), orientation to education values (VAL-ED), marital relationships (MATE), and coping mechanisms (COPE).

FIRO-B:

The FIRO-B scale consists of six Guttman scales of nine items each, one scale each for the three dimensions in their expressed and wanted aspects. Each of the scales is interspersed with all of the other scales on the blank and is unidentifiable as a separate scale by the testee. Scoring is by means of a key placed over the completed blank.

Analysis of the data:

As previously stated, descriptive statistics were used in the analysis of the data. Frequency counts summarized in the form of percentages comprise the primary presentation. Detailed analysis of selected individual cases follow.

CHAPTER III  
REVIEW OF THE LITERATURE

The FIRO-B Scale:

Schutz introduced the Fundamental Interpersonal Relations Orientation theory in his book, FIRO: A Three Dimensional Theory of Interpersonal Behaviour, (1958). The FIRO awareness scales, originally designed to test the theory, have since become recognized research instruments. Pfeiffer and Heslin (1973) reviewed seventy-five instruments used in human-relations training. They selected FIRO-B as their model instrument.

"Our decision to use FIRO-B as a prototype is based on our opinion that it is the most generally useable instrument in training." (Pfeiffer and Heslin, 1973, p. 2)

The instrument has been used extensively in testing the outcomes of human-relations training activities, using both normal and abnormal populations, and in the areas of alcoholism, family therapy, self-esteem research, therapy group outcome research, research into schizophrenia, a variety of educational research settings, training police and parole officers, compatibility between groups studies and so on.

For instance, Mumford (1974) used the FIRO-B scale in a study of group activities. She pre- and post-tested a group of 24 students of group dynamics engaged in either a group discussion or group activity. She found greater changes in the activity engaged group. A similar study was executed by Smallegan (1971) who also found that the more intense experience, in this case a residential experience as compared with a non-residential group format produced greater changes as measured by the FIRO-B in a pre-test post-test design. More interestingly, he

found that the low scorers on the FIRO-B were most sensitive to the variation in format.

Jacobson (1972) also found that the low scorers changed more as a result of group training. He speculated that this may be because a low level of interaction is at considerable variance from group expectations and therefore will be confronted more often than other behaviours.

Schutz and Allen (1966) theorized that individuals with a high differential between Expressed and Wanted scores are anxious and compulsive. This differential was termed the difference (d) score and represents 'e' - 'w'.

Ryan (1977) takes this concept further and gives the following examples,

"Persons with low expressed and high wanted inclusion scores are in an approach-avoidance conflict...They are blocked and inhibited in initiating social behaviour." (p. 13)

"A male with an extremely low expressed control score and a high wanted control score is dependent...his concept of himself is one of worthlessness and inadequacy." (p. 18)

He notes that womens' control scores are influenced by the society in which they live; that a woman's wanted control score may not reflect the control that she wants but the degree of control she has learned to live with in this male society. Similarly, a woman's expressed control score may be a more accurate reflection of the amount of control that she perceives she is allowed than the amount she would like to express. These points are particularly relevant to this study in which most of the subjects were women.

In contrast to the examples quoted above, Ryan gives descriptions of individuals with low difference scores. For example,

"Persons with moderate affection scores are capable of both giving and receiving affection without going to extremes... They neither make excessive demands nor tend to be overly cautious in expressing affection. They tend to be realistic and practical both in the amount of affection desired and the number of individuals from whom it is sought..." (p. 27)

### Humanistic Values in Education

"Teachers at any level, but particularly elementary, who lack consistent patience, empathy, sympathy and a genuine interest in understanding the feelings of the individual, quickly destroy the child's interest in school and learning."  
(B.C. Education Commission Conference; Brief #71 - Private)

It is difficult to trace the development of this parental concern for humanistic values in education. It almost certainly reflects a parallel change in parenting style which is in turn, perhaps, in response to changing values in society at large. Certainly, there exists today a plethora of books for parents, and a review of the more widely read of these reveals one possible source of this change.

Dr. Benjamin Spock must be considered as one of the seminal sources. His Baby and Child Care was first published in 1945; since then, according to his publisher, 28,000,000 copies have been sold. Spock summarizes his basic philosophy first noting that while we humans, like other animals, are subject to the laws of evolution, we are also very different.

"We are idealistic in our aspirations. Our relationships are predominantly spiritual. Our capacity for abstract reasoning has enabled us to discover much of the meaning of the universe. We have invented fantastic machines. We have created beauty in the arts. All this has been made possible by the aspirations kindled in us in early childhood by the adoration of our parents... People...can believe in the power of love and in their potentialities for good, if they understand the spiritual development of a child." (p. 15)

This basically Rousseauian position colours Spock's comments on

the school in a later chapter. He observes that,

"The main lesson in school is how to get along in the world. Different subjects are merely means to this end." (p. 442)

On the subject of teaching styles he raises the issue of humanistic values,

"The good teacher tries to understand each child in order to help each pupil overcome weak points and develop into a well-rounded person" (p. 443)

A. S. Neill's Summerhill was published in 1959. In the foreword, Erich Fromm states that "...Education must be both intellectual and emotional...[and]...needs...true sincerity on the part of the teacher". The whole premise of Summerhill is that children can be responsible, that they can make valid decisions about their own education and lives, that if given the freedom, they will choose sensibly and wisely. Thus Neill stands in direct opposition to the ideas expressed in William Golding's Lord of the Flies (1954)

Although working from a different premise, Albert Ellis (1966) contributes to the development of humanistic attitudes in parenting. He states that,

"...the safest way to raise a child is to show him that you love or accept him even when he does not behave too well; that even when you dislike his behaviour you do not abhor him...and that you think that he has the right to live and enjoy himself even though he is a most fallible human being..." (p. 23)

Ellis also recommends the use of 'I' messages rather than 'you' messages when correcting a child's negative behaviours.

The concept of children directing their own learning is the theme of How Children Learn by John Holt (1967). His theory of natural

learning is predicated upon the assumption that people will only learn effectively when curiosity is aroused, which means that the individual needs a particular piece of information to fill a hole or gap in his understanding of the world. Only then, says Holt, is learning efficient.

"When we learn...for these reasons, we learn both rapidly and permanently. The person who really needs to know something, does not need to be told many times, drilled, tested... The new piece of knowledge fits into the gap ready for it... Once in place it is held in, it can't fall out." (Holt, 1967, p. 155)

Perhaps the most widely read book on parenting after Spock, is Dr. Thomas Gordon's Parent Effectiveness Training. Published in 1970, it had reached its 13th printing by early 1973. The central thesis of this book is that parents can be more effective through learning and applying non-directive counselling techniques in their interactions with their children. Stressed throughout are acceptance, congruence and empathic responding.

Like most books of this genre, Gordon (1970) makes some observation about the school system. After accepting that there are exceptions, Gordon criticizes the schools as being "authoritarian institutions that model their organizational structure and leadership philosophy after military organizations " (p. 298). He criticizes the schools on the grounds that rules are unilaterally established by the adults. Also, Gordon says, they impose uninteresting and irrelevant curricula on the pupils, grading systems that reward the parroting of memorized material rather than understanding, and treat the pupils as second class citizens without even basic human rights (to a fair, impartial hearing, for instance). Significant to the thesis being developed here, Gordon goes

on to suggest that parents be ready to,

"...advocate and support programs that offer innovative ideas and methods for bringing about reform in the schools - such as those that provide curriculum change, eliminate the grading system, introduce new instructional methodologies, give students freedom to learn on their own and at their own pace, offer individualized instruction, give kids a chance to participate with adults in the schools' governing process, or train teachers to be more humanistic and therapeutic in relating to kids."  
(p. 301)

In Peoplemaking, Virginia Satir (1972) de-emphasizes the role of structure,

"...the form of the family is not the basic determinant for what happens in the family. Form presents different kinds of challenges that have to be met, but the process that goes on among the family members is what, in the end, determines how well the family gets along together...and how well the children develop into creative, healthy human beings." (p. 195)

The process to which she refers is the whole family process but which is made manifest in the interpersonal communications within the family.

"For me, the feelings of isolation, helplessness, feeling unloved, low pot...[low self-esteem]...or incompetence comprise the real human evils of this world. Certain kinds of communication will continue this and certain kinds of communication can change it...I would like to see each human being appreciate himself, feel whole, creative, competent, healthy, rugged, beautiful, and loving." (p. 79)

In writing of the relationship between the family and the school system, Satir stresses the need for the adults to establish a feedback system that will enable each to help the other in providing the best educational environment for the children.

"I see a need for families to ask to become partners in any institution in which any of their members are involved and to be considered as part of that establishment." (p. 296)

It appears that the parents making submissions to the B. C. Education Commission Conference were seeking this kind of partnership; further, they were seeking the kind of approach that is presented by Satir.

Whilst parents have been made aware of the need for a more humanistic approach to education, it is worth mentioning briefly that educators have too, in their professional press, been exposed to the same process. Books by Hamachek (1965), Leavis and Thompson (1964), Labenne and Greene (1969), Brammer (1973), Stanford and Roark (1974), Coombs, Avila and Purkey (1974) are only a few of the many that pursue the goal of a humanistic school system.

In this context it is significant that the introductory statement in the Trainer Manual of the Thiokol Interaction Laboratory commences with the comment that,

"The need for human relations training has long been recognized among educators." (p. v)

In addition, the point is made that the National Training Laboratories organization was initially developed by the National Education Association as a result of this need.

#### The Thiokol Interaction Laboratory

The structure and purpose of the Thiokol Interaction Laboratory has been stated elsewhere in this study. Research of the literature has revealed no reported studies of this programme.

## CHAPTER IV

## PROCEDURES

A. THE d-SCORE ANALYSIS1. Theoretical Basis of Analysis:

Schutz and Allen (1966), as previously noted on page 14, theorized that individuals with a high differential between their Expressed (e) and Wanted (w) scores will tend to be more anxious, frustrated and compulsive than those with a low differential.

The d-score quantifies this differential and is obtained by subtracting the Wanted score from the Expressed score thus:

$$d = e - w$$

This calculation may be carried out in each of the areas of Inclusion, Control and Affection;

$$\text{Inclusion d-score (Id) = Inclusion expressed (Ie) - Inclusion wanted (Iw)}$$

or 
$$Id = Ie - Iw$$

similarly 
$$Cd = Ce - Cw$$

and 
$$Ad = Ae - Aw.$$

Finally a total d-score (Td) may be obtained by adding the d-scores from each area; thus:

$$Td = Id + Cd + Ad.$$

2. Procedure:

Raw scores were entered in the grid provided on the front cover of the test blank and the basic additions and subtractions completed for both pre-tests and post-tests.

The data obtained from a sample subject appear in Table 2.

Table 2  
FIRO-B Result Grids - Sample Subject

	Inclusion	Control	Affection	Sum (I+C+A)
Pre-test				
e	8	5	8	21
w	9	5	5	19
sum (e+w)	17	10	13	40*
diff (e-w)	-1	0	+3	+2
Post-test				
e	2	1	2	5
w	0	1	4	5
sum (e+w)	2	2	6	10*
diff (e-w)	2	0	-2	0

\* Total sum

The post-test d-scores were then compared with the pre-test d-scores to determine change. Because, in an ideal situation the d-score will be zero, and because this analysis was concerned with detecting movement towards that ideal, the scores were compared on the basis of relative magnitude only. Thus in Table 2 the arithmetic difference between the subject's pre-test and post-test Inclusion d-scores is 3; however, the difference between her d-scores and the ideal zero has increased by one when the post-test is compared with

the pre-test. In the same way, the subject reported in Table 2 experienced a reduction of one when the pre-test and post-test scores are compared in the area of Affection. This new comparison figure was termed the cd-score.

Because the subject's post-test score was further away from zero than her pre-test score, a 'plus' sign was added to her Inclusion cd-score to indicate this direction; a minus sign was added to her Affection cd-score to reflect the fact that her post-test d-score was nearer zero than her pre-test d-score in that area.

Table 3 demonstrates this process using the same data presented in Table 2.

Table 3  
Calculation of cd-Scores

	Inclusion	Control	Affection	Total
pre-test d-score	-1	0	+3	+2
post-test d-score	2	0	-2	0
cd-score	-1	0	+1	-2

Frequency counts of occurrence cd-score signs (+, -, or 0) were made and percentages calculated in the areas of Inclusion, Control and Affection.

## B. THE GOLDEN-MEAN ANALYSIS

### 1. Theoretical Basis of Analysis:

The Golden-mean analysis is based on an extension of a concept suggested by Ryan (1977). In discussing the clinical interpretation

of FIRO-B scores, he identifies a range of scores in each of the areas of Inclusion, Control and Affection which are associated with effective interpersonal interactions. Examples are discussed on pages 14 and 15 of this report.

It occurred to the author that this might provide a useful criterion against which to measure change in the subjects of this study. By taking the mean of the range of scores identified by Ryan in each area, the profile of an "ideal" social individual is developed; this ideal was termed the Golden-mean after Ryan (p.27). Table 4 presents the means of the ranges identified by Ryan (1977).

Table 4  
The Golden-Mean of FIRO-B Scores

	Inclusion	Control	Affection
e	4.5	5.9	4.5
w	4.5	1.4	4.8

Individuals may be characterized by the degree from which their scores diverge from the values given in Table 4. The analysis undertaken in this study was designed to reveal movement towards or away from the Golden-mean by comparing pre- and post-test differences between the raw score and the Golden-mean value in each cell.

## 2. Procedure:

The Golden-mean analysis was carried out in much the same way as the d-score analysis. Using the sample data presented in Table 2, the raw scores obtained in each area were compared with the Golden-

mean values on a cell by cell basis for both pre-tests and post-tests. Table 5 demonstrates this process.

Table 5

Comparison Between Raw Scores and Golden-Mean Values; Pre-Test and Post-Test

	Inclusion			Control			Affection		
	Raw Score	G-Mean	Diff	Raw Score	G-Mean	Diff	Raw Score	G-Mean	Diff
Pre-test e	8	4.5	+3.5	5	5.9	-0.9	8	4.5	+3.5
Post-test e	2	4.5	-2.5	1	5.9	-4.9	2	4.5	-2.5
Pre-test w	9	4.5	+4.5	5	1.4	+3.6	5	4.8	+0.2
Post-test w	0	4.5	-4.5	1	1.4	-0.4	4	4.8	-0.8

As in the d-score analysis, the differences between the post-test raw score and the Golden-mean value were compared with the differences between the pre-test and the Golden-mean value on the basis of magnitude only. Thus in Table 5, the subject's post-test score in the area of Expressed Inclusion was 1 nearer the Golden-mean than her pre-test score. Thus a comparison score of 1 was awarded; in order to be consistent with the d-score analysis, a minus sign was added to this score to indicate that the difference had been reduced. This new value of -1 was called the G.M.d-score. The G.M.d-scores obtained from the data in Table 5 are presented in Table 6.

Table 6  
Calculation of GMd-Scores

	Inclusion	Control	Affection
	Expressed		
Pre-test diff	+3.5	-0.9	+3.5
Post-test diff	-2.5	-4.9	-2.5
GMd-score	-1.0	+4.0	-1.0
	Wanted		
Pre-test diff	+4.5	+3.6	+0.2
Post-test diff	-4.5	-0.4	-0.8
GMd-score	0	-3.2	+0.6

Frequency counts of the occurrence of GMd-score signs (+, - or 0) were made and distribution data prepared in the areas of Inclusion, Control and Affection. Standard deviations were calculated on the basis of deviation from the Golden-mean value rather than the group's own mean. This yields a more meaningful and useful figure.

### C. LOW GROUP ANALYSIS

#### 1. Theoretical Basis of Analysis:

Smallegan (1971) and Jacobson (1972) observed in independent FIRO-B studies that subjects who scored low in the pre-test tended to show greater variation between pre-test and post-test scores. It was assumed that, because a low scorer's behaviour will be the most deviant from the group norm of self-disclosure and nurturing activities, there would be greater pressure on these individuals to

change. A high-scorer, on the other hand, although as socially unbalanced as a low-scorer, would be perceived by the group as behaving appropriately.

## 2. Procedure:

In order to explore this effect in the present study, the subjects were assigned to one of three sub-groups on the basis of their pre-test Total-sum score as explained in Table 2. (p. 21 )

The sub-groups were established as follows:

Total sum of 0-22	-	Low group	-	N 20
Total sum of 23-28	-	Middle group	-	N 25
Total sum of 29-42	-	High group	-	N 25

The decision points were chosen so that each group would be as nearly the same size as possible.

Both the d-score and Golden-mean analyses were carried out at these three levels and the results reported with them in the next section of this study.

CHAPTER V  
ANALYSIS OF THE DATA AND DISCUSSION

Comparison with Normative Data:

The data obtained in this study were compared with the normative data for the FIRO-B, (Schutz, 1978, p. 10) in order to establish that the data obtained resembled data for similar groups.

Of the twelve occupational groups reported in the normative data, four were selected as being somewhat parallel to the subjects of this study. Of these, perhaps the most equivalent group, in terms of age, sex and experience, is that composed of female high-school students.

Table 7

Comparison Between FIRO-B Mean Scores and Standard Deviations for Four Occupational Groups and the Subjects of this Study

Mean						
	a	b	c	d	e	f
Ie	5.16	5.20	4.90	4.60	5.40	5.20
Iw	5.38	5.16	4.90	5.40	4.00	3.40
Ce	1.50	1.40	1.90	2.90	3.40	3.10
Cw	3.10	2.51	3.10	4.70	5.00	5.10
Ae	4.14	4.11	4.40	3.70	3.60	3.70
Aw	5.53	5.69	5.00	5.00	4.90	4.30
Standard Deviation						
Ie	1.86	1.96	1.99	2.82	2.23	1.96
Iw	3.27	3.38	3.44	3.16	3.49	3.42
Ce	1.80	1.50	1.81	2.47	2.03	2.38
Cw	1.99	1.56	1.98	1.97	1.66	1.93
Ae	2.12	2.13	2.64	2.20	2.10	2.07
Aw	1.70	1.88	2.54	2.15	2.20	2.35

a - subjects of this study; pre-test. (N 70)

b - subjects of this study; post-test. (N 70)

c - female high-school students. (N 1488)

d - Radcliffe freshmen. (N 228, female)

e - Psychology majors, N. Texas State College. (N 35 mixed)

f - Teachers (N 677, mixed)

Except for the post-test mean in the area of Wanted Control which

is considerably lower than that in parallel groups, and the low standard deviations for both pre- and post-tests in the area of Wanted Affection, the figures in Table 7 establish the resemblance of the data obtained in this study to that for similar groups.

#### The d-Score Analysis:

The d-score analysis was undertaken to determine what percentage of subjects experienced an increase in the range between their Expressed and Wanted scores in the post-test as compared with the pre-test; that percentage which experienced no change; and the percentage experiencing a reduction in range. This was calculated for both the Expressed and Wanted scores in each of the areas of Inclusion, Control and Affection.

Subjects showing a reduction in the range between their Expressed and Wanted scores are assumed to have developed a more appropriate and satisfying orientation towards other people. In the Tables 8 and 9 the negative (-) sign identifies such a reduction; on the other hand, a positive (+) sign indicates an increase in the range and a movement towards more anxious and uncomfortable interactions with others. A Zero (0) is used to show that no change occurred; that is, the pre-test d-score was the same as the post-test d-score.

To the extent that teachers must be comfortable and competent in their dealings with students, parents, other teachers and educational administrators, any reduction in d-scores between tests is a useful indicator of increased social competency and therefore teacher effectiveness.

Table 8 presents the percentage frequency of the signs in each area and for the total cd-score.

Table 8  
Percentage Frequency of Signs of cd-Scores Within Areas  
and for Total cd-Scores

Sign	Inclusion cd-score	Control cd-score	Affection cd-score	Total cd-score
+	31.43	27.14	38.57	32.38
-	48.57	52.86	34.29	45.24
0	20.00	20.00	27.14	22.38

Figures are percentages of whole group.

From Table 8 it is apparent that in the areas of Inclusion, Control and in total, more subjects experienced a reduction in the range between their Expressed and Wanted scores than experienced an increase. Thus it can be said that there was a greater change in the direction associated with more effective social interaction than changes towards less effective interactions.

The only area that shows a reversal, is that of Affection and it will be observed that the range between the frequency of positive and negative signs is much smaller in this area than in Inclusion and Control. Thus, while the reverse trend cannot be denied, it is of a lower magnitude than the sought-after trend in the other two areas.

It was relatively unusual for students to reduce the range of difference between Expressed and Wanted scores in all three areas. Typically, subjects showed a reduction in one or two areas, and either showed no change or an increase in range in the others.

#### The Low-Group Analysis Based On d-Scores

Table 9 presents the same data as Table 8 but broken down into the

High, Medium and Low sub-groups. The figures are presented as a percentage of the sign frequency in the whole group. Thus, for example, the Medium group contributed 50% of all the '+' signs in the area of Inclusion, while the Low group contributed 18.18% and the High group 31.82%. This accounts for all of the '+' signs in the area of Inclusion, and the total is 100%.

Table 9

Percentage Contribution of Each Group to Sign Frequency in Each Area

		Inclusion	Control	Affection	Total
Sign	Group				
+	Low	18.18	21.05	29.63	23.53
	Medium	50.00	47.37	40.74	40.59
	High	31.82	31.58	29.63	30.88
-	Low	35.29	32.43	33.33	33.68
	Medium	23.52	35.14	33.33	30.53
	High	41.19	32.43	33.33	35.79
0	Low	28.57	28.57	21.05	25.53
	Medium	42.86	21.43	31.58	31.91
	High	28.57	50.00	47.37	42.56

If the Low Group had changed more than the Middle or High Groups, the figures for the '+' and '-' rows in Table 9 should be higher for the Low Group than the other two groups. This is clearly not the case. The

figures in Table 9 show that the Low Group was the least reactive in several areas. This analysis therefore, provides no support for Smallegan (1971) or Jacobson (1972).

That this effect was not observed in this study cannot be readily attributed to a lack of sensitivity of the instrument since all three studies used the FIRO-B scale. The cause must therefore be sought in the nature of the stimulus experience or the particular group of subjects involved in the study. Since both the previous studies were reporting on more or less intensive encounter group experiences, it seems likely that the different format and goals of Educ 197 are sufficient to account for the lack of the expected outcome.

#### The Golden-Mean Analysis:

The Golden-mean analysis of the data attempted to identify changes in the subjects' interpersonal orientation by measuring the degree of movement towards or away from the values associated with the Golden-mean. This concept revolves around the assignment of numeric values in each cell of the FIRO-B result grid so that the factors associated with Inclusion, Control and Affection are balanced in the personality most effectively.

The results of this analysis have been arranged so that negative values reflect a reduction between the subjects' post-test score and the Golden-mean value as compared with the pre-test difference. These negative values then, represent a movement towards the Golden-mean and thus a more appropriate interpersonal orientation. By the same token, positive values indicate a movement away from the Golden-mean while a Zero shows

that no change occurred. The comparison figure was termed the G.M. d-score. (see page 24).

Table 10 presents the percentage frequency of the G.M.d-score signs in each area.

Table 10

Percentage Frequency of Signs of G.M.d-Scores Within  
the Areas of Inclusion, Control and Affection

Sign	Inclusion		Control		Affection	
	Exp'd	Wanted	Exp'd	Wanted	Exp'd	Wanted
+	27.14	32.86	34.28	24.29	32.86	30.00
-	40.00	31.43	32.86	52.86	30.00	28.57
0	32.86	35.71	32.86	22.85	37.14	41.43

Figures are percentages of the whole group.

The results in Table 10 are clearly mixed. Changes towards the Golden-mean occur more frequently than changes away only in the areas of Expressed Inclusion and Wanted Control. However, in these two areas, the difference or range between the frequency of the positive values and the negative values is much greater than in the other areas. However, it is not possible to make conclusive claims based on the figures in Table 10. When an analysis of the actual scores obtained by the subjects is made, a slightly different picture emerges.

Table 11

Raw Score Means - Pre-test and Post-test for  
Total Group and Sub-Groups

Group	Ie		Iw		Ce		Cw		Ae		Aw	
	pre	post	pre	post	pre	post	pre	post	pre	post	pre	post
Tot.	5.59	5.24	5.38	5.16	1.54	1.52	3.10	2.45	4.14	4.11	5.53	5.69
High	6.52	6.00	7.04	5.84	2.28	1.68	3.64	2.80	6.16	5.36	6.92	6.48
Med.	6.00	5.72	6.68	6.72	1.04	1.44	2.84	2.24	3.48	3.96	5.28	6.28
Low	3.12	3.70	1.50	2.00	1.20	1.05	2.75	2.30	2.45	2.70	4.10	4.20

An examination of the figures in Table 11 and a comparison between them and the Golden-mean values (see page 23) reveals that the post-test mean is nearer the Golden-mean than the pre-test in sixteen of the possible twenty-four instances. For example, the Golden-mean value for Expressed Inclusion is 4.50. In this area all the groups show movement towards the value of 4.50 between pre-test and post-test means.

The Standard Deviations of the raw-scores from the Golden-mean values as presented in Table 12 show a similar trend.

Table 12

Standard Deviations From Golden-Mean Values -  
Pre-Test and Post-Test for Total Group and Sub-Groups

Group	Inclusion				Control				Affection			
	Expressed		Wanted		Expressed		Wanted		Expressed		Wanted	
	pre	post	pre	post	pre	post	pre	post	pre	post	pre	post
Tot.	2.17	2.06	3.05	2.81	4.73	4.73	3.53	2.44	2.16	2.21	1.79	1.99
High	2.48	2.27	3.32	2.92	4.14	4.54	3.63	2.56	2.47	2.45	2.54	2.34
Med.	2.12	2.02	3.24	2.97	5.09	4.81	4.20	1.98	1.55	1.66	1.15	2.05
Low	1.75	1.81	2.01	2.45	4.96	4.84	2.27	2.79	2.40	2.50	1.23	1.29

The Low-Group Analysis Based on G.M. d-Scores

Table 13 presents the data broken down into the High, Medium and Low sub-groups. As for Table 9 (see page 31) the figures are given as a percentage of the frequency of the sign in the whole group. For instance in the area of Wanted Affection, the Low Group contributed 15% of all negative values in this area while the Medium group provided 30% and the High group 55%. Since this accounts for all negative values in the area of Wanted Affection, the total is 100%.

Table 13

Percentage Contribution of Each Group to Sign  
Frequency in Each Area

Sign	Group	Inclusion		Control		Affection	
		Expressed	Wanted	Expressed	Wanted	Expressed	Wanted
+	Low	21.06	26.09	25.00	23.53	39.13	14.29
	Medium	36.84	34.78	29.17	41.18	21.74	47.61
	High	42.10	39.13	45.83	35.29	39.13	38.10
-	Low	17.86	22.73	30.43	29.72	23.81	15.00
	Medium	42.86	31.82	43.48	35.14	33.33	30.00
	High	39.28	45.45	26.09	35.14	42.86	55.00
0	Low	26.09	36.00	30.44	31.25	23.08	48.28
	Medium	47.82	40.00	34.78	31.25	50.00	31.03
	High	26.09	24.00	34.78	37.50	26.92	20.69

As in the d-score analysis, there is very little support in Table 13 for Smallegan (1971) or Jacobson (1972). Of the possible 18 instances, the Low Group was the least reactive in 14, and was the most reactive in only 2. This is the exact reverse of the expected outcome.

The possible explanation for the failure of the Low Group effect not being apparent in this study has been discussed in page 32 of this study.

#### General Discussion:

The ultimate question with which this study was concerned revolved around the issue of the effectiveness of the Thiokol Interaction Laboratory in preparing teachers to deal with the human aspects of the teaching situation more competently.

Teacher competency in this usage refers to the possession of interaction skills that reflect a basic humanistic orientation made manifest in a respect for, and skill in dealing with, pupils as physical, emotional and intellectual beings; these values being those expressed in the briefs quoted on pages 3 and 4 of this study and consistent with the goals of Educ 197 reported on page 6.

However, this study, in an attempt to pave the way for further research, was restricted to the limited questions posed on page 9.

Re-stated, these questions are:

1. Is the FIRO-B a sensitive enough instrument to detect changes in students taking Educ 197?
2. Do the students change during the period of Educ 197?
3. Are these changes in directions which will enhance their functioning as teachers?

These questions will be discussed in turn in the light of the analyses reported in the previous section of this study.

The answer to question 1, that is, was the FIRO-B a sensitive enough instrument appears to be yes. Certainly changes were detected, and the following case studies offer some independent support for the FIRO-B findings. As observed on pages 13 and 14, the instrument has been used successfully in a broad range of settings, including human relational studies. It was also established on page 28, that the data obtained in this study resembled published data for similar groups. (see Table 7)

This author therefore has confidence in the data, and since changes were registered feels justified in his positive response to question 1. However, it is also clear that the FIRO-B scale yields data in a relatively narrow spectrum of human response. It is probable that a broad range of change was experienced by the subjects and it might have been useful to run two or more scales side-by-side.

Such a design would have provided an experimental situation in which the scales would have provided a self-validating interaction, as well as providing information in a broader spectrum of response. The FIRO-F (Fundamental Interpersonal Relationship Orientation-Feeling) suggests itself as one choice, and a personality or attitude inventory would suggest itself as the other.

Question 2 asks if the students do actually change during the period of Educ 197. Since no one student obtained three Zero d-scores, the answer to this question too is yes. It is not the business of this study to assign causal relationships, but merely to describe. Therefore a

discussion about why and how much the students changed would be inappropriate. However, it can be stated on the basis of their test results that all the students changed, and many of them quite dramatically.

That not all of these changes were in appropriate directions, falls into the area of concern of question 3. To answer this question fully would require an individual assessment of each students' pre-test and post-test FIRO-B profile. For as already observed, the individual students did not often experience changes equally, or in the same direction in the areas of Inclusion, Control and Affection. And in the final analysis, Educ 197 is concerned with individuals, and the development of appropriate individual orientations.

However, in a group wide sense, the data demonstrates that considerable positive change did occur. The d-score analysis reveals that nearly 50% of the students experienced changes likely to be associated with more appropriate interpersonal orientations, and therefore teacher effectiveness, in the area of Inclusion. In the area of Control, over 50% experienced similar changes. This direction however, was reversed in the area of Affection. (see Table 8, page 30)

At an individual level, the Affection scores remained remarkably stable, and indeed, a higher percentage of students showed no change in this area than in Control or Inclusion. Too, the range between the percentage frequency of positive and negative values is markedly less in the area of Affection than in the other two areas. (Table 8) The raw score means and standard deviations reported in Table 7 (page 28) also

reflect this stability.

Previous studies do not report their data in sufficient detail to know if this effect was detected, nor does it enter any discussion of results, so one can speculate that it did not occur. Thus it appears to be a peculiarity of this particular group, but one to be aware of in future studies. It is also worthy of note that the Thiokol Interaction Laboratory does not specifically address itself to affectional matters, whereas this would likely play a major role in the intensive group training which was the concern of the previous studies.

In the context of question 3, the Golden-mean analysis provides less clear answers. Table 10 indicates that negative scores, that is changes towards the social ideal of the Golden-mean, exceed positive scores in only two of the six cells. Thus on the basis of this analysis it would appear that changes in the desired direction did not occur during the period of the Interaction Laboratory in four out of six of the possible areas in which change could take place. (The six areas being Wanted and Expressed in the areas of Inclusion, Control and Affection).

However, Table 12 (page 34), which presents the Standard Deviations between the raw scores and the Golden-mean values shows a post-test shift towards the Golden-mean in sixteen of the twenty-four situations, no change in two, and a shift away from the Golden-mean in six. On the basis of this analysis a slight overall change towards the Golden-mean is indicated. Certainly, in individual areas major changes occurred, the most outstanding example being the response of the Middle group in the area of Wanted Control.

Thus the two analyses of the Golden-mean data suggest two conclusions, one supporting the d-score analysis and one in opposition.

Two possibilities exist. Either the data are ambiguous or the analysis is invalid. The latter is suspected. The d-score analysis has been used successfully in several previous studies (Schutz and Allen, 1966; Smith, 1971) while the Golden-mean analysis is the original contribution of this author.

One possible explanation is that Ryan's original concept was formulated for use in a clinical setting; that which is useful in assisting individuals to an understanding of their own behaviour is not necessarily applicable to a group research setting. As Ryan himself observes:

"The interpretations presented...are the result of thousands of FIRO-B administrations to a variety of populations... The emphasis is not on the development of norms for each population, but rather upon interpretations that are applicable regardless of the population." (1977, p. 4)

However, because one aspect of the Golden-mean analysis is supported by the d-score analysis this concept may be worth further experimental trials.

#### Summary:

Overall, the data supports the conclusion that more subjects of this study experienced changes in their interpersonal orientations such that their effectiveness in future teaching assignments will be enhanced than subjects who experienced changes likely to be associated with less effective classroom interactions. To this extent, the inclusion of the Thiokol Interaction Laboratory in Educ 197 appears to be justified.

CHAPTER VI  
INDIVIDUAL CASE STUDIES

The following individual case studies may reveal more about the manner in which students change during the period in which they are taking Educ 197 than the group data previously presented and discussed. The course is concerned with individuals, and it is at the individual level that its effects might more effectively be sought.

It is only appropriate that, as this section of the report is dealing with individual people, a less formal style of presentation be adopted. Pseudonyms and personal pronouns will be employed. In selecting pseudonyms, every attempt has been made to avoid the first names of any students participating in the study. If an error has been made and such a name used, no-one should assume that the name and person are in any way matched.

The cases were selected as extreme examples of the range of experience within this group. Analyses are based on Ryan (1977).

Case #1

Annabell is an 18 year old female from Victoria. She was selected because she had the lowest Total (I + C + A) of all the subjects. Her result grids appeared as follows:

	Pre-test				Post-test		
	I	C	A		I	C	A
e	1	0	1	e	1	2	1
w	0	1	1	w	0	4	0

Annabell is interesting, not because her interpersonal orientation changed dramatically during the period of Educ 197, because clearly it didn't, but because one wonders why she was drawn to teaching in the first place.

Ryan (1977) characterizes profiles such as Annabell's as being "Rocks". The very low affection scores indicate that she is not only uncomfortable about expressing affection herself, but also prefers other people to not attempt to become close to her. Thus she tends to move away from people and will probably be uncomfortable in even informal social gatherings. Further she not only does not wish others to control her, she also does not wish to control others. Annabell is not inadequate, merely very cautious. She has friends, even intimate friends, but only a very few highly selected individuals are included.

"...[Rocks]...are well defended in all three areas...People in general cannot hurt them, because they do not give them the opportunity to do so." (Ryan 1977, p. 28)

It is difficult to see why this shy, a-social being would be attracted to the social hurly-burly of the elementary school. Yet the teacher with whom she worked on her practicum observed that Annabell's calm detachment was highly effective in dealing with young children.

Thus Annabell raises the question of what combinations of FIRO-B scores are associated with effective teaching. This study assumed that an individual obtaining low d-scores and returning scores close to the Golden-mean would be a more effective teacher. It seems possible, however, in the light of Annabell, that this may not always be the case. Perhaps effective teaching can stem from the tensions inherent in conflicting personality traits. Anyway, wasn't it A.S. Neill in Summerhill who observed that teaching is itself a neurosis?

Case #2

Dinia is a 20 year old female also from Victoria. In contrast with Annabell, Dinia scored the highest Total (I + C + A). Her pre-test, post-test results were:

	I	C	A		I	C	A
e	8	3	7	e	6	3	4
w	9	6	9	w	9	4	7

There is little question as to why Dinia selected teaching as a potential career. She is warm and friendly towards other people and prefers others to be the same with her; when people are distant and cold she feels very uncomfortable. She is outgoing and friendly and is socially amenable, readily falling in with others plans.

She has an intense need for affection overlying a probable fear of rejection which leads her into situations where she can obtain reassurance as to her "lovability". Her pre-test scores, particularly, approach very closely the "Let's Have a Party" personality. (Ryan 1977, p. 30)

Dinia's sponsor teacher's observations are of a vital young person full of energy and enthusiasm. Her positive attitude, enjoyment of the situation, and willingness to try out new situations were stressed.

Although her Difference scores increased in the areas of Inclusion and Affection, overall it appears that her behaviour toned-down during the period of the study and perhaps is more comfortable with herself as a result. If this probable increase in comfort is reflected in class-room performance then this case too has implications for this study. As in the case of Annabell, the possibility is raised that effective teaching is not associated particularly strongly with the magnitude of the d-scores.

Case #3

One of the few males participating in this study, Randy is in his middle twenties. He was selected for inclusion because his scores show the greatest range between pre- and post-tests. His results appeared thus:

	I	C	A		I	C	A
e	3	1	3	e	7	5	7
w	7	3	6	w	1	9	9

In the area of Inclusion, Randy's pre-test scores indicate that while he wished to be included in activities with others, he was somewhat reluctant to approach the others to this end. He thus tended to leave it up to them to issue the invitation. If not invited he probably felt lonely and left out yet his attitude had not invited others to approach him. By contrast his post-test score in this area indicates his willingness to be involved casually with other people, but with a very small inner-circle of close friends. Thus his social behaviour has swung from "if you don't call me, I won't call you" to "don't call me, I'll call you."

Randy's pre-test Control score points to an individual who not only does not wish to be in the position of having to tell others what to do, but also prefers not having others controlling him. This defensive position probably hid doubts about his ability to handle leadership positions involving responsibility. During the period of the study this attitude changed dramatically. His post-test scores indicate a certain willingness to assume responsibility and confidence in his abilities. This is tempered however by concern about over extending himself and a willingness to "take a break".

It is significant, but perhaps not very surprising that Randy's pre-test Affection scores suggest that he approached affection needs in much the same way that he approached inclusion needs. He wanted affection but left it up to the other person to make the first move. Once that move had been taken he could relax with them, but still remain sensitive to signs that the other person no longer felt affection for him. From this position he moved towards being an initiator of warm, close contacts with other people and wants them to reciprocate; indeed he feels uncomfortable with those who wish to remain distant and detached.

His sponsor teacher observed him to be enthusiastic, cheerful, well prepared, patient and interested in his practicum experience. The teacher also observed that he was capable of evoking warm responses from the children and was regarded with fondness by them.

An interesting case; Randy either changed dramatically during the period of the study, or was in an intense atypical mood at the time that he wrote one of the tests.

#### Case #4

Nan, a 19 year old female from the Lower Mainland, was selected on the basis of having the highest difference scores in the entire group.

Her result grids follow:

	I	C	A		I	C	A
e	3	0	1	e	5	0	8
w	4	9	7	w	7	7	8

Except for the high wanted Affection score, Nan's pre-test result approaches very closely the pattern characterized by Ryan (1977) as the

"Foot Stamping Dependent" (p. 29). These individuals are dependent, and when their dependency needs are not met they tend to be "openly demanding and hostile". The moderate inclusion scores indicate that the burden would be placed on the relatively few people with whom Nan was friendly. Unwilling to accept responsibility, she would expect "somebody to do something about it." However, she really wanted affection and a lot of it, but was shy and uncertain about how to get it. This was almost certainly a source of frustration to her. If typical, she was probably a skilled manipulator of those around her.

Whilst her post-test scores show a moderating trend, Nan can still hardly be considered as socially mature. Her post-test scores in the area of Inclusion indicate that she has a strong desire to be with people and thus is sensitive to feelings of being left-out. She needs constant reassurance as to her likeability and belongingness. While her friends probably perceive her as being reasonably sociable, in reality she is quite cautious in matters of inclusion.

Her Control scores indicate that Nan is highly dependent in matters involving aspects of control, leadership and responsibility. Thus her attitude of "somebody has to do something" has not basically changed. That her wanted Control score is lower is evidence that the attitude has changed with respect to intensity, however.

The change in intensity is also apparent in her Affection scores in the post-test. The basic nature of her ways of dealing with matters associated with affection are the same, but less so.

Nan's sponsor teacher refers to her as being cooperative, willing

and enthusiastic. She also indicates a willingness to assume responsibility. That Nan would be cooperative and willing is consistent with her FIRO-B profile; she would certainly be open to suggestion and willing to do things in the approved way. Enthusiasm and readiness to assume responsibility are not normally part of Nan's way of responding, but it is conceivable that the practicum situation could elicit these.

#### Case #5

Seena is an 18 year old female from northern Vancouver Island. She experienced the largest reduction in the overall d-score in the group.

Her pre- and post-test results were:

	I	C	A		I	C	A
e	6	2	2	e	5	1	2
w	5	9	8	w	8	3	3

In the area of Inclusion, Seena has moved from expressing more than she needs to needing more than she expresses. Initially gregarious, she is now less so and has developed a slightly more defensive position in relations with others. Her need to belong has an anxious edge to it which was not apparent before.

It is in the area of control that Seena has experienced the most change. Previously she wanted others to assume responsibility for her much as Nan did. Unlike Nan, however, Seena was willing to take some responsibility into her own hands. This willingness has reduced slightly, and Seena is much less willing for others to assume her responsibilities or to control her own behaviour. She has become much more self-sufficient and independent.

Consistent with this change is the parallel change in her Affection

scores. Needing much affection but eliciting little in others, Seena probably experienced herself as being "on the shelf", left out and lonely. She needed others to make the first move. While this is still the case, she now expects less, indeed wants less, affection. Thus the conflict and anxiety associated with these issues are probably less now and she feels more comfortable about it.

Overall, it appears that Seena has taken more control over her interactions with other people. Previously open to manipulation and control, she is now much more independent and realistic about herself in relation to other people.

Her sponsor teacher notes that Seena related with the children well and with warmth; that she presented well prepared material in a cheerful and enthusiastic manner. She was patient with the children and evoked affection from them.

Thus it appears that during the period of the study Seena underwent changes that had a positive impact on her class-room performance.

#### Cautionary notes:

Given the stress of the practicum experience together with the students natural desire to do well in this, their first demonstration of skill in their chosen profession, it is extremely likely that the students did not appear in their true colours. A normally short-tempered individual could, for example, be expected to project an image of infinite patience in this setting.

Only in cases of extreme and obvious unsuitability of the student for a career in teaching would a sponsor teacher take the responsibility

to make a negative report at this stage of teacher preparation. Some sponsor teachers will point out areas of weakness for the student's information, some will engage in a little bibliotherapy, but it is very rare to get an overall negative report with a recommendation that the student not continue in education.

Further, each sponsor teacher, being individual, will be reporting on the basis of different perceptions of what makes an effective teacher. Some will be looking for evidence of the ability to control the class, some stressing the need to establish warm, caring relationships with the pupils, and so on.

Therefore, on the basis of these three observations, caution should be exercised when seeking common elements between the FIRO-B analysis and sponsor teacher reports.

Concluding statement:Deficiencies in the present study and suggestions for future research.

Many of the deficiencies in this study stem from its preliminary nature. As an exploratory study no control group was utilized and therefore causal relationships could not be explored nor rigorous statistical analysis attempted. This is not perceived as a disadvantage for this study, but further research into the effectiveness of Educ 197 will need to make use of these methodologies.

One of the problems in dealing with this particular course is that the practicum, which must have a major impact on the attitudes and behaviours of the students does not lend itself to study. This is so because the students return to their home areas for the practicum and do not re-convene as a group until several months later. One possible means of dealing with this situation would be to supply the students with a mail-back questionnaire before they leave for the practicum. This system has several drawbacks; but is better than nothing.

A consideration that has arisen from this study is the need to establish some more closely defined criteria against which the Educ 197 students can be compared. As observed in Annabell's case study, the basic assumption was made that a reduction in d-scores, and thus movement towards a more stable and less anxious personality would result in more effective teachers better able to relate to the elementary school pupils in a caring and responsive learning situation.

It appears that this assumption may not be valid. Therefore future studies in this area may find it worthwhile to identify experienced

teachers who exhibit the desired characteristics and administer the instrument to them. The resulting data would provide a suitable criteria; that is, of course, if all successful (as defined in this study) teachers, or even most of them, display common characteristics.

A major technical problem with this study is the fact the 112 students completed the pre-test and 90 the post-test. Because of late registration additions, not all of the 90 students who completed the post-test had previously completed the pre-test. There were only 70 students who completed both parts of the test. This represents only 50% of the 132 students completing the course.

This is a perennial problem in this sort of research, and must severely compromise the results and conclusions drawn from them, since the data that might have been supplied by the missing subjects remains unknown.

Perhaps the major function of Educ 197 is to present the students with enough information and develop enough self-awareness that they can determine, in consultation with their seminar leader, their own suitability to teaching. In the final analysis, any meaningful research into Educ 197 will attempt to evaluate this process.

However, as has already been pointed out, the students will not be teaching full-time for several years. A long term study would not be an appropriate solution since many experiences of both a personal and professional nature intervene between Educ 197 and the first teaching post. By that time, all that could be said is, if an individual who is unsuited to the task becomes a teacher, then Educ 197 failed in that case. A

frequency count could be made of such cases, if they could be identified, but the resulting information would not be very useful.

Thus the researcher would, of necessity, fall back on a comparison between individual decisions as to teacher suitability as established by Educ 197 with other independent predictors of future teacher effectiveness. Unfortunately, no reliable predictors have been found. Much effort has been expended by the Faculty of Education of the University of Victoria in the attempt to find accurate predictors of future teacher effectiveness as a means to refine its student selection procedures. Indeed, Educ 197 is itself a response to this concern. Thus the tautology is complete.

This author, both as a parent and as a professional educator is dedicated to the provision of quality education in the public schools. It is his sincere hope that this study will, in a small way, contribute to the further research into teacher preparation so that the teachers can be as well prepared as possible to meet the demands of their profession.

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APPENDIX A

## THIOKOL INTERACTION LABORATORY - LIST OF ACTIVITIES

<u>Number</u>	<u>Name</u>	<u>Training Materials</u>	<u>Equipment</u>	<u>Time (Minutes)</u>
<b>BASIC COMMUNICATION SKILLS</b>				
1	Student Introduction and Situational Teaching Incidents	Student Handout No. 1		90
2	One-to-One Communication	Trainer Aid No. 1 (Plastic Shapes)	One large table and two chairs	90
3	Listening	Trainer Aid No. 2 (Cue Cards)	Complete VTR system	90
4	Rumor	Trainer Aid No. 3 (Tape Cassette)	Audio cassette tape recorder	90
5	Feedback	Trainer Aid No. 4 (Film & Tape Cassette) Student Handout No. 2	Film projector (16 mm), Screen Audio cassette tape recorder	90
6	Nonverbal Communication	Trainer Aid No. 5 (Cue Cards)		90
<b>GROUP INTERACTION</b>				
7	Trust and Common Sharing	Trainer Aid No. 6 (Feedback Window)		90
8	Initial Sharing			90
9	Focused Feedback	Significant Past Object (personal object from home)		90
10	Sociometric Feedback	Student Handout No. 3		90
11	Identifying Group Roles	Trainer Aid No. 7 (Puzzle Parts) Student Handout No. 4	Complete VTR system and one large table	90
12	Feedback of Group Roles	Trainer Aid No. 8 (Task/Maint Grid)		90
13	Group Consensus	Student Handout No. 1 Student Handout No. 4	Complete VTR system	180
<b>INTERPERSONAL SKILLS</b>				
14	Teacher/Pupil Interaction	Trainer Aid No. 8 (Task/Maint Grid) Trainer Aid No. 9 (Cue Cards)	Complete VTR system	90
15	Bias	Trainer Aid No. 10 (Film) Student Handout No. 5	Film projector (16 mm), Screen	90
16	Initiative and Group Growth	Trainer Aid No. 11 (Group Sign)		90
17	Interpersonal Problem Solving	Student Handout No. 6a & 6b Trainer Aid No. 12 (Role Playing Cards)		90
18	Decision Making	Student Handout No. 7		90
19	Cultural Demands	Trainer Aid No. 13 (Film Strip) Trainer Aid No. 13a (Tape Cassette)	Film strip projector, Tap recorder	90
20	Problems with Parents	Trainer Aid No. 14 (Cue Cards)		90
<b>PROFESSIONAL PROBLEMS</b>				
21	Creativity	Trainer Aid No. 15 (Picture Prints)		90
22	Teaching Simulations	Student Handout No. 8		90
23	Teacher Interaction Maze	Student Handout No. 9		90
24	Professional Ethics	Student Handout No. 10 and NEA Code of Ethics		90
25	Teacher/Teacher Interaction	Student Handout No. 11		90
26	Situational Teaching Incidents	Student Handout No. 1		90
27	Closure	Student Handout No. 1		60

Note: Answer sheets and worksheets for the Student Handouts are referenced by exercise number in the Student Journal. These Handouts are reusable and should be collected after use.

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Title of Thesis

PREPARATION OF TEACHERS FOR A HUMANISTIC EDUCATION:  
A DESCRIPTION OF THE THIOKOL INTERACTION LABORATORY  
AND ITS EFFECT ON EDUCATION STUDENTS

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