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THE UNIVERSITY OF ALBERTA

# AN EVALUATION OF THE OBJECTIVES OF AN ELEMENTARY TEACHER EDUCATION PROGRAM

by

© HOWARD NORMAN WATTS

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

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FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled "AN EVALUATION OF THE OBJECTIVES OF AN ELEMENTARY TEACHER EDUCATION PROGRAM" submitted by HOWARD NORMAN WATTS in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

(Supervisor)

(External Examiner)

Date April 11, 1972

ABSTRACT

The purpose of this study was to assess the objectives of an elementary teacher education program by examining the decisions which groups of judges make regarding two levels of objectives. The groups of judges included student teachers, elementary school cooperating teachers, and teacher educators at the University of Alberta and at three other Canadian universities.

In order to assess the objectives, it was necessary to design and to test a method for evaluating the objectives at two levels of specificity. This method included the development of a conceptual model which contained the sufficient components of a teacher education curriculum. Using the components of this model as a guide, an instrument composed of objectives at two levels of specificity was also developed. The model and the instrument were tested within this study and both the model and the instrument were regarded as valid parts of the evaluation method employed.

The main hypotheses were examined using The Teacher Education Opinionnaire developed in this study. The results suggested that although there were significant differences between student teachers and either teacher educators or cooperating teachers in their perceptions of the level one objectives of an elementary teacher education program, there were high similarities in the rankings of these objectives. By way of an analysis of the within group perceptions of the level one objectives it was also apparent that there were significant differences when teacher educators were examined by years of experience

in teacher education, and when student teachers were examined by sex and age. However, there were also high similarities in the rankings of level one objectives when comparisons were made within all groups.

This investigation also revealed that although there were significant differences on certain level one objectives by teacher educators in the different teacher education institutions in Canada, there were also high similarities in the rankings assigned all objectives.

It was apparent from the results of this investigation that there existed a low to moderately high relationship between teacher educators' assessment of the level one objectives of a teacher education program and their assessment of the level two objectives of a basic course within the program. In other words, the specific objectives of a course, or an instructional unit, within the program were assigned priorities somewhat consistent with the broad objectives of the total teacher education program.

The method for evaluating objectives employed in this study would appear to have potential for similar use in other curriculum areas.

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# CHAPTER I

## INTRODUCTION AND STATEMENT OF THE PROBLEM

> For many years now, change and innovation have been key words .:. . The most notable trend in this area in recent years has been the growing insistence of administrators and other leaders on quality and improvement in education rather than on mere change (Flanagan, 1969, p. 221).

Education is highly valued as a means of meeting the social and economic as well as the intellectual needs of society. To fulfill this challenging role, educators are required to deal with many critical societal problems in an efficient and effective manner. However, there is at present a reluctance on the part of government to increase the funds for educational innovation until the worth of present and proposed programs can be determined. As a result, many educators for the first time are having to cope with the requirements for systematic curriculum evaluation.

A curriculum evaluation program begins at the points where decisions are made about the objectives of a program. The needs of society are interpreted and made known through the media by news reporters, academicians, leaders of business and industry, school trustees, and government officials, and these interpretations are translated into broad educational objectives by curriculum developers. In turn, the aims of education are interpreted by other curriculum planners to formulate statements of behavioral objectives which may be transformed into strategies for classroom instruction. This sequential process of curriculum development suggests that there are

several points at which critical decisions about objectives are made. The importance of the objectives is emphasized as the beginning point from which a regular and systematic evaluation program may be generated.

Teacher education programs have existed through the years to influence the behavior of teachers. These, too, have become the objects for curriculum evaluation in efforts to improve their effectiveness and respond to the current demands and changing needs of the education community. Unfortunately, the purposes and objectives of such professional preparation programs have not always been clearly defined and understood. A need exists, therefore, to examine teacher education program evaluation with a concentration upon the assessment of the objectives of an elementary teacher education program.

## I. PURPOSE OF THE STUDY

It was the purpose of this study to assess the objectives of an elementary teacher education program by examining the decisions which groups of judges make regarding two levels of objectives. The groups of judges include student teachers at the University of Alberta, elementary school cooperating teachers at the University of Alberta, and teacher educators at the University of Alberta and at three other Canadian universities. An effort was also made to examine the degree of fidelity between instructional unit objectives and broad statement objectives of an elementary teacher education program.

## II. THE PROBLEM

To assess the objectives it was necessary to design and to

test a methodology for evaluating the objectives at two levels of specificity. The initial stage of this methodology included the development of a conceptual model of the sufficient components of a teacher education program. Statements of objectives at two levels of specificity were generated using the components of the model as a guide, then an instrument, made up of the statements of objectives and employing the Q methodology, was developed to evaluate the objectives of an elementary teacher education program.

Sub-problems

The major problem of this study was resolved into the following:

1. To identify the components of a teacher education program, and thereby to construct a valid model of the sufficient and substantive parts of the curriculum,

2. To construct and to test an instrument to identify the perceptions of individuals relating to two levels of the objectives of an elementary teacher education program,

3. To determine the similarities and differences in perception of the broad objectives of the University of Alberta elementary teacher education program by teacher educators, student teachers, and elementary school cooperating teachers,

4. To determine the similarities and differences in perception of the broad objectives of an elementary teacher education program by teacher educators in four universities in Canada,

5. To determine the relationship between teacher educators' rating of instructional unit objectives, and their assessment of broad objectives of an elementary teacher education program.

## III. DEFINITION OF TERMS

1. Broad Objectives (Level One) These are statements of intended outcomes of a teacher education program. They are stated at the most general or abstract level, and usually delineate areas of the curriculum to be covered by the teacher education program.

2. Components of Program This refers to the sixteen elements of a teacher education program as described in the Performance Criteria for Teacher Education. There are four such components within each dimension of the PCTE.

3. Cooperating Teacher A teacher in the school system who assists the practising student teacher within the school environment.

4. Dimensions of the Program This refers to the four major parts of a teacher education program as described in the Performance Criteria for Teacher Education. They are: Communication Competence, Planning Competence, Professional Knowledge and Attitudes, and General Knowledge and Attitudes.

5. Frame of Reference This refers to the value position of the individual or group which is assessing the objectives. Every individual may have a unique frame of reference, and a group may also have a group frame of reference with individual differences within.

6. Instructional Unit Objectives (Level Two) These are statements of intended outcomes of a teacher education curriculum. They are stated at a more precise level than the broad objectives, and therby are helpful in specifying the intends of an instructional unit or course.

7. Student Teacher This refers to an individual who is a student in a teacher education program. Other terms which may refer to the same person are teacher candidate and teacher trainee.

8. Teacher Educator This refers to an individual who has contact with student teachers within a teacher education institution. Although individual positions in a program are varied, this individual perceives as part of his role the education of the elementary teacher candidate.

## IV. HYPOTHESES

In view of some of the purposes of this study, the following hypotheses were formulated.

### Hypothesis One

There are no significant differences in the perceptions of the level one objectives of the elementary teacher education program at the University of Alberta, as measured by The Teacher Education Opinionnaire Form I, for teacher educators, student teachers, and elementary school cooperating teachers.

### Hypothesis Two

There are no significant differences in the perceptions of

the level one objectives of an elementary teacher education program, as measured by The Teacher Education Opinionnaire Form I, for teacher educators, student teachers, and elementary school cooperating teachers across sex, age, years of teacher education, years of school teaching experience, years of experience in teacher education, amount of involvement with elementary student teachers, and the area of concern in the teacher education program (where applicable)[1].

Hypothesis Three

There are no significant differences in the perceptions of the level one objectives of an elementary teacher education program, as measured by The Teacher Education Opinionnaire Form I, for teacher educators at four universities in Canada.

Hypothesis Four

There are no significant relationships between the perceptions of the level one objectives of an elementary teacher education program, as measured by The Teacher Education Opinionnaire Form I, for teacher educators, and the perceptions of the level two objectives as measured by The Teacher Education Opinionnaire Form II, for teacher educators.

Only some of the major purposes of this study are revealed in the four hypotheses listed above. In addition one of the more important purposes of the study was to make an attempt to validate the conceptual model and the instrument which was derived from that model.

---

[1]It was the intent of this study to explore the diverse points of view, or perceptions of the level one objectives of an elementary teacher education program, and therefore the variables of age, sex, years of teacher education, etc., were chosen to examine the data. There was no other rationale for choosing these specific variables.

## V. SIGNIFICANCE OF THE STUDY

The major significance of this study was the assessment of objectives of an elementary teacher education program by involving three groups of judges (student teachers, teacher educators, and cooperating teachers). Although the objectives of the elementary teacher education program at the University of Alberta were the focus for the assessment, the opinions of the objectives by teacher educators working in different Canadian institutions were examined and compared. Therefore, in this study it was possible to describe the individual and group similarities and differences in the perceptions of objectives of an elementary teacher education program across several institutions.

If the objectives of a curriculum (elementary teacher education) are not made explicit, it is necessary for program evaluation purposes to make such objectives known, and also to indicate the priorities and relative importance of the intended outcomes (Stake, 1969). This study was within the context of curriculum evaluation, and it involved the design and testing of an instrument and methodology for assessing the objectives of a teacher education program, and thereby making the objectives explicit.

It was not only worthwhile to examine the broad objectives of a teacher education program, but it was also an important concern to assess more specific curriculum objectives. This study provided a partial answer to the question of whether the important priorities

of more specific objectives are consistent with the relative importance attached to the broad objectives of the program. Previously, there have been few empirical studies to support the theory that the more specific objectives follow directly from the broad form.

A significant outcome of this study was the development of a conceptual framework of the dimensions of a teacher education curriculum. Such a framework may be useful in curriculum development and curriculum evaluation in teacher education.

## VI. LIMITATIONS

The samples selected in this study were meant to be representative samples of teacher educators who are concerned with the education of elementary teacher candidates in the four universities: McGill University, Simon Fraser University, The University of Calgary, and The University of Alberta. The samples were also representative of student teachers in the four year degree program at the University of Alberta, and elementary school cooperating teachers at the University of Alberta. The sample of elementary school cooperating teachers was the only random sample, and therefore, generalizations made about the populations which the samples represent must be interpreted with this limitation in view.

# CHAPTER II

## BACKGROUND OF THE STUDY

The basic concepts employed in this study and the theoretical background of this research are described in this chapter. The review begins with an overview of curriculum evaluation, and continues with a description of the specific areas of curriculum evaluation relevant to this study. This latter section of the review deals with the nature of the assessment of objectives, and the past attempts to evaluate the objectives of a curriculum. The forms of objectives that may be used in the development and implementation of a curriculum are also described in this chapter. The methodologies for the evaluation of objectives are outlined, and a case is made for the employment of groups of judges to assess the priorities of the objectives of a teacher education curriculum. This chapter concludes with a brief overview of teacher education program evaluation, a description of the nature of evaluative studies in teacher education covering the period 1940 to the present, and a review of the attempts made to assess the objectives of a teacher education curriculum.

## I. CURRICULUM EVALUATION

Evaluation has come to mean more than the measurement of individual progress, for curriculum evaluation focuses upon an individual curriculum, an individual school, and even an individual nation. Lindvall and Cox (1969) discuss the many forms and functions

that educational evaluation serves. Evaluation may refer to the collection of pupil data for the purpose of planning learning experiences suited to the individual. The term evaluation may also be used to describe the study of teacher performance for the purpose of improving instruction and to indicate the assessment of an entire program for the purposes of making decisions regarding its worth. Educational evaluation may have an even greater scope, for Husen (1969) has described a need for cross national evaluation or evaluative judgements passed upon the relative merits of educational systems in different countries. It is the ever increasing demands of a complex society, as well as new knowledge and technology, that have influenced this domain of curriculum evaluation.

Evaluation first appeared in the terminology of education in connection with a protest movement in the 1930's against the practice of judging educational products solely on the basis of pupil achievement as measured by standardized tests (Merwin, 1969). The measurement devices had been developed as part of the scientific revolution and were mainly tests of memory and computation. In the late 1930's, the proponents of a broader approach advocated the inclusion of such aspects as interests, attitudes, values, and personal and social adjustment. Most frequently the segments of the total school community were divided for evaluation purposes, and instruments and techniques were developed which attempted to analyze the separate aspects including the teacher, the student, the environment, and the content. Because of the interaction of teachers, students, and teaching environments, the program appeared much too

complex to gain a total evaluation, and so efforts were concentrated on a separate evaluation of the sub-systems within the total organization.

However, in the last decade evaluators have turned their attention to the task of program assessment, or a total system evaluation. The development of a modern decision-theory has broadened the aim of the evaluator from a simple determination of the existence of a relationship to a comprehensive consideration of all of the factors in the total system. This tendency to broaden the view of the program developer and evaluator to emphasize the effectiveness of the total system has lead to a variety of procedures for program or curriculum evaluation. The search for a methodology of evaluation, or appropriate evaluation strategies which may be applicable across many projects and programs, has characterized the work in the recent era of evaluation (Scriven, 1967).

Flanagan (1969) has identified the essential elements of a modern approach to evaluation for decision making. In all cases the essential components appear to be: (a) the definition of all of the outcomes of the system, including the objectives or aims and also possible unplanned effects; (b) the systematic analysis and study of various possible procedures for achieving the objectives as defined; and (c) a plan and decision based on this analysis and an over-all evaluation of the final program. However, the responsbility of the evaluator may be to do more than gather empirical evidence for decision making, for as Glass (1968) explained:

> Evaluation can contribute to the construction of the curriculum, the prediction of academic success, or the improvement of an exciting course. But these are the roles it can play and not its goal. The goal of evaluation must be to answer questions of selection, adoption, support and worth of educational materials and activities ... . In the past we have avoided the goal of evaluation with its inherent threat to teachers, administrators, and curriculum developers, and have concentrated on one or more of the non-threatening roles evaluation can play (p. 4).

The goal of evaluation is always the same: to determine the worth of something. The roles of evaluation depend on what that something is, or whose standards of value will apply.

## II. EVALUATION OF OBJECTIVES

Significant advances in the field of evaluation were made by the efforts of Ralph Tyler and his staff (Smith and Tyler, 1942) who developed and implemented a philosophy of evaluation that has provided a basis for the subsequent study of program evaluation. Tyler (1949) has described the process of evaluation as essentially that of determining to what extent the educational objectives are actually being realized by the program of curriculum and instruction. To carry out an evaluation it is necessary to know the objectives of the program, and the task of formulation falls to the curriculum developers. The specific evaluation of the objectives themselves appeared not to be the concern of the curriculum evaluators, and therefore Tyler's evaluation staff made no attempt to gather judgemental data concerning the nature of objectives.

Stake (1969) maintained that there are other important

roles for evaluation than to determine the extent to which teaching objectives have been attained.

> A program evaluation is incomplete if it goes no further than designing specific goals at time zero. To understand what is happening in a training activity and to ascertain its value, we are obliged to identify groups of goals, ascertain priorities, and reveal the dynamics of changing priorities (p. 17).

The individuals who set objectives may be particularly interested in the attainment of goals they specified, but others have other goals. A group of teachers, parents, students or subject experts will regard different standards against which to make value judgements. Bloom (1969) has suggested that if one takes statements of objectives from different groups at their face value, one may find real conflict between the referent groups. However, if one probes to a deeper level, it is likely that all groups have a set of specifications in mind which differ only in explicitness, detail, and form.

Stake and Denny (1969) have suggested that educators have great difficulty in reporting what persons, programs and institutions are trying to do. An evaluator's technical skill should help the educator convey his objectives, both those that quickly come to mind and those implicit in what he does. Present methods for getting a program person to formulate a statement of philosophy or a rationale; to detail the experiences he wants students to have; or to specify the behavioral objectives he wants students to attain are extremely primitive at this stage. Our evaluation methods must tease out the concerns and purposes of the educator. Not only must the evaluator record the goals, but he must also indicate the relative importance

of these goals. Although the priorities assigned to objectives are complex and elucive, it is the responsibility of the evaluator to represent them. New assessment procedures and new scaling techniques are required to take a first step towards discharging this responsibility.

Forms of Objectives

Krathwohl (1965) has indicated that objectives may be stated at more than one level of abstraction, and that objectives at several levels of generality and specificity are needed to facilitate the process of curriculum building. At the first and most abstract level are the broad statements which assist the development of programs of instruction, and delineate types of courses and areas to be covered by the program. This first level is also helpful for guiding several years of education, such as the elementary, junior high, and senior high school years. At a second and more concrete level, a behavioral objective orientation helps to interpret broad goals into more specific objectives which may be regarded as the building blocks for curriculum development. The second level objectives are helpful in specifying the goals of an instructional unit, or a course. Finally, the third level is needed to bring into focus the objectives of specific lesson plans, the sequence of objectives in these plans, and the level of outcome required for each goal or objective to be achieved.

In answer to the question of why objectives at the three levels of analysis are useful and necessary in the instructional process, Krathwohl (1965) advanced four reasons. First, curriculum

construction requires a process of moving through abstractions from very general statements of desirable behaviors, to intermediate level statements that indicate the blocks from which the program is to be built, and then to quite detailed statements which spell out the sub-goals. Each level permits the development of the next more specific level. Second, not all objectives lend themselves to the specification at the third level. Therefore, the level of detail with which educational goals can be usefully specified will depend somewhat on their nature, and therefore several levels of specificity are needed to handle different kinds of objectives. Third, it is necessary to have objectives at several levels of abstraction so that one can continually examine their interrelation. In developing a curriculum, one attempts to get those involved to agree upon the intents at as detailed a level as possible. Yet, complete consensus can probably be reached only at the more abstract levels. Fourth, because there are usually several alternate ways of analyzing objectives at the more specific level, objectives at the more abstract levels provide a referent for evaluating these alternatives.

Various workers have differed as to the approriate degree of specificity in defining objectives. Some would insist on great detail with each behavior defined and stated with considerable precision, while others make use of more generalized statements of objectives. Bloom (1969) discussed the degree of specificity sought in the formulation of objectives and concluded that the degree of specificity is largely determined by the extent to which the curriculum makers or teachers wish to anticipate and program the activities of students and teachers. If the learning outcomes in students are to

take place primarily through the interaction of a student with specific learning materials, then specification must be most detailed. However, if changes are to take place through the interaction of student, teacher, and material, the specifications are often less detailed in order that the teacher may have greater freedom to use those procedures and instructional processes which he believes to be most appropriate in a given set of circumstances and at a given point in time. The main point which Bloom attempts to make is not that the more precise and detailed the specifications, the better, for one level of detail may be better from one point of view, while a more general or more specific set of specifications may be much better from another point of view.

There are many reasons why educators have not consistently employed all levels of educational objectives in curriculum development and evaluation; Popham (1969) has summarized and refuted many of these reasons. Maguire (1969) has taken the position that it is more realistic to assume that the kinds of objectives that the teacher makes most use of in his classroom activities are the level two objectives. He indicated that this statement was not to mean that all teachers explicitly state their objectives in this form, yet it did suggest that the implicit objectives of teachers are of this form. The statement of objectives in the level three form may be quite appropriate for writers of programed materials, and textbook writers, but it is unrealistic to expect this of classroom teachers. In this same context Maguire (1969) noted:

> There is no absolute line of demarcation between objectives of levels two and three, but the former tend to be expressed in conglomerations of behavior or behavioral constructs such as understanding, appreciating, enjoying, etc., whereas the latter must be stated in terms of observable behaviors (p. 20).

Curriculum initiators are most likely to be directly involved with level one objectives because the acceptance or rejection of a curriculum can be made most readily on the basis of its broadest objectives. Therefore, although different individuals may become more directly involved with a given level of abstraction, it appears that objectives at several levels of abstraction are useful and important in the educational process.

## Methodology of Evaluation

It is necessary to begin the educational evaluation process with a clear statement of a set of specifications. For the educational technologists and evaluators, the clearer the specifications are in terms of both content and behaviors, the better. These specifications delimit the problems they must solve in the construction of instructional materials or evaluation instruments, and such specifications provide the criteria against which the materials and instruments are validated. Bloom (1969) has expressed this point of view:

> It would seem to this writer that it is virtually impossible to engage in an educational enterprise of any duration without having some set of specifications to guide one - whether one is a student, teacher, administrator, curriculum maker, educational technologist, evaluator, or guidance worker. What may be different from worker to worker is the explicitness of the specifications, the forms in which they are cast, the sources from which they are derived, and the extent to which they are used for the various decisions (p. 28).

Although it appears imperative to begin the curriculum evaluation-development process by formulating program objectives, it is also necessary to put the objectives to the test. In their model, Taylor and Maguire (1966) indicated that the origin of objectives should be the values of the people involved, and not just the aims of professional educators. The evaluator should be able to give a clear and valid representation of community needs and values. The authors based their model on a rational sequential approach to curriculum development, and they suggested that the needs of society are interpreted into broad educational objectives by curriculum developers. The professional educator in turn transforms the behavioral statements into strategies for the classroom. The students' interaction with these strategies was described as resulting in observable behaviors. It was the authors' viewpoint that curriculum activities can be thought of as having two components, a measurement component and a value assessment component. In the context of their model the measurement component consisted of "establishing the degree of fidelity of each of the translations". In other words, it dealt with the determination of the accuracy with which the broad objectives are represented by behavioral statements, the degree to which behavioral objectives are revealed in strategies, and the congruency of outcomes with objectives. The judgemental role of evaluation with respect to broad objectives was seen as being concerned with the general goals of society. The worth of behavioral objectives was to be judged in terms of priority of efficiency and the adequacy of the set of strategies for bringing about student outcomes. The judgements of

student outcomes should be made to determine the goodness of fit with the objectives.

The point has been made that the assessment of objectives at all levels of abstraction has become as important an activity in a complete evaluation as the measurement of student outcomes. Maguire (1968) suggested that a potentially fruitful method of evaluating objectives is to delineate frames of reference within which judgement of worth should be made, and then to suggest groups of judges who are qualified to make judgements within each framework. If one wished to determine the significance of an objective in terms of its relevance to teacher education, teachers in the field would appear to be one appropriate group of judges. Maguire referred to the work of Taylor (1966) when he indicated that if one asks pertinent questions of appropriate judges, a replicable assessment of an objective within a particular value-framework is possible. In the Taylor-Maguire model, as in Krathwohl's (1965) classification, objectives were conceived as being expressable at more than one level of abstraction. They suggested that judgements regarding the broadest objectives are most properly in the domain of those most concerned with the relationship between education and the general aims of society. At the more specific levels, pedagogical experts and subject-matter specialists would seem to represent an appropriate pool from which to draw judges.

It has been demonstrated (Runkell, 1956; Winter, 1961, 1965) that the explicit and implicit influence of the teacher's values on the curriculum and the students has a profound effect on the outcome

of the objectives of the program. It therefore becomes apparent that if the curriculum evaluator is to assess the curriculum successfully, it is essential that he knows what are the teachers' assessments of program objectives. This suggests that one of the judgemental groups that must be consulted in order to determine the value of the objectives is the teacher group. Also, if the curriculum objectives are to meet the needs of the student within the context of the program, it must follow that the value commitments of the student are likewise worthwhile of assessment.

The major point is that specifications should not be the whims of particular teachers, subject experts, or curriculum makers. The specifications properly result from an analysis of the conditions and context in which the learning is to take place. It is unlikely any single person has a comprehensive grasp of the entire situation.

The specifications of a curriculum formulated for one place and time may not be appropriate for another place and time. However, Stake and Denny (1969) suggested that several standards should be known to the evaluator and utimately by his audience. A complete evaluation report should not only contain the immediate expectations of those directly involved in a program, but it must also document standards available in other programs within and outside the field of education. The evaluator should have access to as complete an array of standards as is possible by polling the opinions of many experts in other programs and other fields.

## III. TEACHER EDUCATION PROGRAM EVALUATION

> There is the pressing need to develop more adequate means of evaluation both in terms of professional performance and of the effectiveness of various phases of the professional program. The common bases of evalaution - acquisition of knowledge - is followed too much (Caswell, 1963, p. 11).

Other educators (Kinney, 1963 and Sorenson, 1966) have joined Caswell in calling for systematic evaluation procedures to improve the teacher education curriculum, yet most would agree that little progress has been made in solving this complex problem. In the past, the compelling obsession with quantity and the subsequent underemphasis upon quality may stand as one reason for the minimal efforts at designing systematic methods for evaluation. The production of thousands of newly prepared teachers each year had to be given priority because of the demand for certified teachers. There are signs today, however, that the quantity emphasis must change, and a new priority given to quality control in the teacher education program.

The evaluation studies of teacher education covering the period 1940 to 1951 were reviewed by Barr and Singer (1953). They limited their report to studies of curriculum, methods, and pre-service education practices while grouping the studies under these headings: summaries of opinion, surveys of practice, and follow-up studies. Often the studies at this time were of the survey type which supplied information at a superficial level and left much to be done in the form of systematic program evaluation. They concluded that the findings in the various areas of the teacher education

curriculum are sometimes in conflict with one another and this was attributed largely to the lack of validity and reliability of testing instruments, inconsistency of items, differences in situations, and dissimilar interests of investigation.

During the decade 1950 to 1960, educators moved vigorously to develop cooperatively professional preparation standards involving all segments of the profession. There was widespread acceptance of a national professional accrediting agency in the United States, and in Canada provincial certification procedures were refined. One approach to obtaining a verification of the suitability and effectiveness of a teacher education program which becomes prevalent at this time was the securing of information from recent graduates of the program who are teaching and from the school administrators under whom they work. The studies conducted by Keyes (1950), Quanbeck (1952), Lane (1954), and Zulauf (1956) are examples of the use of the follow-up technique.

Stinnett (1970) commented on the events of the past decade, and he indicated that in this period there was an awakening of the national conscience to education. The public became aware of the plight of certain minority groups, and their neglected children. The inadequacies of the school curriculum and teaching soon became exposed. Exposed also was the obsolescence of much of teacher education. Stinnett continued this observation by pointing out that colleges and universities are currently receiving a great deal of criticism for failure to prepare teachers to function effectively in the large inner-city schools among children of minority cultures.

This situation raises the need for a restructuring of teacher education programs.

While the critics of teacher education were pointing out the shortcomings of teacher training, many professionals were developing and testing new approaches for the training of teachers. The 60's became a decade of innovating and a time for developing instructional strategies for the improvement of the training programs as well as the product of these programs. While the quality of many of the innovations was very good, most of the changes that were developed fell short of what was needed since the innovations were only parts of a total program for educating teachers. A few of these creative ideas had a potential of positively influencing the present programs towards a significant change, but the innovations frequently were implemented with the framework of the existing program and so they rarely achieved the fully desired change. Few of the innovations attempted to redesign completely a total teacher education program, and many of the innovations were incorporated in programs after a minimum of evaluation. The United States Office of Education has most recently attempted to design a strategy that would produce a plan for improving elementary teacher education (Clarke, 1969). As a result of review and consultations with numerous persons in the field, this Office accepted the view that a total program for training elementary teachers must be fully conceptualized, and in 1967 they began to call for elementary teacher education models for program development.

A rationale, a viable theory, specified objectives, and the

evaluation components became important in the construction of a model for an elementary teacher education program. Not only must the teacher training program goals be specified, but the rationale for each of the desired outcomes became a concern of those who were screening the model proposals. Implicit in this demand was the inclusion of evaluation strategies to assess even the basic assumptions and objectives which were part of the teacher education models (Allen, 1968; Dickson, 1968; Hough, 1968; Houston, 1968; Johnson, 1968; Joyce, 1968; Schalock, 1968; Southworth, 1968; Sowards, 1968; and Vere De Vault, 1968).

Although a need to build evaluation into the elementary teacher education program designs was stressed in the Office of Education request for porposals, according to Engbreton (1969) this program component was not developed in detail among the majority of the proposals. One notable exception to this was the Toledo Model (Dickson, 1968) which stressed the need for systematic evaluation in teacher education.

> There are many innovative features in the specifications for a new teacher education program. Among these none is so important as the evaluative process. For the first time in history a program has been arranged in behavioral terms so that it may not only be evaluated at a given point in time, but also so that it is self-correcting. Provisions for prompt and objective feedback are the most innovative elements and well enable all concerned to discuss the success or failure of a program to prepare educators in meaningful terms (p. 242).

The Toledo Model proposed an outline to be followed for the evaluation of the teacher education program. This model was initially developed by Daniel Stufflebeam (1969), and

it presents a kind of evaluation for each type of decision: context evaluation, input evaluation, process evaluation, and product evaluation. However, although the Toledo Model does specify the performance criteria for the education of the elementary teacher candidate, it makes no attempt to evaluate these criteria. The developers of this model appear more concerned with the process and product form of evaluation, and therefore the immediate wish was to evaluate the effectiveness of its graduates in the elementary classroom.

The Syracuse Model (Hough, 1968) also recognized the importance of evaluation and described an information and evaluation support system. This system was primarily geared to gathering data on student performance and feeding such information back to the instructional staff. These data were essential for the individualization of student programs. The performance modules outlined in the proposal must also be evaluated in terms of their worth, and therefore such a support system would be valuable in accomplishing this task. A third function of this support system would be that of analyzing the effectiveness of components and the total program. The Syracuse Model emphasized this third function by focusing on formative evaluation and tending not to stress the evaluation of teachers in service. However, the description of the total systematic evaluation process was rather superficial as it was only the direction for evaluation that was proposed.

The North West Regional Laboratory Model (Schalock, 1968) also dealt with the components of evaluation, however, the evaluation procedures were considered only very generally. This model adequately

described the scope of the evaluation question and emphasized as one of the functions of evaluation the determination of the appropriateness and the validity of the program objectives. However, the methodology for evaluating the intended outcomes of the program was not made explicit.

> The evaluation function involved the gathering of data to satisfy questions of how effective and appropriate the outputs of Comfield [North West Model] are as well as the impact that they make. As used here, effectiveness is concerned with determining how well Comfield accomplishes the purpose for which it was created; appropriateness is concerned with determining whether the objectives of Comfield are valid, that is, whether they are serving the need for which they were established; and impact is concerned with estimating the effects of Comfield on the larger environment in which it exists (p. 120).

The extent to which the models, both those funded by the USOE and the others, developed and described evaluation procedures differed widely from model to model. Most of the explanations concerning evaluation procedures applied to the evaluation of the process, or the interactive phase of the program, and in general the models did not deal with the more difficult question of product evaluation, or the performance of the student in the field. They certainly do not deal with the concept of context evaluation, or the assessment of the actual performance criteria specified for the elementary teacher education program. Although the term "performance criteria" and similar terms dominate the model elementary teacher programs funded by the US Office of Education, the programs do not describe how these particular criteria were selected. None of the proposals contained a detailed review of the literature upon which

the developers of the model based their decisions. These performance criteria must be validated from the research and literature on teaching (Rosenshine and Furst, 1971), and they should also be evaluated within the context of particular elementary teacher education programs.

## IV. SUMMARY

This chapter has attempted to review the literature pertaining to curriculum evaluation with a particular concern for the assessment of objectives. A review of the available literature relevant to the evaluation of the objectives of a curriculum has led to the conclusion that there is a need for methodologies which may be used in evaluating objectives which are stated in different forms. A viable means of evaluating objectives involves the use of groups of judges which represent different frames of reference when examining the curriculum in question. It was also suggested that although the teacher's values can exert a significant influence on the success of the curriculum, the perceptual congruence of the other referent groups is worthy of considerable attention for the attainment of relevant outcomes. Though there have been studies designed to evaluate teacher education programs, few have attempted to conceptualize a total curriculum, and to include within it the evaluation of the formulated program objectives.

# CHAPTER III

## A MODEL FOR TEACHER EDUCATION

This chapter describes the development of a model for teacher education, with a particular focus upon the elementary teacher education program. An attempt was made to identify components of a teacher education program through a review and synthesis of statements regarding a teacher education curriculum from the writing of Conant (1963) to the present. Once identified these statements were ordered into a conceptual framework, or model, which in turn guided the construction of the Performance Criteria for Teacher Education (PCTE). Sixteen components of the model which are representative of the elements of a teacher education program were generated from this analysis and synthesis of the literature.

Although an extensive literature review was the first method of testing the validity of the conceptual framework of the PCTE, a group of judges was involved in an attempt to validate the use of the PCTE as a framework representative of the components of a teacher education program. The procedures and results of this validation are described in this chapter.

### I. PERFORMANCE CRITERIA AND OTHER MODELS

In teacher education, there is a trend away from describing the total curriculum in terms of the traditional courses involved, and a decided move to understand the total in terms of performance

criteria which are inclusive enough to make up the entire curriculum. The term performance criteria and other similar terms dominate the recent model teacher education program funded by the US Office of Education (Clarke, 1971). The usual meaning of these similar terms is the specification of a teacher's behavior while he plans curriculum and interacts with children in the classroom. These performance criteria may be stated in different levels of preciseness, the most general level statements serving to guide the construction of those specifications which are formulated in behavioral terms. In the University of Massachusetts Model (Allen, 1968), the following was included in the rationale for use of performance criteria:

> What educators require are criteria of performance, rather than time, in order to make reasonable judgements about the abilities of students and the efforts of instructional situations. It is imperative that innovations be undertaken which will overthrow the current reign of time as a criterion of educational success, and establish criteria of performance as the proper guides for educational practice (p. 9).

The nature of the performance criteria for teacher education may take many forms and various points of view depending upon the rationale for the teacher education program. The current designs of elementary teacher education programs received by the US Office of Education serve to illustrate the diversity in statements of the performance criteria.

The Michigan State Model (Houston, 1968) grouped behavioral specifications under five headings: general-liberal education, scholarly modes of knowledge, professional use of knowledge, human

learning and clinical studies. The detailed behavioral specifications within each of these criteria were identified within the proposal for this model.

The Florida State Model (Sowards, 1968) program was characterized by the utilization of performance criteria designed to enable the teacher trainee to meet certain standards. The project outlined five categories of teacher behavior which are basic to all elementary teaching: formulation of objectives, selection and organization of content, instructional strategies, evaluation skills and techniques, and professional responsibility. Fundamentally, this program was composed of two major components called the professional component, which identified the major categories of teacher behavior, and the basic education component, which referred to the content of the elementary school curriculum.

The Syracuse University Model (Hough, 1968) assumed that no one point of view toward teacher education has been demonstrated to be most effective, but that it is necessary to define the components of the program. The curriculum is divided into a five year program with the first two years exclusively involved in liberal studies and the remaining years in pre-professional studies. The designers of this program have outlined seven components of the curriculum: liberal education, methods and curriculum, child development, teaching theory and practice, professional sensitivity training, social-cultural foundations, and the self-directed component.

Joyce (1968), project director of the Teachers College Model,

proposed the following categories of performance criteria, or roles which seem essential for the teacher who is an innovator and a scholar: institution builder, interactive teacher, innovator and scholar. There was no attempt made by the developers of this model program to specify the details of the future oriented roles in behavioral objective form, however they did fully describe the general realm of each of the roles.

The authors of the University of Massachusetts Model (Allen, 1968) stated that graduation from a teacher training school should be seen as only a part of the teacher's education, and program completion is determined by meeting the performance criteria. To prepare teachers for the "dynamic role of the elementary school" three areas of performance relating to teaching were identified: subject matter competency, presentation competency (behavioral skills), and decision making competency (mastery of human relations skills).

The University of Pittsburgh Model teacher education program (Southworth, 1968) is not a course oriented curriculum, but instead the program is divided into five major components: academic knowledge, professional knowledge, guidance, clinical experiences, and teaching competencies. The undergraduate curriculum is organized into four stages, stages one and two dealing with general college education, while stages three and four refer to a professional education.

The designers of the University of Georgia Model (Johnson, 1968) were explicit in identifying the origin of the performance

specifications of the model program. All the primiminary activities in designing the program were focused on preparing a job analysis of a high quality elementary teacher. First the requirements of society and the knowledge from various resources and materials contributed to the determination of the goals of the elementary school. These goals in turn served as a basis for determining more specific objectives. Once the elementary school objectives were determined, pupil learning behaviors were identified which would guide children in acquiring characteristics represented by these school objectives. From the nature of these pupil behaviors the core of the elementary teacher job analysis was formulated. It was then primarily the nature of the job analysis which determined the specifications for the model teacher education program. The performance specifications, or those statements which describe particular competencies that a teacher should possess in order to operate at optimum effectiveness, are outlined under twenty-five separate headings.

Dickson (1968) and his staff outlined five fundamental contexts in the University of Toledo Model elementary teacher education program. These were: instructional organization, educational technology, contemporary learning-teaching process, societal factors, and research. The five primary contexts were used as a guide in the consideration of goals of the teacher education program which were stated in terms of the teacher candidate's ability to achieve various outcomes expressed in pupil behavior. Finally, the goals of the program and the contexts in which the broad goals were generated produced the basis for the development of behavioral objectives.

The North West Regional Laboratory (Schalock, 1968) also emphasized the need to specify the objectives of a competency based teacher education program in terms of the teacher behaviors needed to bring about the outcomes desired in pupils. The developers of the project have detailed the program content relevant to four sets of competencies included in the pre-professional program: content relevant to the development of competencies needed to bring about outcomes in pupils; content relevant to the development of competencies needed to perform non-instructional tasks; content relevant to the development of adaption and interpersonal competencies that enhance the first two; content relevant to the development of competencies which permit the personalization of the first three above. The model then continued to outline the specific blocks of content which related to the development of the specific sets of competencies.

Engbretson (1969) analysed and evaluated the seventy-one non-funded proposals for model development. In his findings, he stressed that most proposals emphasized the definitions of teaching tasks and teaching behaviors to be learned. These behaviors in the "task centred curriculum" were derived from an analysis of actual elementary teaching in the schools and a study of the weaknesses in current elementary teacher education programs. A few of the models developed their programs on what they believed elementary teaching to be like in the future. Most frequently the project designers chose to abandon the traditional course and time structures in favour of the identification of performance modules or specifications which served not only to define the intended experiences and outcomes

of the teacher candidate, but also to describe the scope of the teacher education program.

The focus of these models on performance criteria was likely the result of three factors. The first is the emphasis in the current literature on behavioral objectives in instruction. The second was undoubtedly the series of studies conducted in teacher education designed to determine whether training techniques could modify the behavior of the teacher as measured by systematic investigation. The results of these investigations (Anderson, 1969) indicated that training procedures which focused upon specific behaviors were more effective than traditional methods courses in changing teacher behavior. It must also be noted that in the request for proposals by the US Office of Education, a call was made for program proposals which specified the intended behaviors of the elementary teacher candidate. Hence in the models there was an emphasis on specifics, or performance criteria.

In a study of recently revised teacher education programs in Canada (McGill University, 1970; University of Alberta, 1969; COFFE Report, 1969; The University of Prince Edward Island, 1971) it became evident that the changes in these Canadian programs generally did not rely on the specification of performance criteria, but they dealt more with the identification of the broadest areas of the program and the courses which appeared to be a part of the general area. There remains a concern in the Canadian teacher education programs to specify the courses and the number necessary for most teacher candidates to complete the teacher certification program.

The McGill University program plan was to describe the general framework of the degree program by using the labels: studies in education, and studies in areas of specialization. The description of the minimum education program and the minimum requirements for a specialization in a given area included the number of course requirements. The teacher education course revision at the University of Alberta (1969) outlined the basic components of the plan: general education, specialization, and professional education. Some attempt was made to document the elements of a particular component, however, this did not appear to be completed and more time was devoted to describing the number of course requirements within each of the component areas. The COFFE Report (1969) studied the teacher education program at the University of British Columbia and this particular review did not focus upon the intended performance of the teacher candidate, but like other plans for change dealt more with the courses offered in the program. The University of Prince Edward Island (1971) did specify program criteria which were intended to be translated into specific objectives of the staff of the Faculty of Education. However, these criteria were stated in different forms, and they were not described in any detail.

In the Canadian scene, plans for revision of teacher education programs may have the general improvement of the teacher candidate in view, but very little is attempted in specifying the performance criteria, and further in stating such criteria in behavioral objective terms. In Channon's (1971) study, completed for the Canadian Teachers' Federation, nine general trends in the teacher

education curricula in Canada were summarized. These trends did not include any noticeable move toward the planning of curricula utilizing performance specifications. In fact, one of her conclusions was that the individualization of teacher education programs did not appear to be progressing very rapidly in Canada. Most teacher education programs in Canada appear to be planning the curriculum around the course content, and although intended outcomes for a given course are often specified, little attempt has been made in the past to describe the performance criteria applicable to the over-all program. However, there remains some question as to the value of developing the performance criteria of a teacher education program and thereby specifying such criteria in behavioral terms.

A need to identify the performance criteria has become a major concern in the current employment of the output-oriented management methods. The essentials of systems analysis (Feyereisen et al., 1970), educational engineering and the operation of performance contracting (Lessinger, 1970), are very much concerned with the identification of system intended outputs, or objectives. This concern is also part of the current thinking in the conceptual framework and practice of curriculum development (Emans, 1966). However, before anyone can specify all the performance criteria for a teacher education program, it is imperative to identify the boundaries of the teacher education curriculum. Joyce (1969) stated this as the first task in the application of systems thinking to the development of an education program, that is the need to formulate the goals of the program, and its limits. In this sense the boundaries of the intended outcomes are influenced by the scope of the experiences which con-

stitute a teacher education program of today, or the future. It is highly probable that the dimensions of a teacher education program will change, for in fact it is a rather healthy exercise to assess continually the scope of the program in light of more current research information. It is the above rationale which has lead to the need to analyse the context of the total teacher education curriculum with the end in view of stating the dimensions of the program and the components within these dimensions.

## II. THE PERFORMANCE CRITERIA FOR TEACHER EDUCATION

There may exist many problems in attempting to develop any form of a performance model for teacher education. Joyce (1969) described some of these difficulties in producing a framework of criteria. Teaching is an extremely complex activity which has not yet been studied as effectively as one would like. Unlike the training of a functionary or a technician whose job specifications are rather fixed and predictable, the teacher is required to perform many complex behaviors and solve many difficult problems effectively. Further complicating the job of describing the dimensions of a teacher education program is the fact that there is no wide agreement about the performance required of the teacher. The essential point here is that there are many practitioners and teacher educators who are resistant to the idea of developing performance models, for desirable performance is incompatible with an artistic conception of teaching.

Joyce (1969) maintained, however, that there are bases upon

which to build a performance model for teacher education. There are a number of well developed approaches towards teaching and learning, and there are a number of descriptive studies which have been used to develop normative data on teaching as it actually occurs in classrooms. The descriptive data obtained from the classroom studies can be compared with what educators believe should actually happen in classrooms. By training the teachers in the desired behavior, teacher education then becomes a procedure for closing the gap between the behaviors which do occur and the behaviors which educators believe should take place (Rosenshine and Furst, 1971). The relationship between the teacher behaviors advocated by educational experts and the consequent learning by students has not been thoroughly researched. Rosenshine and Furst (1971) stated that likely the beginning of wisdom in the study and improvement of teacher behavior is a confession that knowledge is lacking and that it is time to begin developing research which may produce the necessary information. They recommended that this research take place within the framework of model programs.

The Performance Criteria for Teacher Education (PCTE) is a performance model for teacher education composed of sixteen components which have been found to be those elements most commonly regarded as sufficient for the education of the teacher candidate. It has not been generated with any particular point of view in mind, but rather it was designed to cover the essential dimensions and elements of teacher education as it is viewed today and will be in the forseeable future. Therefore, the underlying purpose for the organization of the

PCTE in its present form is that individuals who hold differing points of view toward teacher education may relate to the components, and construct ends and means congruent with their orientation to the program.

The analysis of teaching, and the indepth study of present and proposed teacher education programs, has led to a synthesis of the essential components which comprise a teacher education program. Following such a description of the intended performances or experiences of the teacher candidate, it may be necessary for the individuals concerned about a particular teacher education curriculum to identify for their purposes more precise performance standards. The PCTE is designed only to describe the performance and criteria in broad generic terms. It is anticipated that it may be quite difficult to express all components in measurable criteria, and the intention is not that all of the performance specifications be further developed into behavioral objectives. Some may be stated only in the "expressive objective" form (Eisner, 1969). The framework of performance criteria may be regarded as a conceptual framework, for it may serve to organize thinking about the performance competencies and experiences which are essential, and the detail specification of the performance criteria is left to the curriculum designers of a particular teacher education program.

## Organization of the Model

The Performance Criteria for Teacher Education has been organized into four sections called the dimensions of the teacher

education curriculum. Two of these dimensions related to content knowledge, and subsequent development of attitudes. Two other dimensions related to behavioral and human relations skills which are included in the curriculum. The intention is that all dimensions are interdependent, for the teacher candidate's competence within the planning dimension may be quite dependent upon some components in the professional knowledge dimension. Within each of the four dimensions of the model are four components which describe the essential parts of the particular dimension.

The Dimensions of the Model

So that one may realize the scope of a teacher education program it is logical and necessary to better understand teaching. Many authors have made attempts to define the nature of teaching (Openshaw and Cyphert, 1966; Jackson, 1964; Scheffler, 1960; Clarke, 1970), and it is useful at this point to record two of these. Smith (1960) presented a rather broad definition of teaching: "teaching is a system of actions intended to induce learning". Clarke (1970) proposed a definition of teaching which follows closely from Smith's, yet it does provide more information about the nature of teaching: "teaching is activities which are designed and performed to produce change in student behavior".

Clarke continued his explanation by stating that the activities may be diverse in the method used, and they may take place in the different domains - cognitive, affective, and psychomotor. His definition helps to make the point that the activities

of teaching are not only performed, but they must also be designed as well. In a discussion of the variables related to teaching, but somewhat removed from the teaching act, Clarke described such variables as the curriculum, student characteristics, and social values. The variables more directly involved in the teaching act were conceptualized on three levels. Level one, a necessary condition for teaching, involved communication and the development of interpersonal relationships, a social order, motivation, and attention. Level two, a necessary and sufficient condition for teaching, was the selection and use of strategies and content planned to attain the curricular objectives consistent with the needs of the students and the principles of learning. Level three, a necessary condition for efficiency in teaching, was the formal and informal measures, and the examination of the results in terms of the objectives. This third level referred to the process of evaluation.

Hyman (1967) has regarded some of the definitions of teaching as being rather limiting because they make no mention of the subject matter involved in the teaching process. He questioned whether it is possible to have a relationship between teacher and pupil in a teaching-learning situation without a concern for subject matter. He regards this as impossible. Hyman preferred to regard teaching as a triadic relationship, that is teaching must involve at least one teacher, at least one pupil, and the subject matter to be taught and learned. It is possible to continue this argument further and to state that teaching must take place within a particular environment as well. Horowitz (1967) made this point in his explana-

tion of the teaching process. Teaching does not take place in a vacuum, but the nature of the teaching task is influenced directly by the situational context, and indirectly by the content which is often shaped by the environments surrounding the teaching-learning situation. It is also worthy to note that the relationships between teacher, learner, content, and environments are dynamic relationships, and changes taking place in teaching are a result of changes in the content, the students, the teachers, and the environments.

The very brief outline of the teaching process provides some direction to the dimensions of a teacher education program. It should follow that the scope of the program to educate teachers should include those dimensions which involve the relationship between teacher and learner, teacher and content, and teacher and the environments. There appears to be a performance phase in teaching and a planning or design phase. If a teacher is directly involved with subject matter in a broad content, it would appear that there is a very important knowledge competency that may be regarded as a dimension of the teacher education program. There appears also to be other specific knowledge competencies if one is to regard the nature of teaching as the relationship of teacher, student, subject matter, and environments. It must follow that the teacher should not only know how to interact with the learner, but it appears that the teacher should know something about the learner and how he learns. Clarke (1970) stated that learning theory is a necessary condition, but not a sufficient condition for teaching theory. The teacher must be competent in the specific knowledge of the profession.

Conant (1963) may have provided the outline of the dimensions of a teacher education program after reviewing the teacher education programs in the United States at the beginning of the last decade. In Conant's words the overriding dimensions of a teacher education program are "the academic preparation of teachers", and "the theory and practice of teaching". In his first recommendation for teacher certification, Conant stated that the teacher must hold a baccalaureate degree, or demonstrate proof of a general education. It is also necessary, of course, that the teacher demonstrate that he can teach successfully. In Conant's proposed curriculum for the education of the elementary school teacher he has placed an emphasis of one half of the total time to the general education requirement. He not only regarded a general education as paramount, but a need for a concentrated study in the method and content of an area of specialization received an important emphasis. Within this general education requirement and area of specialization, Conant provided for a professional background accounting for up to one quarter of the total time devoted to the education of the teacher candidate. In summary, James Conant designed a program which emphasizes a general education, provides for work in an area of concentration (even in the elementary school), includes a professional studies component, but places a reduced emphasis on the term "theory of education", which includes curriculum, school organization, and teaching methods.

The American Association of Colleges for Teacher Education (1967) has published criteria for the accredition of teacher education programs. The AACTE identified two basic dimensions: the general

studies component and the professional studies component. Teachers ought to have as much general knowledge as possible, not only because it is necessary for them to be well educated, but because it will support their field of teaching specialization. The professional studies component should include humanistic and behavioral studies through which the programs of education can be studied with respect to the findings of sociology, economics, political science, anthropology, and psychology. The professional component must also include educational theory with laboratory and clinical experience.

The models for elementary teacher education funded by the US Office of Education provide ideal proposals for synthesizing the dimensions of a teacher education program. The specific models which lead most directly to the dimensions of the Performance Criteria for Teacher Education include the University of Massachusetts Model (Allen, 1968). As stated earlier in the development of the PCTE, the Massachusetts program described three major parts: subject matter competency, presentation competency, and professional decision making competency. A further analysis of the professional competency would demonstrate that it includes professional knowledge and organizational and planning skills. Therefore the parts of this model program directly support the selection of the dimensions of the PCTE. The Florida State Model (Sowards, 1968) presented the elements of program similar to the University of Massachusetts Model and both therefore lead to the program dimensions developed for the PCTE. The Florida State University program proposal labeled the

parts instructional strategies or communication competencies; selection and organization of content, formulating objectives, and evaluation skills fit very closely the planning competencies of the PCTE; professional responsibilities may be termed professional knowledge competencies; basic education is similar to the general knowledge label chosen for the PCTE.

The Teachers' College Model (Joyce, 1968) seemed to integrate rather appropriately the six dimensions of the Florida State Model, the three parts of the University of Massachusetts Model, and the program components expressed by the other six funded proposals. Even though the results of the analysis of many sources have led to the synthesis of the PCTE, it follows rather closely one of the models - the Teachers' College Model. Joyce (1968) termed the performance phase of teaching the "interactive teaching" dimension, and the PCTE uses the label Communication Competence. The PCTE includes the dimension Planning Competence which closely relates to what Joyce termed the "institution building" aspects of teaching and the teacher education program. The remaining dimension of the Teachers' College program, "teacher-scholar", relates mostly to the General Knowledge and the Professional Knowledge dimensions of the Performance Criteria for Teacher Education (PCTE).

The Performance Criteria for Teacher Education has been synthesized from the literature and is made up of a framework of four dimensions: Communication Competence, Planning Competence, Professional Knowledge and Attitudes, and General Knowledge and Attitudes. The attempt has been made above to demonstrate that these

dimensions follow from an analysis of the relevant literature of the field. In order that one may fully understand the scope of each of the dimensions, it is imperative to describe the essential components of each of the dimensions.

The Components of the Dimensions

The Communication Competence dimension refers primarily to the teacher-pupil instructional relationship and the awareness, selection, practice, and evaluation of the instructional strategies. Instructional strategies refer to the behavior of the teacher in the instructional situation while working towards the attainment of the objectives in light of the needs of the pupils. In the terms of Jackson (1966) or Joyce (1968), this dimension is largely concerned with the interactive phase of teaching, or the teacher behavior through which the teacher, pupil, and subject matter interact. Although the instructional strategies may be pre-planned, the communication instructional decisions are mainly made in the classroom during the actual teaching process. The effectiveness of such decisions is at its highest when the teacher processes the conditions of the immediate environment and takes action. An instructional strategy may range from no overt teacher behavior to a complex of verbal and non-verbal teacher behaviors interlaced with pupil behavior.

This communication dimension may also refer to the employment of media equipment which may be used in the instructional situation. This dimension includes other communication techniques which are important for the practising teacher: teacher-parent

interviews, teacher-student guidance involvement, or teacher-teacher relationships. It may also be possible to list other communication channels in which the teacher may or may not become involved.

It is appropriate at this point to add to the description of this dimension, and to refer to the literature which has been studied to identify the components of the communication dimension.

> That teaching involves communication is a truism which nobody challenges, whatever his concept of teaching. Yet only recently have educators begun to analyse teaching with the help of concepts from communications theory (Hyman, 1968, p. 13).

In a discussion of teaching, Clarke (1970) stated the use of communication is a necessary condition for teaching, and he stated that the teacher must employ communication techniques to develop interpersonal relations, social order, motivation, and student activities. Ryans (1963) preferred to regard teacher behavior as information processing and the teacher as an information system. Teacher behavior assumed five major categories into which the teacher behaviors fall: (i) motivating-reinforcing, (ii) presenting-explaining-demonstrating, (iii) organizing-planning-managing, (iv) evaluating, (v) counselling-advising. Ryans' first two categories clearly point to that communication which takes place in the instructional situation, the first representing a lower level communication behavior that may set the stage for learning, while the second refers to a higher level communication strategy.

The communication of information by the teacher may take any one of several forms, yet it is especially important that the

communication dimension not be perceived as involving the transmission of facts alone. The transmission of information may include concepts and rules as well as facts, and while these may involve verbal symbols, it may be accomplished by a set of physical gestures, facial expressions, or the personal-social behavior styles of the teacher.

The purposes for which information is processed and communicated by the teacher also may vary. The information may perform a direction-giving or a controlling function. It may be used for the purpose of coordinating action that requires the mutual exchange of information, or it may promote new discoveries.

It should be noted that the communication involved in the teaching-learning process is subject to the same constraints as in any other communication environment. The potential receiver of the information, the pupil, must attend to the transmission in order that it may be received, and the information communicated by the teacher may have different meanings for different receivers.

Ryans discussed other implications of communication for teacher education. Communication directs attention to the need of a teacher to be acquainted with the technology of education, that is with the principles of individualized instruction, programmed learning and computer assisted instruction, and the use of various learning aids and media equipment. Communication directs attention to the behavioral styles of teachers in facilitating information transmission and subsequent pupil learning. Hopefully, communication also directs attention to the search for the most appropriate ways of communicating

information relevant to the function of the school, and this most definitely includes the communication between all members of the education community: teachers, pupils, administrators, parents, and members of the community at large.

It should also be noted in this section that Ryans described counselling-guiding teacher behavior. This communication dimension most definitely refers to the teacher-pupil relationships which may be regarded as guidance. This is a unique learning situation, and a key function in the role of the teacher.

Joyce (1968) summarized the need for these communication competencies "... to possess a wide range of teaching strategies to bring to bear when they are appropriate". The development of the interactive teaching component in the Teachers' College Model influenced the outline of the components of the PCTE:

> ... he [the teacher] must possess a repertoire of teaching strategies derived from theoretical positions on learning, philosophical stances, and ways of organizing and analyzing the disciplines. Further, he needs to make decisions in terms of hypotheses that given a strategy will have a certain effect on a particular learner, or group of learners (p. 16).

Joyce amplified a need for a knowledge of teaching strategies, and the relationships between teaching strategies, learner, and environmental characteristics so that the teacher can make appropriate instructional decisions. Not only the knowledge of strategies and the competence in selecting those appropriate, but the ability to employ the instructional strategy was most fundamental to the interactive teaching.

The ability to make a selection, carry it out, and assess the choices made are included along with a knowledge of a variety of teaching strategies in the communication dimension of the Performance Criteria for Teacher Education. The four components of the Communication Competence dimension are given below:

A. Identification of Communication Strategies
(An awareness of different strategies and the principles underlying them.)

B. Selection of Communication Strategies
(Choice of strategies to meet objectives and the needs of individuals.)

C. Practice of Communication Strategies
(Execution of strategies.)

D. Evaluation of Communication Strategies
(Assessment of the use of strategies.)

The Planning Competence dimension refers primarily to the curriculum development process which includes the identification of the intended outcomes of the curriculum, selection and organization of subject matter and materials, the use of evaluation skills and techniques for planning individual and group programs, and the leadership and organizational skills essential in managing the environment to accomplish the planned goals. Whereas the communication dimension refers to the interactive phase of teaching, the planning dimension focuses upon the pre-active phase in the teaching process. The components of the planning dimension are relevant to the teacher's involvement in a specific subject curriculum at the classroom level, or they are also applicable to the teacher's anticipated involvement in curriculum at the system level.

The literature analysed in the development of this performance model, the PCTE, provided almost in all cases the identification of the first three components of this dimension: formulating goals or objectives in curriculum planning, selecting and organizing content and materials for the curriculum, and the evaluation of pupils and program. A close examination of various conceptual models for curriculum development (Emans, 1966) will provide these three components consistently appearing in the curriculum design models. The fourth component of the PCTE, leadership and organization or interpersonal and intrapersonal organizational skills involved in planning, appears to be implicit in the successful implementation of the curriculum process. The authors, Lucio and McNeil (1962), devoted large sections of their treatment of supervision to the leadership and organization evident and most necessary in curriculum development. Saylor and Alexander (1966) discussed the subject of curriculum in much detail, and they included entire chapters to the question of leadership and management in curriculum planning.

Clarke (1970) described curriculum as one set of the important variables which has an effect on teaching. There is a direct relationship between the curriculum variables and the teaching process. These prominent curriculum variables include the curricular objectives which specify the student's intended behavior, and provide direction to teaching. Having identified the objectives, the teacher then plans and designs the curricular activities so that students have a high probability of attaining

the stated objectives. The teaching-planning process must not terminate at this point, but the teacher must evaluate the curriculum and its outcomes such that he may modify and even redesign the curriculum beginning at the definition of objectives. Clarke stated that the evaluation element of the curriculum process often marks the difference between teaching as a craft activity and teaching as a professional activity.

Ryans (1963) in his systems approach to teaching cited the organizing-planning-managing system of teacher behavior. He directed attention to this role of the teacher as a coordinator of teaching-learning. The teacher is viewed as the organizer and planner of the instructional process, employing whatever techniques and media that may contribute best to the achievement of the purposes of instruction in a particular situation.

This system of teacher behavior outlined by Ryans means more than an involvement between teacher and learner. Such planning, organizing, and managing may take place at the school level or the system level. It relates to the behavior essential for total curriculum planning within the organization. The teacher often operates within a team structure at the school or district level, and therefore necessary to this role is an ability to contribute as a member of a team. The nature and the amount of contribution to a team by an individual is highly dependent upon the capacity of the indivdual, however, there remains a professional responsibility on the part of the teacher to participate as a contributing member of the team.

The University of Pittsburgh Model (Southworth, 1968) stated

a third requirement of a program of teacher education for the individualization of instruction. The nine categories of this requirement referred to (i) specifying learning goals, (ii) assessing pupil achievement of learning goals, (iii) diagnosing learner characteristics, (iv) planning long-term and short-term learning programs with pupils, (v) guiding pupils with their learning tasks, (vi) directing off-task pupil behavior, (vii) evaluating the learner, (viii) employing team work with colleagues and (ix) enhancing self development. Although not all of these categories need be included under the planning dimension of the PCTE, the requirement of the University of Pittsburgh Model known as "teacher competencies" generally refers to the same performances and experiences in the planning dimension of the PCTE.

The University of Georgia Model (Johnson, 1968) specified the component of the teacher education program known as "instructional improvement and professional development". Included within this specification were elements such as ability to find and use resources for unit improvement, observation techniques for the assessment of program effects, and writing instructional objectives. It is important to the synthesis of the PCTE and the planning dimension to focus upon the element in the Georgia Model called "ability to contribute as a group member", which also appeared under the heading of instructional improvement and professional development. The component of the PCTE as leadership and organization would account for this group involvement attribute in the University of Georgia Model. But also this component of the PCTE refers partly

to the more global criterion known in other teacher education models as the human relations element.

The University of Massachusetts Model (Allen, 1968) stated that one of the necessary "cornerstone criteria" involves human relations. Allen defined human relations as the behaviors exhibited in relation to self and other individuals, and in relation to groups. Any human behaviors engaged in intrapersonal or interpersonal activities represent human relations behaviors. One may define human relations more precisely in the context of planning and the decision making process as organizational interaction.

Joyce (1968) termed "institution building" the process of creating educational institutions, working with colleagues and others, identifying the objectives of the schools, and identifying the methods and procedures which may be used to achieve these objectives. Within this component of the Teachers' College Model were included the processes creating curricular patterns for the school, developing the social system of the school and developing the technical support systems in the school.

The planning dimension of the Performance Criteria for Teacher Education includes those essential elements of planning synthesized from the literature cited above. The four components of the Planning Competence dimension are given below:

E. Formulating Objectives
(Constructing objectives for curriculum planning.)

F. Selection and Organization of Content and Materials
(Choice of content, materials, and resources in relation to objectives.)

G. Evaluation of Pupils and Program
(Evaluating pupils and program in relation to objectives.)

H. Leadership and Organization
(Interpersonal and intrapersonal organization skills.)

The Professional Knowledge and Attitudes dimension refers to the body of professional knowledge which is often regarded as educational theory. The elements of this dimension include an understanding of the role and responsibility of the professional educator in the profession and in society; an understanding of the physical, social, intellectual, and emotional development of children; an understanding of the processes of human learning; and a knowledge of relevant resources for professional information with a basic understanding of the analysis and interpretation of professional literature.

It has been explained in the earlier description of the PCTE that the components and dimensions of this model are interdependent, and the professional knowledge dimension of the teacher education program is one dimension of the model which is fundamental to other competencies stated in other dimensions. Many aspects of the professional knowledge dimension are basic to the competencies specified in the communication and planning dimensions. Prior to one's capability to make professional decisions in the communication or planning phase of teaching is a knowledge on which to base such decisions.

In a discussion of teacher education programs John MacDonald

(1968) emphasized the study of the theory of teaching and the practising teacher's ability to make rational decisions. It has been argued that because teaching is such a complex decision making operation, one cannot hope to develop competence in every particular decision situation. However, a foundation in the knowledge of the profession may provide the best preparation for the professional teacher who is capable of making decisions.

The support for the dimension of a teacher education program termed professional knowledge arises out of many sources in the literature on teacher education. The American Association of Colleges for Teacher Education (1967) included the "professional studies component" as a fundamental part in their standards and evaluative criteria for the accreditation of all teacher education programs. Within these "standards" AACTE outlined the humanistic and behavioral studies area concerned with the nature and the aims of education, the curriculum, organization and administration of a school system, and the process of teaching-learning. The problems of education could be examined with respect to the findings and methods of sociology, economics, political science, and psychology. These behavioral and humanistic studies differed from the usual study of these disciplines in that they take their departure from problems in education, rather than from the problems of the disciplines themselves.

The AACTE professional studies component also included educational theory with laboratory and clinical experience which implied a body of knowledge about teaching and learning that could be the basis for rules of practice. If teaching is to be more than

a craft, teachers are expected to know the theoretical principles which justify the rules they follow. Although there may be little empirical evidence to support this assumption, many programs subscribe to this guiding statement. Included also within the professional studies component was the role of research in the program, meaning the development on the part of the teacher candidate of an awareness of research and its implications for teaching. These elements in the AACTE standards support a focus on the professional knowledge dimension in a model for teacher education. Explicit within this dimension of a program is a knowledge base in the fundamental processes of learning, understanding the aspects of child development, understanding the nature of the education profession and its place within society, and also an awareness of the research and development within the field of education.

James Conant (1953), in his assessment of teacher education in America, called for a realistic balance between the theory and practice within teacher education. While Conant did call for a reduced emphasis upon the study of the philosophy, history, and sociology of education, he placed a special emphasis upon other areas of educational theory. He endorsed a program which placed considerable weight on the understanding of the individual so that the teacher candidate would be better prepared to cater to the individual needs of his students. His view was that future teacher education programs must provide a sound knowledge of the growth of children and the processes of learning relevant to children. The studies of this nature were particularly relevant to the preparation

of elementary school teachers.

Broudy (1965) examined the criteria for the professional preparation of teachers and regarded a person with professional ethics as a highly desirable outcome of a teacher education program. He also expressed the concern for the preparation of an educated person to make professional decisions regarding educational policy, curriculum designs, organization, and strategies of teaching and learning. As a member of the education profession he also called for the teacher's knowledge of research in the field.

MacDonald (1966), Clarke (1971), and Smith (1963), and others writing in teacher education, contended that there exists a general teaching theory. In his writings, MacDonald stated that professional knowledge and research are fundamental to the education of the teacher candidate. There is a necessity for a theory to complement teaching. In the words of Smith, "to train a teacher may cripple his innovative capacity", but the knowledge of a theory of teaching may provide the background for creativity and change in the teaching process. Clarke (1971) explored the relationship between a teaching theory and a theory of learning, concluding that learning theory is a necessary, but not a sufficient condition for teaching theory. If teaching acts are to be explained, learning theory is not enough, yet the propositions of teaching theory must be consistent with the propositions of learning theory. It therefore follows that if the professional knowledge dimension of the PCTE includes a general teaching theory, then the components of this dimension must involve an understanding of children and the nature of learning.

The elementary teacher education models of the US Office of Education provide a main source of support for the validation of the professional knowledge dimension of the PCTE. In the major components of the University of Pittsburgh Model "professional education" was detailed to include learning theories, child development, general psychology, decision making and change, and an ability to participate in research endeavours serving teaching. Also within this component was the ability to analyze one's strengths and weaknesses relating to professional behavior.

The proposal of a model for elementary teacher education by Teachers' College (Joyce, 1968) was designed around the theme "teacher as innovator" and this proposal relied heavily upon the teacher candidate's knowledge of professional theory: a knowledge of the alternate missions of the school; a study of the world of the child and the individual differences of children; a study of the teaching-learning process; and a knowledge of the theoretical and research literature pertaining to the development of the social system of the school. The conceptual framework of the Teachers' College Model provided a direct support for the organization and content of the Professional Knowledge and Attitudes dimension of the PCTE.

The professional knowledge dimension of the Performance Criteria for Teacher Education includes those components synthesized from the literature studies, part of which is reported above. The four components of the Professional Knowledge and Attitudes dimension are outlined below.

I. Professional Role and Responsibility

(The role and responsibility of the educator in the profession and in society.)

J. Child Development

(Understanding the physical, social, intellectual and emotional development of children.)

K. Human Learning

(Understanding learning.)

L. Research

(Remaining up-to-date with the research literature.)

The General Knowledge and Attitudes dimension refers to a general education which might be part of any professional preparation program, and balanced in the areas of the humanities, social sciences and the natural sciences. This dimension also includes the development of knowledge, skills, and attitudes in areas of teaching specialization relevant to the school curriculum. Although there are many parts of this dimension which may overlap with the components of the professional knowledge dimension, the general knowledge dimension refers to an education in its widest scope and it is quite possible that components in other dimensions of a teacher education program have their basic assumptions rooted in the general education base.

The components of the general education dimension grew out of a careful examination of the literature on teaching, and teacher education. It has been found that teacher education programs, with almost no exceptions, include the general education dimension in the program design. The literature on teaching appears to support the view that a general knowledge of the

environment is fundamental to the performance of the teacher.

In Conant's (1963) examination of teacher education programs in the United States he found that there was a segment of all programs that was concerned with the general education of the teacher candidate. In his proposals for future teacher education programs he strongly endorsed the inclusion of the general education dimension. He advocated a solid academic background for the education of the teacher candidate, and called for competency exams for the areas of teaching specialization. In his view the teacher must remain an effective and confident member of any community, and toward this end he emphasized a sound education in philosophy, sociology, anthropology, economics, political science, and psychology.

That elementary teachers should be liberally educated was a premise agreed upon by the National Commission on Teacher Education and Professional Standards (1963). It was believed that a liberal arts education was pertinent to competence in elementary teaching, and helped prepare the teacher to serve as a resource person for children. The teacher with a broad intellectual understanding could devote more of her energies to the exploration of alternate ways of teaching varied children in changing situations.

La Grone (1965) designated the structures and uses of knowledge as one of the major elements of a pre-service teacher education curriculum, and part of his rationale for its inclusion is given below.

> ... it [structures and uses of knowledge] is designed to assist the propsective teacher in seeing knowledge as a whole - its kinds, its sources, its underpinnings and its justifications (p. 75).

It would appear that general education offers more than simple breadth of background, but also a mode of thinking to contribute to the prospective teacher.

In the University of Toledo Model (Dickson, 1968) one of the five conditions of life and education considered of prime importance to the teacher education program was the component known as societal factors. The assumption involved was that each teacher must be aware of the cultural differences which may be external to but, nonetheless, influential upon the educational setting. This assumption places a somewhat different light upon the rationale for a general education dimension. The components which follow would put considerable emphasis upon cultural and societal factors which are extraneous to the usual classroom situation.

Closely related to the general education sequence of the curriculum for teachers is a major area of specialization. In this regard the National Commission on Teacher Education and Professional Standards (1963) has stated:

> In addition to work in general education and professional study, both elementary and secondary school teachers should engage in specialized study in one major field of learning (p. 12).

B.O. Smith (1969) summed up his treatment of the subject matter preparation of teachers in the following way.

> ... the teacher should know the content he is to teach as well as that of the disciplines from which his instructional subject matter may be taken. The first is necessary for teaching anything at all. The second supplies a depth of knowledge essential to the teacher's feeling of intellectual secu-

> rity and his ability to handle instructional content with greater understanding (p. 12).

It is interesting that Smith (1969) utilized the term discipline which he defined as an area of inquiry containing a distinctive body of concepts and principles, with techniques for exploring the area and for correcting and expanding the body of knowledge. Many other sources of the literature described the general education concept or set by referring to the broad labels known as the humanities, social sciences, and the natural sciences. At this point it is worthwhile to attempt to identify how the components of the general knowledge dimension should be identified.

The Syracuse University Model (Hough, 1968) described the general education dimension by referring to the teacher candidate's preparation in the humanities, social sciences, and the natural sciences. The intent of this part of the program was "to free students so that they may transcend ignorance and limiting specialization". In a somewhat lengthy treatment of the terms liberal arts and liberal education the model included this explanation.

> What is necessary for liberal education to truly liberate is the inclusion of the social sciences and the natural sciences [as well as the humanities]. Moreover, the orientation of the interdisciplinary approach seems to provide the student with fruitful activities which foster a genuine liberal education (p. 75).

The Syracuse Model was to provide a clear alternative to the traditional policy regarding liberal education, an alternative favouring an interdisciplinary approach to liberal education.

In the University of Pittsburgh Model (Southworth, 1968), the general education dimension of the elementary teacher education program was described as academic knowledge, and it was referred to as studies in the humanities, social sciences, and the natural sciences. The intents of this dimension included the understanding of major models of inquiry employed in gaining and applying knowledge, an understanding of the sources of prejudice and means of resolving such human prejudice, and an understanding of the major goals of learning and the knowledge of how they are represented in the school curriculum.

The University of Georgia Model (Johnson, 1968) and the University of Massachusetts Model (Allen, 1968) chose to describe the general education aspect of a program in terms of the subject areas, and therefore specific disciplines or subjects were included. However, all of the models studied did include the element of a general education, and a portion of this general education was left for the intensive study in areas which may be relevant to an area for teaching specialization.

The general knowledge dimension of the Performance Criteria for Teacher Education can best be described by referring to four components which provide the most common outline of the scope of a general education, and includes the component relevant to some specialization for teaching. The four components of the general knowledge dimension of the PCTE follow.

M. Study of Teaching Specialization

(Understanding the content relating directly to the school curriculum.)

N. Study of the Humanities
(Artistic, moral, and cultural growth.)

O. Study of the Social Sciences
(Understanding of the local and global society.)

P. Study of the Natural Sciences and Mathematics
(Understanding of the natural environment.)

## III. THE ROLE OF JUDGES IN THE MODEL DEVELOPMENT

A group of nine judges were involved in an attempt to validate the use of the PCTE as a framework representative of the components of a teacher education program. The judges were a group of graduate students in the Department of Elementary Education at the University of Alberta who represented a wide variety of experiences in education. These individuals were also directly involved in the elementary teacher education program at the University. The panel was requested (i) to determine if the dimensions of the framework actually represented all the major parts of a teacher education curriculum, (ii) to determine whether the components of each dimension include all elements of that dimension, (iii) to judge whether the panel could relate to the total model so that it might be useful in understanding the nature and the scope of a teacher education program.

The model was presented to the panel of judges by the author who described the nature and intent of such a conceptual framework (see Appendix B). The specific intent of the model for the purposes of this study was described to the judges along with

the future applications of such a model. It was also explained that the model was built to represent the sufficient components of a teacher education program, and while the model is applicable to most teacher education programs, it was to be judged as a model for an elementary teacher education curriculum.

The judges were first requested to determine whether the dimensions of the model - Communication Competence, Professional Knowledge, Planning Competence, General Knowledge - described the major dimensions of a teacher education program. The judges were then free to discuss this question among themselves, and to query the researcher to test the validity of the use of these four labels as the dimensions of the model.

The order in which the dimensions appeared in the model was questioned, and so also was the use of the term "knowledge" in the Professional Knowledge and General Knowledge dimensions. In the case of the former question, the judges suggested a change in the ordering of the dimensions in the model. The outline of the dimensions of the model was altered as a result of panel's suggestion and the order of presentation of the dimensions became - Communication Competence, Planning Competence, Professional Knowledge, and General Knowledge - the dimensions Professional Knowledge and General Knowledge changed order. In the case of the use of the term "knowledge", the judges questioned its limiting meaning to those outcomes which may only be specified in the cognitive domain. Although the use of the term was intended in its widest meaning, it was suggested that if the affective domain is to be included in the dimension a suitable

term representing the affective domain should be included in the dimension label. The term "attitudes" was added to the Professional Knowledge and General Knowledge dimensions making the labels Professional Knowledge and Attitudes, and General Knowledge and Attitudes. These dimensions would guide the formulation of objectives which are mainly derived from the cognitive and affective domains.

The panel of judges questioned the independence of each dimension and component of the model. Although the model displayed what appeared to be sixteen mutually exclusive parts of a teacher education program, the judges could see a great deal of interdependence of one component with another. The nature of the model was further clarified in response to this question by the judges.

In the overall assessment of the model the panel of judges validated its use as a model which displayed those elements most regarded as sufficient for the education of the teacher candidate. This model of performance criteria serves to organize thinking about the performance criteria which are essential for the preparation of the teacher candidate. From the description of the intended performances and experiences of the teacher candidate, it is possible for the individuals concerned about a particular teacher education program to identify clearly more precise performance standards. The PCTE, developed from the literature and the validation by the judges, is outlined in Figure 1.

PERFORMANCE CRITERIA FOR TEACHER EDUCATION

Communication Competence

A. Identification of Communication Strategies
(An awareness of different strategies, and the principles underlying them.)

B. Selection of Communication Strategies
(Choice of strategies to meet objectives and the needs of individuals.)

C. Practice of Communication Strategies
(Execution of strategies.)

D. Evaluation of Communication Strategies
(Assessment of the use of strategies.)

Planning Competence

E. Formulating Objectives
(Constructing objectives for curriculum planning:)

F. Selection and Organization of Content and Materials
(Choice of content, materials, and resources in relation to objectives.)

G. Evaluation of Pupils and Program
(Evaluating pupils and program in relation to objectives.)

H. Leadership and Organization
(Interpersonal and intrapersonal organization skills.)

Professional Knowledge and Attitudes

I. Professional Role and Responsibility
(The role and responsibility of the educator in the profession and in society.)

J. Child Development
(Understanding the physical, social, intellectual, and emotional development of children.)

K. Human Learning
(Understanding learning.)

L. Research
(Remaining up-to-date with the research literature.)

General Knowledge and Attitudes

M. Study of Teaching Specialization
(Understanding content relating directly to school curriculum.)

N. Study of Humanities
(Artistic, moral and cultural growth.)

O. Study of Social Sciences
(Understanding of local and global society.)

P. Study of Natural Sciences and Mathematics
(Understanding of the natural environment.)

Figure 1: An Outline of the Conceptual Model for Teacher Education

## IV. SUMMARY

In this chapter was described the literature which was used to validate the model for teacher evaluation called the Performance Criteria for Teacher Education. A variety of sources were used, including much of the relevant literature on teaching as well as teacher education. An extensive study has been made of the elementary teacher education model funded by the US Office of Education as they represent much of the most recent work in teacher education. Described also in this chapter was the involvement of a group of judges which served to validate the model framework employed in the development of the PCTE was given at the conclusion of this chapter.

# CHAPTER IV

## RESEARCH INSTRUMENTS AND PROCEDURES

In this chapter is reported the procedures used for the identification of objectives from each component of the model, Performance Criteria for Teacher Education, which has been developed. Objectives at two levels of specificity were employed in the construction of a Q-sort research instrument, The Teacher Education Opinionnaire, whose development is also described in this chapter. A brief overview of the research design is followed by a description of the population and samples involved in the study. The chapter concludes with the testing schedule utilized in this study and the description of statistical procedures employed in the treatment of the data.

### I. THE DEVELOPMENT OF THE TEACHER EDUCATION OPINIONNAIRE

An instrument designed to record the opinions of various persons concerning the objectives of an elementary teacher education program was constructed employing the dimensions and components of the PCTE. The version of this instrument used in this study was divided into two forms, each form containing sixteen statements of objectives (see Appendix C). Form I of The Teacher Education Opinionnaire (TEO) was made up of sixteen level one statements of objectives, while Form II contained sixteen level two objectives.

The construction of this instrument began with the design

of objectives representative of the components of the PCTE. From the description of the dimension and the dimension component, it was possible to generate objectives representative of the substantive nature of the component. Objectives for all components of the model were obtained by referring to many books and articles relating to elementary teacher education, as well as from the course outlines of many elementary teacher education programs in Canada and the United States. It was also feasible to state any objectives in different levels of specificity, and it became necessary for the purposes of this study to identify objectives at two distinct levels of specificity, level one and level two as operationally defined. Therefore, the first task in the development of the instrument was to formulate objectives from each component of the model, and to express the pairs of objectives in the level one and the level two forms.

The next task necessary in the development of the TEO was the choice of suitable statements of objectives. Form I of the instrument was to contain sixteen statements, each representative of a component of the model; Form II was to have sixteen objectives, each representative of a component of the model. The Form II objectives were also to be written at a level which was distinguishably more specific than the parallel level one statement in Form I.

## The Validation of the TEO

The statements of objectives of the TEO were validated by a panel of judges whose task it was to react to the two basic questions.

First, the panel was asked to judge whether a statement or objective followed directly from a particular component of the PCTE. It then became necessary for the members of the panel to become familiar with the PCTE, and its dimensions and components. A total of thirty-two objectives were screened in this manner; pairs of objectives were generated from each of the sixteen components of the PCTE. Although many objectives were formulated initially, those thought to be the best objectives were presented to this panel. The second question to which the panel members were required to respond was that of level or specificity of the pair of objectives representative of the particular component. After a given pair was presented the judges were asked to indicate which objective was written at the level two, or more specific level. Once high agreement was reached on these questions, it was assumed that the pairs of objectives were in fact representative of the components of the performance model, and that each objective of the pair was written at a different level, one clearly more specific than the other. To the first question of this validation, the researcher looked for unanimous agreement from the panel. For the second question, an agreement by eighty percent (80%) of the panel members was deemed acceptable.

The level two objectives of Form II of the instrument were to be applicable to basic courses in the elementary teacher education program within many subject areas, and therefore it was imperative that these statements be validated for this purpose. The judges were selected also for their representation of the many areas of the elementary school curriculum: art, mathematics, physical

education, reading and language arts, science, second language, and social studies. The panel of judges was asked to ascertain whether each level two statement would be relevant to the variety of subject areas of specialization listed above.

The lanaguage used in the construction of the statements at level one was checked to verify the degree of difficulty. Because students in teacher education programs and school teachers were later to respond to the instrument, a group of student teachers and teachers in the field were requested to read the objectives of Form I and to interpret their meanings. The interpretations were checked by the investigator with the intended meanings. Following this procedure it was assumed that the statement items were written in a language appropriate for student teachers, school teachers, and teacher educators.

The Results of the Validation

The first group of eight judges consisted of graduate students who were studying towards masters and doctoral degrees in the Department of Elementary Education at the University of Alberta. An attempt was made to find judges for a panel who had a varying background in the elementary school curriculum and the teacher education program. Most of the judges had taught in a teacher education program. The first task presented was to verify whether each pair of objectives were representative of a given component of the PCTE, and following this, each pair was judged to determine whether the level two objective was indeed distinguishably more specific than the other objective.

The thirty-two objectives presented to the first group of judges are listed in Appendix B, and all pairs but five were determined to differentiate between level one and level two by an agreement of over eighty-five percent (85%). The other five pairs only produced a seventy-five percent (75%) agreement among the panel members, and so this investigator re-wrote and modified the five pairs in question.

The second task of the panel was to determine whether each pair of objectives did represent, or could have been generated from, a particular component of the PCTE. The first panel of judges found that only one objective was not clearly from the intended component of the PCTE. This objective was also re-written.

A second panel of judges, consisting of eight different graduate students but similar to the first in experience within the field, was asked to react to the five modified objectives. The results provided the information necessary to assume that all pairs of items could be differentiated by the level of specificity. But this panel of judges did uncover one other item which may not be a clear representation of a particular component of the model. This one objective was completely re-written, and submitted to a third panel of judges, where it was validated for use in the instrument.

The panels of judges also verified the use of each item in Form II in the eight areas of the curriculum, and also in the specializations of early childhood education and special education. In the view of the judges, all the level two objectives were relevant to the variety of areas of specialization.

A group of eight student teachers who were freshmen, and five teachers in elementary schools were requested to read through the objectives in Form I and interpret their meanings. The interpretation attached to each statement by these groups appeared congruent with the intended meanings, and it was therefore concluded that student teachers and school teachers would have no difficulty with the language used in the statments of objectives in Form I.

The Q Methodology

A force choice technique was selected as a necessary approach to require judges to make decisions about the two levels of objectives in Form I and Form II of The Teacher Education Opinionnaire. The support from the literature on the Q methodology and the research using this technique led to the employment of the Q technique in The Teacher Education Opinionnaire. This instrument was pilot tested to ascertain its feasibility for this research problem.

The Sorting Procedure

The TEO was divided into three sections (see Appendix C). Section I requested the personal information about the respondent; Section II contained Form I of the opinionnaire and presented on separate cards the sixteen level one statements; Section III was made up of Form II of the TEO and provided sixteen level two objectives, each on an individual card. Form I contained the statements relating to the objectives of an elementary teacher education program, while in Form II the statements of objectives

concerned a basic course designed to acquaint elementary teacher candidates with instruction in the elementary school. The respondent dealt with the statements as he would a deck of cards, sorting them into the forced distribution in Figure 2 by moving those he perceived as most important to the left, and those least important to the right, with the bulk of the statements in the intermediate range. After sorting the statements into the three gross piles, the respondent was requested to sort them into seven piles - the most important in the first pile, the two next important in the second pile, three next important in the third pile, four in the fourth, three in the fifth, two in the sixth, and the one least important in the seventh pile. In all cases the Form I statements were sorted first.

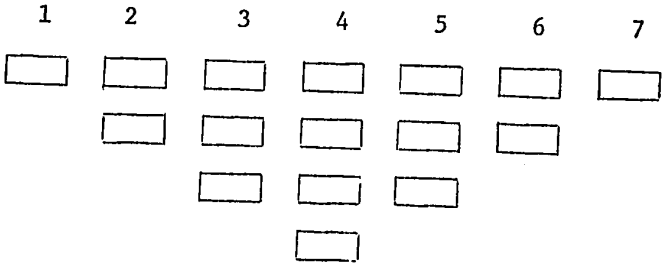


Figure 2. The Q-Sort Distribution

Prior to sorting the level two statements in Form II the subjects were requested to identify the basic course with an area of teaching specialization: art, mathematics, physical education, reading and language arts, science, second language, social studies. If the subject did not specify an area, he was asked to record the

area not included in the list or to note that he preferred not to identify with any particular area of specialization.

## II. THE PILOT STUDY

A pilot study was conducted in March, 1971. The purpose of this study was to field test The Teacher Education Opinionnaire with a group of teacher educators (1) to determine if the TEO is a feasible and valid instrument for assessing the elementary teacher education objectives at two levels of specificity, (2) to establish the most suitable means of contacting teacher educators and administering the instrument to this group, and (3) to determine the most appropriate way of collecting interview information from teacher educators.

### Design of the Pilot

A group of thirty teacher educators in the Faculty of Education at the University of Calgary were contacted and requested to participate. Each member of the sample was initially asked to establish his position in the target population by answering whether he perceived part of his role or responsibility as a member of staff to be the education of the elementary teacher candidate. If the answer to the above was positive, then the individual was regarded as a member of the target population; if the answer was negative, then the individual was eliminated from the target population.

Twenty-one of the thirty staff members contacted in the University of Calgary were determined as members of the target population and they were asked to complete the TEO. Nineteen teacher

educators in the sample did respond. Of those completing the questionnaire, twelve staff members were eventually interviewed to obtain information about the instrument itself and about the objectives of an elementary teacher education curriculum. These interviews provided the opportunity to validate further to the TEO instrument as a research tool for measuring the perceptions of objectives of an elementary teacher education program.

Results of the Pilot Study

The interviews with the teacher educators in the pilot study produced an opportunity to examine the feasibility of employing the TEO in the main research study. The over-all agreement of the pilot group was that the TEO is a valid instrument for determining the perceptions of individuals regarding the level one and level two objectives of an elementary teacher education program.

The pilot group agreed that the instrument included the essential elements of a teacher education program, and no suggestions of objectives not covered in the instrument were made. In the words of one teacher educator interviewed, the level one objectives and the sorting procedure did provide "a means of looking at the ideal elementary teacher education program". Although some of the teacher educators responding indicated that they could relate to the total teacher education program in the most general way, others did state that their frame of reference was a particular area of specialization, such as social studies, science, physical education, or early childhood education.

It was agreed by the respondents in the pilot study that

that Form I objectives were very broadly stated goals, but that as a group of sixteen statements they were expressed at about the same level of generality. There was some thought that three items of the General Knowledge and Attitudes Dimension (Items $N_1$, $O_1$, and $P_1$) might be stated at a slightly more general level, but there was no agreement about this concern. Some respondents thought that the objectives generated from the Communication Dimension (Items $A_1$, $B_1$, $C_1$, and $D_1$) were very closely related and that they may not be independent statements, however, most of the pilot staff interviewed agreed after a deeper analysis of the statements that they could indeed be regarded as distinct components and essential to the communication process in teaching.

The statements of objectives of Form II were perceived to be at a more specific level than those in Form I, and it was felt that all level two objectives applied to the number of areas of teaching specialization in the elementary school. Some statements were more difficult to relate to certain areas than other statements, but the respondents agreed that this was not a serious problem. All the level two statements of objectives were found to be clear in meaning, except one statement - able to perform the basic skills included in a subject area of the elementary school curriculum. Because this statement consistently was not interpreted clearly the word "content" was inserted to make the meaning more precise. This objective was changed to read - able to perform the basic content skills included in a subject area of the elementary school curriculum, (Item $M_2$).

There was only a minor change in the procedure and the

research instrument used in the pilot in the preparation of the main study. It was therefore decided to report the results of the pilot study along with the description of all results in Chapter V. The characteristics of the sample of teacher educators involved in the pilot study are displayed later in this chapter along with details for all the samples in this study.

The Reliability of the TEO

Prior to the commencement of the study, the reliability of The Teacher Education Opinionnaire was determined. Although the literature on the Q methodology (Stephenson, 1953 and Downey, 1959) supports the sixteen item sort as a reliable procedure, it was felt that Form I of the TEO should be subjected to a test-retest estimation of its reliability.

Twenty-two student teachers, all of whom were in the last three years of the elementary degree program in the Faculty of Education at the University of Alberta, were administrered Form I of the TEO on two occasions, two and one-half weeks apart. After the first administration of the instrument, the subjects had no knowledge that they would be given Form I to do again.

The results of the first and second administrations of Form I of the TEO were analyzed and displayed in Table I. The group ranking of each of the sixteen items and the median used in determining this rank is presented along with the Spearman rank correlation calculated between the two administrations of the TEO Form I ($r_s = .963$). Each item of the sort was individually studied to determine if the item attained a significantly different relative

TABLE I

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY STUDENT TEACHERS IN RELIABILITY STUDY

| OBJECTIVES[1] | | Time 1 | | Time 2 | | Level of Significance |
|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | |
| | | n = 22 | | n = 22 | | |
| COMMUNICATION COMPETENCE | $A_1$ | 7 | 4.00 | 9.5 | 4.13 | .71 |
| | $B_1$ | 9 | 4.13 | 9.5 | 4.13 | .61 |
| | $C_1$ | 6 | 3.77 | 6 | 3.64 | .92 |
| | $D_1$ | 10 | 4.25 | 8 | 4.08 | .66 |
| PLANNING COMPETENCE | $E_1$ | 7 | 4.00 | 7 | 3.88 | .68 |
| | $F_1$ | 5 | 3.50 | 5 | 3.30 | .91 |
| | $G_1$ | 2 | 2.17 | 2 | 2.28 | .88 |
| | $H_1$ | 4 | 3.05 | 4 | 3.00 | .96 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 12 | 4.70 | 13 | 4.75 | .43 |
| | $J_1$ | 1 | 1.67 | 1 | 1.42 | .56 |
| | $K_1$ | 3 | 3.00 | 3 | 2.50 | .30 |
| | $L_1$ | 15 | 5.25 | 11.5 | 4.50 | .56 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 11 | 4.50 | 11.5 | 4.50 | .66 |
| | $N_1$ | 13 | 5.00 | 14 | 5.30 | .28 |
| | $O_1$ | 14 | 5.23 | 15 | 5.36 | .83 |
| | $P_1$ | 16 | 5.32 | 16 | 5.75 | .37 |

[1]The statements of level one objectives appear on page 167.

position over the two Q-sorts. A Mann Whitney U test (Siegel, 1956), transforming all values of U to the normal distribution, was performed on all sixteen items to test whether there was any significant difference in the scores assigned each item.

When examining these results, it must be kept in mind that it was only Form I of The Teacher Education Opinionnaire that was tested in this manner. However, it appears that Form I of the TEO is a very reliable procedure for assessing the level one objectives of an elementary teacher education program.

## III. THE DATA COLLECTION PROCEDURES

### The University of Alberta

The focus of this research problem was to assess the objectives of the elementary teacher education program at the University of Alberta. A total of 68 teacher educators, 154 student teachers, and 50 cooperating teachers at the University of Alberta responded to The Teacher Education Opinionnaire, Form I.

The target population of teacher educators at the University of Alberta was obtained by writing all members of the staff of the Faculty of Education, 189 persons, to invite them to participate by responding to the form "Invitation to Participate", a copy of which appears in Appendix A. Also, the seven staff members of the Department of Educational Services of the Faculty of Physical Education were invited to participate. Each individual was asked whether part of his role or responsibility as a member of a teacher education staff was the education of the elementary teacher candidate.

If the staff member perceived this as part of his role or responsibility, he was considered a member of the population. For the purposes of this investigation, if a staff member did not respond to the invitation to participate he was not considered as a member of the target population. This assumption was checked by the researcher, and it appeared to be a valid assumption. Of the 189 staff members contacted, 115 returned the Invitation to Participate and 76 teacher educators were identified as members of the population of elementary teacher educators. Ninety percent of the population, or 68 persons, responded to the TEO by completing both forms of this instrument. Thirty-one members of this sample were interviewed to gain further information about the validity of the TEO and to note specific comments of Canadian teacher educators regarding the objectives of an elementary teacher education program. A description of the sample of the population of teacher educators is displayed in Table II.

The sample of student teachers at the University of Alberta was obtained by the method of stratified sampling. Student teachers enrolled in the elementary route of the degree program in the Faculty were asked to participate by completing Form I of the TEO. The instrument was administered to class groups until a sample of 154 were placed in the proportional elements of the population stratification. The criteria used to stratify the sample population was (i) the year of study in the degree program, and (ii) the stated area of specialization in the degree course. In Table III the stratified sample population is compared to the proportion of students known to

TABLE II

THE NUMBER OF TEACHER EDUCATORS IN THE SAMPLE AT THE UNIVERSITY OF ALBERTA

Sex:

| | | | |
|---|---|---|---|
| Male | 50 | Female | 18 |

Age:

| | | | |
|---|---|---|---|
| Under 21 | 0 | 36 - 40 | 10 |
| 21 - 25 | 0 | 41 - 50 | 18 |
| 26 - 30 | 14 | 51 - 60 | 8 |
| 31 - 35 | 14 | Over 60 | 4 |

Years of Teacher Education:

| | |
|---|---|
| None | 6 |
| 1 year | 5 |
| 2 years | 4 |
| 3 years | 1 |
| 4 years | 6 |
| 5 years | 5 |
| 6 & more | 41 |

Years of Teaching Experience:

| | |
|---|---|
| None | 4 |
| 1 - 2 years | 6 |
| 3 - 5 years | 15 |
| 6 - 10 years | 17 |
| 11 - 15 years | 14 |
| 16 years & more | 12 |

Area of Teaching Specialization:

| | |
|---|---|
| Art | 4 |
| Early Childhood | 0 |
| Mathematics | 9 |
| Music | 3 |
| Physical Education | 5 |
| Reading & Lang. Arts | 12 |
| Science | 7 |
| Second Lang. | 4 |
| Social Studies | 5 |
| Special Ed. | 1 |
| Other | 9 |
| Prefer not to identify | 9 |

Principal Area of Concern in Teacher Education:

| | |
|---|---|
| Administration | 8 |
| Curriculum & Instruct. | 39 |
| Foundations | 4 |
| Indust. & Voc. Ed. | 4 |
| Psychology | 9 |
| Other | 4 |

Years of Experience in Teacher Education:

| | | | |
|---|---|---|---|
| 1 - 2 yrs. | 20 | 11 - 15 yrs. | 6 |
| 3 - 5 yrs. | 25 | 16 or more | 5 |
| 6 - 10 yrs. | 12 | | |

TABLE III

STUDENT TEACHERS - UNIVERSITY OF ALBERTA
SAMPLE AND ACTUAL POPULATION

| | Total Population 1970-71 Elementary Route | Sample Population |
|---|---|---|
| Year One | 21.8% | 21.4% |
| Years Two and Three | 62.4% | 61.7% |
| Year Four | 15.8% | 16.9% |
| | 100.0% | 100.0% |
| *Art | 2.5% | 1.7% |
| Early Childhood | 28.8% | 26.0% |
| Mathematics | 5.1% | 5.0% |
| Music | 2.5% | 1.6% |
| Physical Education | 5.9% | 8.3% |
| Reading and Lang. Arts | 15.3% | 14.1% |
| Science | 4.2% | 4.1% |
| Social Studies | 18.6% | 18.2% |
| Special Education | 8.3% | 7.1% |
| Other or Not Identified | 8.7% | 13.9% |
| | 100.0% | 100.0% |

*Figures based on student teachers in 2nd, 3rd, or 4th year of program 1970-71.

be members of the sub-groups within the actual student population. Table IV displays the characteristics of the sample population of student teachers in the elementary teacher education degree program at the University of Alberta.

A random sample of 100 elementary school cooperating teachers at the University of Alberta was selected from the population of 528 elementary cooperating teachers used by the Division of Field Experiences. Each of the teachers was written inviting him to participate in the study by way of the form "Invitation to Participate". Two of the letters mailed to teachers were returned to the sender after they did not reach their destination. A total of 60 replies was received, eight teachers stating that they were unable to participate. Of the 52 instruments mailed to the cooperating teachers, 96 percent were completed and returned. A description of the characteristics of the random sample of cooperating teachers is displayed in Table V.

All the testing at the University of Alberta was completed in the months of April and May, 1971, and therefore all members of the three samples had an opportunity to respond to the TEO at the same time in the university academic year.

McGill University

A population of elementary teacher educators in the Faculty of Education at McGill University was identified utilizing the same procedure as that employed at the University of Alberta. Each member of the McGill sample was asked to respond to both forms of the TEO, and 32 members of the sample were interviewed by the researcher. A population of 77 teacher educators out of the staff

TABLE IV

THE NUMBER OF STUDENT TEACHERS IN THE SAMPLE AT THE UNIVERSITY OF ALBERTA

Sex:

| | | | |
|---|---|---|---|
| Male | 17 | Female | 137 |

Age:

| | | | |
|---|---|---|---|
| Under 21 | 71 | 36 - 40 | 4 |
| 21 - 25 | 51 | 41 - 50 | 7 |
| 26 - 30 | 10 | 51 - 60 | 1 |
| 31 - 35 | 10 | Over 60 | 0 |

Years of Teacher Education:

| | |
|---|---|
| None | 0 |
| 1 year | 33 |
| 2 years | 47 |
| 3 years | 48 |
| 4 years | 26 |
| 5 years | 0 |
| 6 & more | 0 |

Years of Student Teaching:

| | |
|---|---|
| None | 55 |
| 1 year | 59 |
| 2 years | 14 |
| 3 years | 0 |
| 4 years | 1 |

Area of Teaching Specialization:

| | |
|---|---|
| Art | 2 |
| Early Childhood | 46 |
| Mathematics | 6 |
| Music | 2 |
| Physical Education | 10 |
| Reading & Lang. Arts | 24 |
| Science | 5 |
| Second Language | 7 |
| Social Studies | 22 |
| Special Ed. | 20 |
| Other | 7 |
| Prefer not to identify | 3 |

Years of Teaching Experience:

| | |
|---|---|
| None | 0 |
| 1 - 2 years | 8 |
| 3 - 5 years | 5 |
| 6 - 10 years | 6 |
| 11 - 15 years | 3 |
| 16 years or more | 3 |

TABLE V

THE NUMBER OF ELEMENTARY COOPERATING TEACHERS IN THE SAMPLE AT THE UNIVERSITY OF ALBERTA

| | | | |
|---|---|---|---|
| Sex: | | | |
| Male | 10 | Female | 40 |
| Age: | | | |
| Under 21 | 0 | 36 - 40 | 3 |
| 21 - 25 | 26 | 41 - 50 | 10 |
| 26 - 30 | 14 | 51 - 60 | 1 |
| 31 - 35 | 4 | Over 60 | 2 |

| Years of Teacher Education: | |
|---|---|
| None | 1 |
| 1 year | 4 |
| 2 years | 12 |
| 3 years | 3 |
| 4 years | 22 |
| 5 years | 4 |
| 6 & more | 4 |

| Years of Teaching Experience: | |
|---|---|
| None | 0 |
| 1 - 2 years | 7 |
| 3 - 5 years | 14 |
| 6 - 10 years | 13 |
| 11 - 15 years | 8 |
| 16 years & more | 8 |

| Area of Teaching Specialization: | |
|---|---|
| Art | 2 |
| Early Childhood | 5 |
| Mathematics | 2 |
| Music | 0 |
| Physical Education | 5 |
| Reading & Lang. Arts | 6 |
| Science | 1 |
| Second Language | 0 |
| Social Studies | 5 |
| Special Ed. | 1 |
| Other | 4 |
| Prefer not to identify | 19 |

of 128 was identified as elementary teacher educators at McGill University. A total of 65 staff completed and returned The Teacher Education Opinionnaire for a response of 86 percent. The characteristics of the sample population of elementary teacher educators at McGill are included in Table VI.

Simon Fraser University

A population of 48 elementary teacher educators out of a Faculty of Education staff of 71 persons was identified at Simon Fraser University. Each member of the population was requested to complete both forms of the TEO; a total of 30, or 63 percent of the population returned the completed instrument. On the staff of the Professional Development Centre within the Faculty of Education were 33 Associates of the Centre, or school teachers on a one year appointment in the teacher education program. Of the total completed opinionnaires returned, 15 were from Associates of the Centre, with the remainder from the full-time members of the Faculty of Education. Fourteen members of the sample were interviewed. The characteristics of this sample population of elementary teacher educators at Simon Fraser University are included in Table VII.

The University of Calgary[2]

The sample of elementary teacher educators was drawn from the Department of Curriculum and Instruction in the Faculty of Education, The University of Calgary. A total of 21 staff members

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[2]Only one department of the Faculty of Education, The University of Calgary, was involved in the pilot study.

TABLE VI

THE NUMBER OF TEACHER EDUCATORS IN THE SAMPLE AT McGILL UNIVERSITY

Sex:

| | | | |
|---|---|---|---|
| Male | 40 | Female | 25 |

Age:

| | | | |
|---|---|---|---|
| Under 21 | 0 | 36 - 40 | 14 |
| 21 - 25 | 2 | 41 - 50 | 22 |
| 26 - 30 | 4 | 51 - 50 | 14 |
| 31 - 35 | 7 | Over 60 | 2 |

Years of Teacher Education:

| | |
|---|---|
| None | 2 |
| 1 year | 26 |
| 2 years | 10 |
| 3 years | 5 |
| 4 years | 5 |
| 5 years | 3 |
| 6 & more | 14 |

Years of Teaching Experience:

| | |
|---|---|
| None | 1 |
| 1 - 2 years | 7 |
| 3 - 5 years | 9 |
| 6 - 10 years | 15 |
| 11 - 15 years | 15 |
| 16 years & more | 18 |

Area of Teaching Specialization:

| | |
|---|---|
| Art | 3 |
| Early Childhoold | 0 |
| Mathematics | 6 |
| Music | 2 |
| Physical Education | 8 |
| Reading & Lang. Arts | 13 |
| Science | 3 |
| Second Language | 4 |
| Social Studies | 7 |
| Special Ed. | 1 |
| Other | 6 |
| Prefer not to identify | 7 |

Principal Area of Concern in Teacher Education:

| | |
|---|---|
| Administration | 8 |
| Curriculum & Instruct. | 38 |
| Foundations | 8 |
| Indust. & Voc. Ed. | 0 |
| Psychology | 8 |
| Other | 3 |

Years of Experience in Teacher Education:

| | | | |
|---|---|---|---|
| 1 - 2 yrs. | 10 | 11 - 15 yrs. | 13 |
| 3 - 5 yrs. | 20 | 16 or more | 8 |
| 6 - 10 yrs. | 14 | | |

TABLE VII

THE NUMBER OF TEACHER EDUCATORS IN THE SAMPLE AT SIMON FRASER UNIVERSITY

Sex:

| | | | |
|---|---|---|---|
| Male | 20 | Female | 10 |

Age:

| | | | |
|---|---|---|---|
| Under 21 | 0 | 36 - 40 | 8 |
| 21 - 25 | 0 | 41 - 50 | 7 |
| 26 - 30 | 6 | 51 - 60 | 4 |
| 31 - 35 | 5 | Over 60 | 0 |

Years of Teacher Education

| | |
|---|---|
| None | 3 |
| 1 year | 3 |
| 2 years | 5 |
| 3 years | 2 |
| 4 years | 6 |
| 5 years | 4 |
| 6 & more | 7 |

Years of Teaching Experience

| | |
|---|---|
| None | 1 |
| 1 - 2 years | 1 |
| 3 - 5 years | 4 |
| 6 - 10 years | 9 |
| 11 - 15 years | 10 |
| 16 years & more | 4 |

Area of Teaching Specialization:

| | |
|---|---|
| Art | 1 |
| Early Childhood | 0 |
| Mathematics | 3 |
| Music | 0 |
| Physical Education | 4 |
| Reading & Lang. Arts | 5 |
| Science | 1 |
| Second Language | 0 |
| Social Studies | 3 |
| Special Ed. | 0 |
| Other | 4 |
| Prefer not to identify | 9 |

Principal Area of Concern in Teacher Education:

| | |
|---|---|
| Administration | 3 |
| Curriculum & Instruct. | 24 |
| Foundations | 3 |
| Indust. & Voc. Ed. | 0 |
| Psychology | 0 |
| Other | 0 |

Years of Experience in Teacher Education:

| | | | |
|---|---|---|---|
| 1 - 2 yrs. | 17 | 11 - 15 yrs. | 4 |
| 3 - 5 yrs. | 4 | 16 or more | 0 |
| 6 - 10 yrs. | 2 | | |

were identified, of which 19 or 90 percent completed and returned both forms of the TEO. Twelve teacher educators of this sample were interviewed by the researcher. The characteristics of this sample, used in the pilot study, are included in Table VIII.

As this researcher was able to spend time at the teacher education institutions, it was therefore not necessary to rely entirely upon the mail service for the return of completed instruments. It was possible to receive approximately 50 to 60 percent of the opinionnaires before leaving the particular institution. All contact with the sample of cooperating teachers, however, had to be accomplished by mail or telephone.

## IV. THE RESEARCH DESIGN

All teacher educators at each of the teacher education institutions responded to both Form I and Form II of the TEO. Student teachers and cooperating teachers at the University of Alberta completed only Form I of the TEO. A total of 182 teacher educators, 154 student teachers, and 50 cooperating teachers participated in the study.

### Treatment of the Data

The Teacher Education Opinionnaire Form I and Form II was scored by weighting each category of the Q array, and then dependent upon the category into which the statement was sorted a numerical value from one (most important) to seven (least important) could be assigned to the statement.

The data from the TEO were treated using non-parametric statistics as the measurement provided by the instrument was ordinal,

TABLE VIII

THE NUMBER OF TEACHER EDUCATORS IN THE SAMPLE AT THE UNIVERSITY OF CALGARY*

Sex:

| | | | |
|---|---|---|---|
| Male | 12 | Female | 7 |

Age:

| | | | |
|---|---|---|---|
| Under 21 | 0 | 36 - 40 | 3 |
| 21 - 25 | 0 | 41 - 50 | 5 |
| 26 - 30 | 1 | 51 - 60 | 6 |
| 31 - 36 | 3 | Over 60 | 1 |

Years of Teacher Education:

| | |
|---|---|
| None | 3 |
| 1 year | 1 |
| 2 years | 1 |
| 3 years | 5 |
| 4 years | 0 |
| 5 years | 0 |
| 6 & more | 9 |

Years of Teaching Experience

| | |
|---|---|
| None | 1 |
| 1 - 2 years | 0 |
| 3 - 5 years | 5 |
| 6 - 10 years | 7 |
| 11 - 15 years | 4 |
| 16 years & more | 2 |

Area of Teaching Specialization:

| | |
|---|---|
| Art | 0 |
| Early Childhood | 0 |
| Mathematics | 2 |
| Music | 0 |
| Physical Education | 0 |
| Reading & Lang. Arts | 8 |
| Science | 2 |
| Second Language | 0 |
| Social Studies | 6 |
| Special Ed. | 0 |
| Other | 0 |
| Prefer not to identify | 1 |

Principal Area of Concern in Teacher Education:

| | |
|---|---|
| Administration | 0 |
| Curriculum & Instruct. | 19 |
| Foundations | 0 |
| Indust. & Voc. Ed. | 0 |
| Psychology | 0 |
| Other | 0 |

Years of Experience in Teacher Education:

| | | | |
|---|---|---|---|
| 1 - 2 yrs. | 5 | 11 - 15 yrs. | 2 |
| 3 - 5 yrs. | 0 | 16 or more | 5 |
| 6 - 10 yrs. | 7 | | |

*Sample was selected from only one department in the Faculty of Education.

and normality of the distribution of the statement items could not be assumed. For each statement of each form, a frequency distribution consisting of seven categories was made and the median of this distribution was computed. The use of the median was more descriptive of the data in that it is generally closer to the mode and the median is not affected by the skewness of the distribution in the same way that the mean would be. The objectives of each form were then ranked according to the relative size of the medians, lowest median ranked number one, and so on to the highest median which ranked last. The semi-interquartile ranges of the distributions were also computed and recorded for each of the sixteen items of each form over all members of the group.

Whenever the rank orders of the sixteen objectives in either form of two or more different groups were compared, the statistical significance of the difference of each of the sixteen items was computed. For the purpose of testing the distributions of the values assigned a given objective by two or more groups, the Mann Whitney U test was employed (Siegel, 1956).

The rank correlations between the responses of two groups were reported, and Spearman rho was computed according to the procedure outlined in Siegel (1956). This correlation coefficient was computed between groups on the items from Form I or Form II of the TEO.

The responses to The Teacher Education Opinionnaire (Form I) by teacher educators, student teachers, and cooperating teachers were factor analyzed to determine the views of the groups towards the

objectives of an elementary teacher education program.

The Computer Programs

The medians of the sixteen distributions within each group were computed using the statistical package NONPO4 from the DERS Library of the Division of Educational Research in the Faculty of Education at the University of Alberta. The Mann Whitney U test was completed by employing the DERS statistical package NONPO5. The principal components analysis and the varimax rotation of the principal axes factors were computed using the DERS statistical package FACTO1.

## V. SUMMARY

This chapter has presented the procedures used in the construction of an instrument for assessing the level one and level two objectives of an elementary teacher education program. A brief overview of the research design used in the pilot and main study is then followed by a description of the populations and samples involved in the study. The chapter concluded with a discussion of the statistical treatment of the data.

# CHAPTER V

## THE RESULTS OF THIS STUDY

Reported in this chapter are the results of the evaluation of the objectives as perceived by the subjects of the samples included in this study. These results are described by focusing first on the samples which related to the elementary teacher education program at the University of Alberta. The priorities assigned the level one objectives are examined for teacher educators, student teachers, and cooperating teachers involved in the elementary teacher education program in the Faculty of Education at the University of Alberta. The assessments of the level one objectives by teacher educators in three other institutions in Canada are then reported and compared. Following this, the perceiptions of the level one and the level two objectibes of all teacher educators who participated in this study are then described by examining groups of teacher educators taken from the combined samples from various teacher education institutions.

When examining the results described in this chapter, the complete statements of level one and level two objectives may be referred to on fold-out pages 167 and 168 of this study.

### I. THE UNIVERSITY OF ALBERTA LEVEL ONE OBJECTIVES

The rank order of the sixteen level one objectives is displayed in Table IX for teacher educators at the University of Alberta; the rank orders for student teachers and cooperating

teachers in the same institution are shown in Table X and Table XI, respectively. The relative ranking of an objective and the median of the values assigned the objective by the group are displayed in the tables. Also included in the tables is the semi-interquartile range (Q) for each objective. Q is a measure of the agreement among respondents as to the importance of the particular objective. The larger the value of the semi-interquartile range, the more disagreement is indicated.

Teacher Educators

Teacher educators assigned the priority of importance to an understanding of children (Item $J_1$), while the ability to manage the learning environment (Item $H_1$) and an understanding of the fundamental processes of learning (Item $K_1$) were assigned an equal second ranking of importance. Although the priority rank was given Item $J_1$, this item also displayed the highest dispersion of the distribution among the group of sixteen objectives, indicating that there was a high disagreement in placing this objective in the most important position. These results appear in Table IX.

An ability to interpret research (Item $L_1$) was given the position of least importance by the University of Alberta teacher educators; this is somewhat surprising in light of the extensive graduate studies and research program in this institution.

By adding the median ranks of the items within each dimension it is possible to describe the relative importance of each of the dimensions. The planning dimension was assigned the most important, and the communication and professional knowledge dimension followed closely

TABLE IX

RANKS, MEDIANS AND SEMI-INTERQUARTILE RANGES ASSIGNED LEVEL ONE OBJECTIVES BY TEACHER EDUCATORS AT THE UNIVERSITY OF ALBERTA

| OBJECTIVES | | n = 68 | | |
|---|---|---|---|---|
| | | Rank | Median | Q |
| $J_1$ | Understands children. | 1 | 2.17 | 1.24 |
| $K_1$ | Understands the fundamental processes of learning. | 2.5 | 2.63 | .88 |
| $H_1$ | Able to manage and organize the learning environment. | 2.5 | 2.63 | 1.08 |
| $G_1$ | Able to evaluate the progress of pupils. | 4 | 2.76 | .86 |
| $F_1$ | Able to select an organize content and materials. | 5 | 3.17 | .72 |
| $C_1$ | Competent in executing the communication strategies. | 6 | 3.41 | .76 |
| $B_1$ | Able to select appropriate communication strategies. | 7 | 3.71 | .67 |
| $D_1$ | Able to assess communication strategies. | 8 | 3.96 | .55 |
| $A_1$ | Aware of a variety of communication strategies. | 9 | 4.17 | .88 |
| $E_1$ | Able to define appropriate purposes in building curriculum. | 10 | 4.18 | .96 |
| $M_1$ | Understand the content of the school curriculum. | 11 | 4.44 | .88 |
| $I_1$ | Understands the role of education in society. | 12 | 4.75 | 1.22 |
| $N_1$ | Has a general understanding of the humanities. | 13 | 5.26 | .79 |
| $O_1$ | Has a general understanding of the social sciences. | 14 | 5.30 | .68 |
| $P_1$ | Has a general understanding of the natural sciences and mathematics. | 15 | 5.46 | .73 |
| $L_1$ | Able to interpret research. | 16 | 5.60 | .87 |

in importance. The dimension of general knowledge was rated by teacher educators to be the least important.

Student Teachers

Student teachers assigned the highest rank to an understanding of children (Item $J_1$), and there was high agreement in placing this item in the most important position. The items, able to evaluate the progress of pupils (Item $G_1$), and understanding the fundamental processes of learning (Item $K_1$), were given the next two positions of importance. These results appear in Table X.

At the time the level one objectives were assessed by student teachers, a high value was assigned to teaching behaviors relevant to working directly with children. Students regarded other behaviors related to planning and teaching as important, but they assigned the highest ranks to those which contributed to an understanding of the individual. Interestingly, student teachers placed a high importance on an ability to manage and organize the learning environment, and thereby displayed an important concern for their work in classroom management.

Although student teachers are involved in an extensive academic program, the three items of the general knowledge dimension (Items $N_1$, $O_1$, $P_1$) were assigned the last three positions of relative importance.

The student teachers rated the planning dimension as the most important, the professional knowledge second in importance, and the communication and general knowledge dimensions next and in that order.

TABLE X

RANKS, MEDIANS AND SEMI-INTERQUARTILE RANGES ASSIGNED LEVEL ONE OBJECTIVES BY STUDENT TEACHERS AT THE UNIVERSITY OF ALBERTA

| OBJECTIVES | | n = 154 | | |
|---|---|---|---|---|
| | | Rank | Median | Q |
| $J_1$ | Understands children. | 1 | 1.50 | .71 |
| $G_1$ | Able to evaluate the progress of pupils. | 2 | 2.28 | .63 |
| $K_1$ | Understands the fundamental processes of learning. | 3 | 2.60 | .89 |
| $H_1$ | Able to manage and organize the learning environment. | 4 | 2.95 | .78 |
| $F_1$ | Able to select and organize content and materials. | 5 | 3.27 | .74 |
| $C_1$ | Competent in executing the communication strategies. | 6 | 3.84 | .75 |
| $B_1$ | Able to select appropriate communication strategies. | 7 | 3.85 | .61 |
| $M_1$ | Understands the content of the school curriculum. | 8 | 4.24 | .87 |
| $D_1$ | Able to assess the communication strategies. | 9 | 4.25 | .64 |
| $A_1$ | Aware of a variety of communication strategies. | 10.5 | 4.29 | .74 |
| $E_1$ | Able to define appropriate purposes in building curriculum. | 10.5 | 4.29 | .88 |
| $I_1$ | Understands the role of education in society. | 12 | 4.29 | 1.29 |
| $L_1$ | Able to interpret research. | 13 | 5.08 | 1.10 |
| $N_1$ | Has a general understanding of the humanities. | 14 | 5.20 | .76 |
| $O_1$ | Has a general understanding of the social sciences. | 15 | 5.22 | .67 |
| $P_1$ | Has a general understanding of the natural sciences and mathematics. | 16 | 5.75 | .83 |

Cooperating Teachers

Cooperating teachers perceived that to understand children and all aspects of child development (Item $J_1$) was the most important objective of the elementary teacher education program. Although assigning Item $J_1$ the highest priority, the cooperating teachers displayed high disagreement within their own group. The cooperating teachers then ranked the ability to manage and organize the learning environment (Item $H_1$), and the ability to evaluate the progress of pupils and diagnose their needs (Item $G_1$) as next in relative importance. The results appear in Table XI.

Cooperating teachers appeared to place a high value upon those understandings and teaching behaviors which facilitate their work with individuals within a well organized teaching-learning environment.

Three items of the general knowledge dimension relative to a broad liberal education (Items $N_1$, $O_1$, and $P_1$) were ranked as being the least important in the program by the cooperating teachers.

Cooperating teachers perceived the planning dimension as being most important, followed by the communication dimension and the professional knowledge dimension. Of least importance in the relative ranking was the general knowledge dimension.

Teacher Educators, Student Teachers, and Cooperating Teachers

At the University of Alberta, teacher educators, student teachers, and cooperating teachers involved in the elementary teacher education program indicated high correlations in their rankings of the level one objectives of the teacher education program. The

TABLE XI

RANKS, MEDIANS AND SEMI-INTERQUARTILE RANGES ASSIGNED LEVEL ONE OBJECTIVES BY COOPERATING TEACHERS AT THE UNIVERSITY OF ALBERTA

| OBJECTIVES | | n = 50 | | |
|---|---|---|---|---|
| | | Rank | Median | Q |
| $J_1$ | Understands children. | 1 | 2.05 | 1.22 |
| $H_1$ | Able to manage and organize the learning environment. | 2 | 2.30 | .66 |
| $G_1$ | Able to evaluate the progress of pupils. | 3 | 2.70 | .65 |
| $K_1$ | Understands the fundamental processes of learning. | 4 | 2.89 | .97 |
| $F_1$ | Able to select and organize content and materials. | 5 | 3.04 | .55 |
| $C_1$ | Competent in executing the communication strategies. | 6 | 3.36 | .83 |
| $B_1$ | Able to select appropriate communication strategies. | 7 | 3.82 | .60 |
| $D_1$ | Able to assess the communication strategies. | 8 | 3.98 | .51 |
| $A_1$ | Aware of a variety of communication strategies. | 9 | 4.06 | .48 |
| $M_1$ | Understands the content of the school curriculum. | 10 | 4.18 | .76 |
| $E_1$ | Able to define appropriate purposes in building curriculum. | 11 | 4.75 | .88 |
| $I_1$ | Understands the role of education in society. | 12 | 4.93 | 1.11 |
| $L_1$ | Able to interpret research. | 13 | 5.09 | .93 |
| $N_1$ | Has a general understanding of the humanities. | 14 | 5.33 | .80 |
| $O_1$ | Has a general understanding of the social sciences. | 15 | 5.88 | .57 |
| $P_1$ | Has a general understanding of the natural sciences and mathematics. | 16 | 5.66 | .67 |

correlations between teacher educators and student teachers was .954, between teacher educators and cooperating teachers it was .974, and between cooperating teachers and student teachers it was .980.

The Mann Whitney U test was used to compare each objective and its perceived importance among all three of the groups. The results are displayed in Table XII and Table XIII.

Student teachers and cooperating teachers differed significantly on a greater number of items than did student teachers and teacher educators, or teacher educators and cooperating teachers.

Cooperating teachers perceived an ability to assess the effectiveness of communication strategies (Item $D_1$), an ability to select and organize content and materials (Item $F_1$), and an ability to manage and organize the learning environment (Item $H_1$) as significantly more important than did the student teachers ($p \leq .01$). However, Item $F_1$ was ranked in the same position within each group. It is not surprising that the teachers in the schools would assign a higher importance to these items than the student teachers.

Student teachers and teacher educators differed significantly in their assessment of two level one objectives ($p < .01$). These items were Item $G_1$, and ability to evaluate the progress of pupils, and Item $J_1$, an understanding of children; although this objective ranked the same within both groups. It should be noted that although the teacher educators placed a relatively high value on these items, student teachers, as a group, assigned a significantly higher importance. It is likely that student teachers were not as concerned with other relatively important objectives, and they were able to assign consistantly higher ranks to these items.

TABLE XII

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY TEACHER EDUCATORS, STUDENT TEACHERS, AND COOPERATING TEACHERS AT THE UNIVERSITY OF ALBERTA

| OBJECTIVES[1] | | Teacher Educators n = 68 | | Student Teachers n = 154 | | Cooperating Teachers n = 50 | |
|---|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | $A_1$ | 9 | 4.17 | 10.5 | 4.29 | 9 | 4.06 |
| | $B_1$ | 7 | 3.71 | 7 | 3.85 | 7 | 3.82 |
| | $C_1$ | 6 | 3.41 | 6 | 3.84 | 6 | 3.36 |
| | $D_1$ | 8 | 3.96 | 9 | 4.25 | 8 | 3.98 |
| PLANNING COMPETENCE | $E_1$ | 10 | 4.18 | 10.5 | 4.29 | 11 | 4.75 |
| | $F_1$ | 5 | 3.17 | 5 | 3.27 | 5 | 3.04 |
| | $G_1$ | 4 | 2.76 | 2 | 2.28 | 3 | 2.70 |
| | $H_1$ | 2.5 | 2.63 | 4 | 2.95 | 2 | 2.30 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 12 | 4.75 | 12 | 4.57 | 12 | 4.93 |
| | $J_1$ | 1 | 2.17 | 1 | 1.50 | 1 | 2.05 |
| | $K_1$ | 2.5 | 2.63 | 3 | 2.60 | 4 | 2.89 |
| | $L_1$ | 16 | 5.60 | 13 | 5.08 | 13 | 5.09 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 11 | 4.44 | 8 | 4.24 | 10 | 4.18 |
| | $N_1$ | 13 | 5.26 | 14 | 5.20 | 14 | 5.33 |
| | $O_1$ | 14 | 5.30 | 15 | 5.22 | 15 | 5.58 |
| | $P_1$ | 15 | 5.46 | 16 | 5.75 | 16 | 5.66 |

[1]The statements of level one objectives appear on page 167

TABLE XIII

LEVELS OF SIGNIFICANCE FOR THE COMPARISONS OF ALL GROUPS IN TABLE XII ON EACH LEVEL ONE OBJECTIVE

| OBJECTIVES[1] | | Teacher Educators and Student Teachers | Teacher Educators and Cooperating Teachers | Student Teacher and Cooperating Teachers |
|---|---|---|---|---|
| COMMUNICATION COMPETENCE | $A_1$ | .79 | .34 | .02 |
| | $B_1$ | .12 | .55 | .22 |
| | $C_1$ | .02 | .72 | .02 |
| | $D_1$ | .02 | .81 | .0001 |
| PLANNING COMPETENCE | $E_1$ | .48 | .08 | .95 |
| | $F_1$ | .53 | .41 | .0094 |
| | $G_1$ | .0025 | .58 | .03 |
| | $H_1$ | .27 | .13 | .0108 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | .92 | .32 | .43 |
| | $J_1$ | .0050 | .97 | .08 |
| | $K_1$ | .80 | .96 | .47 |
| | $L_1$ | .04 | .17 | .10 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | .82 | .56 | .31 |
| | $N_1$ | .75 | .40 | .63 |
| | $O_1$ | .33 | .23 | .39 |
| | $P_1$ | .35 | .52 | .23 |

[1]The statements of level one objectives appear on page 167.

In summary of Table XII, there remains a high agreement among teacher educators, student teachers, and cooperating teachers in their perceptions of the level one objectives of an elementary teacher education program. All groups indicated a priority to those items which relate to a comprehensive understanding of the individual child. If the teacher is to be effective in the teaching-learning process, it appears necessary that he or she should know children and be prepared to acquire a greater understanding of individuals.

The three groups were also in agreement in their assignment of high importance to management and organization of the learning environment. It appears that the environment for learning is fundamental to the success of the elementary school teacher and all groups regarded the teacher's ability to manage and organize to be very important.

Even though the education of the elementary teacher has in the past emphasized the academic preparation, the objectives in this assessment relevant to a general education were regarded as least important by each of the three groups. Although these were relative ranking positions assigned the items and a forced choice method was employed, it is most interesting to see that the objectives relating to a teacher's ability to plan and communicate in the classroom, and acquire an understanding of the profession, were regarded as more important than the general knowledge objectives.

When assessing the sixteen level one objectives all groups were in agreement and considered the planning dimension as most

important. Teacher educators and cooperating teachers then assigned the next importance to the communication and professional knowledge dimensions, in that order. However, student teachers placed the professional knowledge dimension slightly higher than the communication dimension. What appears most relevant from these findings is that the dimension of planning for the teacher has been regarded as most important, and that there is such a high agreement among the three groups in assessing the dimensions of a teacher education program.

In the previous sections of this chapter the results of sorting the level one objectives by teacher educators, student teachers, and cooperating teachers were compared among the three groups. The following section serves to examine the differences in perceptions of the level one statements within each of the three groups from the University of Alberta.

## II. AN ANALYSIS OF THE GROUPS

### Teacher Educators

Sex. Table XIV displays the priorities of the level one objectives as perceived by male and female teacher educators at the University of Alberta. It was apparent that the similarities of their rankings of the level one objectives was high ($r_s = .883$).

There were no significant differences in the rankings of the level one objectives by female and male teacher educators. Some slight differences on certain items are evident from the table; one of these is the tendency of female teacher educators to assign a higher

TABLE XIV

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY MALE AND FEMALE TEACHER EDUCATORS AT THE UNIVERSITY OF ALBERTA

| OBJECTIVES[1] | | Male | | Female | | Significance Level |
|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | |
| | | n = 50 | | n = 18 | | |
| COMMUNICATION COMPETENCE | $A_1$ | 9 | 4.03 | 11 | 4.50 | .03 |
| | $B_1$ | 7 | 3.60 | 7 | 3.94 | .16 |
| | $C_1$ | 6 | 3.24 | 8 | 4.00 | .03 |
| | $D_1$ | 8 | 3.88 | 9 | 4.08 | .31 |
| PLANNING COMPETENCE | $E_1$ | 10 | 4.21 | 10 | 4.10 | .96 |
| | $F_1$ | 5 | 3.09 | 5 | 3.50 | .45 |
| | $G_1$ | 4 | 3.00 | 2 | 2.28 | .04 |
| | $H_1$ | 2 | 2.50 | 4 | 2.75 | .87 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 11 | 4.70 | 12 | 4.90 | .52 |
| | $J_1$ | 1 | 2.42 | 1 | 1.40 | .03 |
| | $K_1$ | 3 | 2.79 | 3 | 2.50 | .15 |
| | $L_1$ | 15 | 5.50 | 16 | 5.79 | .74 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 12 | 4.66 | 5 | 3.50 | .02 |
| | $N_1$ | 13 | 5.17 | 14.5 | 5.50 | .27 |
| | $O_1$ | 16 | 5.55 | 13 | 4.95 | .08 |
| | $P_1$ | 14 | 5.45 | 14.5 | 5.50 | .67 |

[1]The statements of level one objectives appear on page 167. Semi-interquartile ranges for all items appear in Appendix D.

importance upon an understanding of children (Item $J_1$).

Age. Teacher educators 35 years of age and under, and those over 35 years of age displayed a high similarity in their perceptions of the level one objectives ($r_s$ = .918), and the results are reported in Table XV.

Although there were no significant differences on any items, one interesting difference is that teacher educators over 35 years of age assigned a higher importance to an understanding of the role of education in society than did the younger teacher educators.

School teaching experience. In Table XVI, the priorities of teacher educators with five years or less, and more than five years teaching in the schools are displayed. The rankings of the objectives are highly similar ($r_s$ = .886), for in fact there were no significant differences in the importance assigned to each of the sixteen objectives. When teacher educators' perceptions are analyzed by school teaching experience, it is interesting to note that no differences were apparent.

Experience in teacher education. Teacher educators with one to two years and three or more years of experience working in teacher education are compared in Table XVII, and although there was a high correlation between the assigned ranks to the sixteen items ($r_s$ = .922), there existed a signficant difference on one item.

Teacher educators with less than three years of experience ranked an understanding of the content in the elementary school (Item $M_1$) significantly higher ($p < .01$). It follows that faculty members with a longer experience in teacher education assigned a lower importance to the elementary school content.

TABLE XV

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY TEACHER EDUCATORS 35 YEARS OR UNDER AND OVER 35 YEARS OF AGE AT THE UNIVERSITY OF ALBERTA

| OBJECTIVES[1] | | 35 Years & Under n = 28 | | Over 35 Years n = 40 | | Significance Level |
|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | |
| COMMUNICATION COMPETENCE | $A_1$ | 10 | 4.19 | 10 | 4.14 | .71 |
| | $B_1$ | 7 | 3.41 | 7 | 3.85 | .08 |
| | $C_1$ | 6 | 3.17 | 6 | 3.63 | .42 |
| | $D_1$ | 8 | 3.83 | 8 | 4.10 | .16 |
| PLANNING COMPETENCE | $E_1$ | 9 | 4.07 | 11 | 4.25 | .12 |
| | $F_1$ | 4 | 2.92 | 5 | 3.37 | .41 |
| | $G_1$ | 1 | 2.36 | 4 | 3.04 | .09 |
| | $H_1$ | 2 | 2.67 | 3 | 2.61 | .88 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 12 | 5.17 | 9 | 4.13 | .02 |
| | $J_1$ | 3 | 2.75 | 1 | 1.90 | .07 |
| | $K_1$ | 5 | 2.94 | 2 | 2.40 | .12 |
| | $L_1$ | 14 | 5.50 | 16 | 5.65 | .72 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 11 | 4.28 | 12 | 4.58 | .56 |
| | $N_1$ | 16 | 5.59 | 13 | 5.04 | .04 |
| | $O_1$ | 15 | 5.57 | 14 | 5.17 | .67 |
| | $P_1$ | 13 | 5.41 | 15 | 5.50 | .74 |

[1]The statements of level one objectives appear on page 167.

TABLE XVI

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY TEACHER EDUCATORS WITH FIVE YEARS OR LESS, AND MORE THAN FIVE YEARS TEACHING IN THE SCHOOLS AT THE UNIVERSITY OF ALBERTA

| OBJECTIVES[1] | | 5 Years or Less n = 23 | | More Than 5 Years n = 43 | | Significance Level |
|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | |
| COMMUNICATION COMPETENCE | $A_1$ | 11 | 4.29 | 9 | 4.11 | .66 |
| | $B_1$ | 6 | 3.33 | 7 | 3.85 | .08 |
| | $C_1$ | 7 | 3.43 | 6 | 3.33 | .98 |
| | $D_1$ | 8 | 3.79 | 8 | 4.05 | .13 |
| PLANNING COMPETENCE | $E_1$ | 9 | 3.86 | 10.5 | 4.36 | .15 |
| | $F_1$ | 3 | 2.40 | 5 | 3.22 | .67 |
| | $G_1$ | 1 | 2.00 | 4 | 2.64 | .54 |
| | $H_1$ | 4 | 3.00 | 2 | 2.46 | .45 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 13 | 4.95 | 12 | 4.55 | .41 |
| | $J_1$ | 2 | 2.25 | 1 | 2.19 | .32 |
| | $K_1$ | 4 | 3.00 | 3 | 2.48 | .31 |
| | $L_1$ | 10 | 4.20 | 16 | 5.73 | .09 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 12 | 4.42 | 10.5 | 4.36 | .98 |
| | $N_1$ | 16 | 5.65 | 13 | 5.07 | .14 |
| | $O_1$ | 15 | 5.56 | 14 | 5.26 | .56 |
| | $P_1$ | 14 | 5.36 | 15 | 5.54 | .74 |

[1]The statements of level one objectives appear on page 167.

TABLE XVII

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY TEACHER EDUCATORS WITH ONE TO TWO YEARS AND THREE OR MORE YEARS EXPERIENCE IN TEACHER EDUCATION AT THE UNIVERSITY OF ALBERTA

| OBJECTIVES[1] | | 1 to 2 Years n = 30 | | 3 or More Years n = 38 | | Significance Level |
|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | |
| COMMUNICATION COMPETENCE | $A_1$ | 11 | 4.23 | 9 | 4.07 | .25 |
| | $B_1$ | 8 | 3.63 | 7 | 3.64 | .97 |
| | $C_1$ | 4.5 | 3.00 | 6 | 3.58 | .52 |
| | $D_1$ | 9 | 4.00 | 8 | 3.90 | .29 |
| PLANNING COMPETENCE | $E_1$ | 7 | 3.39 | 10 | 4.35 | .16 |
| | $F_1$ | 6 | 3.06 | 5 | 3.33 | .64 |
| | $G_1$ | 1 | 2.36 | 4 | 2.79 | .16 |
| | $H_1$ | 3 | 2.90 | 3 | 2.40 | .62 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 12 | 5.07 | 12 | 4.70 | .14 |
| | $J_1$ | 4.5 | 3.00 | 1 | 2.00 | .63 |
| | $K_1$ | 2 | 2.88 | 2 | 2.40 | .98 |
| | $L_1$ | 14.5 | 5.50 | 16 | 5.64 | .16 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 10 | 4.13 | 11 | 4.38 | .0094 |
| | $N_1$ | 16 | 5.68 | 13 | 5.13 | .08 |
| | $O_1$ | 13 | 5.20 | 14 | 5.27 | .86 |
| | $P_1$ | 14.5 | 5.5 | 15 | 5.44 | .86 |

[1]The statements of level one objectives appear on page 167.

Areas of concern in teacher education. Although the number of teacher educators at the University of Alberta who identified with administration, psychology, and foundations was very small, the results for each of these areas are displayed along with the area of curriculum and instruction in Table XVIII. No statistical comparisons were reported because of the three small sample sizes.

Time involvement with elementary student teachers. Teacher educators who estimated their total time involvement with elementary student teachers to be more than 50 percent were compared with those who estimated an involvement up to 50 percent. The results of this comparison (see Table XIX) show a high similarity in the rankings of the sixteen objectives for both groups ($r_s$ = .917), however, there were no significant differences in the importance assigned to any item.

Although certain teacher educators may be more involved with student teachers in the secondary program, this group of teacher educators did not perceive the level one objectives any differently than teacher educators who were highly involved with the elementary teacher candidates.

## Student Teachers

Sex. In Table XX are displayed the priorities assigned the level one objectives as judged by male and female student teachers at the University of Alberta. Although the number of males in the sample was considerably smaller than the number of females, it was apparent that there was a high similarity in the ranking of the objectives by the two groups ($r_s$ = .894).

TABLE XVIII

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY TEACHER EDUCATORS IN FOUR AREAS[2] AT THE UNIVERSITY OF ALBERTA

| OBJECTIVES[1] | | Administration n = 8 | | Curriculum and Instruction n = 43 | | Foundations n = 4 | | Psychology n = 9 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | $A_1$ | 6 | 3.50 | 10 | 4.34 | 6 | 3.83 | 10 | 4.25 |
| | $B_1$ | 8 | 3.90 | 7 | 3.72 | 9 | 4.16 | 6 | 3.60 |
| | $C_1$ | 6 | 3.50 | 6 | 3.46 | 6 | 3.83 | 7 | 3.67 |
| | $D_1$ | 9 | 4.25 | 9 | 3.96 | 8 | 4.00 | 8 | 3.75 |
| PLANNING COMPETENCE | $E_1$ | 11 | 4.75 | 8 | 3.91 | 11 | 4.75 | 9 | 4.13 |
| | $F_1$ | 5 | 3.00 | 5 | 3.07 | 5 | 3.30 | 5 | 3.40 |
| | $G_1$ | 4 | 2.83 | 2 | 2.71 | 4 | 2.83 | 2 | 2.75 |
| | $H_1$ | 1 | 1.75 | 4 | 2.91 | 3 | 2.50 | 2 | 2.75 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 12 | 5.00 | 12 | 4.75 | 12 | 4.83 | 11 | 4.63 |
| | $J_1$ | 3 | 2.50 | 1 | 2.15 | 1 | 1.50 | 1 | 1.75 |
| | $K_1$ | 2 | 2.10 | 3 | 2.73 | 2 | 2.30 | 4 | 3.00 |
| | $L_1$ | 14 | 5.50 | 16 | 5.75 | 15 | 5.83 | 13 | 5.25 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 9 | 4.25 | 11 | 4.44 | 10 | 4.50 | 12 | 4.67 |
| | $N_1$ | 13 | 5.17 | 13 | 5.20 | 13 | 5.25 | 16 | 5.63 |
| | $O_1$ | 14 | 5.50 | 14 | 5.32 | 14 | 5.50 | 13 | 5.25 |
| | $P_1$ | 16 | 6.00 | 15 | 5.47 | 15 | 5.83 | 15 | 5.40 |

[1]The statements of level one objectives appear on page 167.

[2]No tests of statistical significance were made.

TABLE XIX

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY TEACHER EDUCATORS WITH UP TO 50% AND MORE THAN 50% INVOLVEMENT WITH ELEMENTARY STUDENT TEACHERS AT THE UNIVERSITY OF ALBERTA

| OBJECTIVES[1] | | Up to 50% n = 38 | | More Than 50% n = 30 | | Significance Level |
|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | |
| COMMUNICATION COMPETENCE | $A_1$ | 9 | 4.09 | 11 | 4.30 | .13 |
| | $B_1$ | 7 | 3.79 | 7 | 3.58 | .99 |
| | $C_1$ | 5 | 3.41 | 6 | 3.41 | .65 |
| | $D_1$ | 8 | 4.00 | 8 | 3.91 | .44 |
| PLANNING COMPETENCE | $E_1$ | 10 | 4.23 | 10 | 4.13 | .68 |
| | $F_1$ | 6 | 3.44 | 2 | 2.05 | .09 |
| | $G_1$ | 4 | 2.86 | 1 | 1.91 | .73 |
| | $H_1$ | 2 | 2.33 | 5 | 3.07 | .03 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 11.5 | 4.70 | 12 | 4.80 | .17 |
| | $J_1$ | 1 | 2.25 | 3 | 2.07 | .58 |
| | $K_1$ | 3 | 2.44 | 4 | 3.00 | .08 |
| | $L_1$ | 13 | 5.23 | 14 | 5.14 | .13 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 11.5 | 4.70 | 9 | 4.00 | .17 |
| | $N_1$ | 15 | 5.50 | 13 | 5.05 | .14 |
| | $O_1$ | 14 | 5.33 | 15 | 5.29 | .25 |
| | $P_1$ | 16 | 5.57 | 16 | 5.35 | .36 |

[1]The statements of level one objectives appear on page 167.

TABLE XX

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY MALE AND FEMALE STUDENT TEACHERS AT THE UNIVERSITY OF ALBERTA

| OBJECTIVES[1] | | Male n = 17 | | Female n = 137 | | Significiance Level |
|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | |
| COMMUNICATION COMPETENCE | $A_1$ | 9 | 4.15 | 10 | 4.31 | .59 |
| | $B_1$ | 12 | 4.43 | 6 | 3.79 | .0046 |
| | $C_1$ | 7 | 4.06 | 7 | 3.81 | .29 |
| | $D_1$ | 10 | 4.22 | 8 | 4.25 | .97 |
| PLANNING COMPETENCE | $E_1$ | 8 | 4.08 | 11 | 4.32 | .38 |
| | $F_1$ | 5 | 3.22 | 5 | 3.28 | .79 |
| | $G_1$ | 2 | 2.13 | 2 | 2.29 | .41 |
| | $H_1$ | 4 | 3.08 | 4 | 2.93 | .47 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 14 | 5.38 | 12 | 4.45 | .08 |
| | $J_1$ | 1 | 1.85 | 1 | 1.45 | .38 |
| | $K_1$ | 3 | 2.29 | 3 | 2.67 | .21 |
| | $L_1$ | 11 | 4.40 | 13 | 5.16 | .06 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 6 | 4.00 | 9 | 4.27 | .50 |
| | $N_1$ | 13 | 5.00 | 15 | 5.21 | .25 |
| | $O_1$ | 15 | 5.69 | 14 | 5.18 | .21 |
| | $P_1$ | 16 | 5.86 | 16 | 5.73 | .79 |

[1]The statements of level one objectives appear on page 167.

However, there was a difference in the ranking of one objective. Female student teachers assigned a significantly higher importance to Item $B_1$, an ability to select appropriate communication strategies ($p < .01$).

Age. Although there was a high similarity in the priorities assigned the level one objectives by student teachers of different ages: under 21 years of age and 21 to 30 years of age ($r_s = .968$), under 21 years of age and over 30 years of age ($r_s = .918$), and 21 to 30 years of age and over 30 years of age ($r_s = .953$), there were also important differences for some of the objectives as displayed in Tables XXI and XXII. Student teachers under 21 years of age and over 30 years of age differed significantly in their ranking of three objectives.

Student teachers under 21 years of age assigned a significantly higher importance to two objectives of the communication dimension than did student teachers over 30 years of age ($p \leq .01$).

It would appear that the youngest group of student teachers place a higher importance on one's ability to communicate and to assess the communication strategies employed. This statement is supported by the result that student teachers 21 to 30 years of age ranked Item $D_1$, and ability to assess the effectiveness of communication strategies, as significantly more important than did student teachers over 30 years of age ($p < .01$).

Student teachers over 30 years of age assigned a significantly higher importance to Item $K_1$ than did student teachers under 21 years of age ($p < .01$). The older student teachers regarded an understanding of the fundamental processes of learning to be more important for the elementary teacher than the younger student teacher.

TABLE XXI

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY STUDENT TEACHERS UNDER 21 YEARS OF AGE, 21-30 AND OVER 30 YEARS OF AGE AT THE UNIVERSITY OF ALBERTA

| OBJECTIVES[1] | | Under 21 Years n = 71 | | 21-30 Years n = 61 | | Over 30 Years n = 22 | |
|---|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | $A_1$ | 8 | 4.10 | 11 | 4.39 | 11 | 4.70 |
| | $B_1$ | 6 | 3.67 | 7 | 3.98 | 7 | 4.08 |
| | $C_1$ | 7 | 3.71 | 6 | 3.82 | 8 | 4.25 |
| | $D_1$ | 9 | 4.12 | 10 | 4.26 | 12 | 4.79 |
| PLANNING COMPETENCE | $E_1$ | 10 | 4.28 | 8 | 4.20 | 9 | 4.64 |
| | $F_1$ | 5 | 3.52 | 5 | 3.27 | 4 | 2.97 |
| | $G_1$ | 2 | 2.32 | 2 | 2.22 | 3 | 2.25 |
| | $H_1$ | 4 | 2.98 | 4 | 2.83 | 5 | 3.13 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 12 | 4.54 | 12 | 4.60 | 10 | 4.67 |
| | $J_1$ | 1 | 1.66 | 1 | 1.47 | 1 | 1.29 |
| | $K_1$ | 3 | 2.82 | 3 | 2.70 | 2 | 2.17 |
| | $L_1$ | 14 | 5.25 | 13 | 4.81 | 15 | 5.06 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 11 | 4.42 | 9 | 4.23 | 6 | 3.75 |
| | $N_1$ | 13 | 5.23 | 14 | 5.25 | 13 | 4.90 |
| | $O_1$ | 15 | 5.27 | 15 | 5.28 | 14 | 4.93 |
| | $P_1$ | 16 | 5.73 | 16 | 5.86 | 16 | 5.50 |

[1]The statements of level one objectives appear on page 167.

TABLE XXII

LEVELS OF SIGNIFICANCE FOR THE COMPARISONS OF ALL GROUPS IN TABLE XXI ON EACH LEVEL ONE OBJECTIVE

| OBJECTIVES[1] | | Under 21 and 21-30 Years | Under 21 and Over 30 Years | 21-30 Years and Over 30 Years |
|---|---|---|---|---|
| COMMUNICATION COMPETENCE | $A_1$ | .08 | .03 | .26 |
| | $B_1$ | .04 | .02 | .45 |
| | $C_1$ | .29 | .01 | .08 |
| | $D_1$ | .49 | .0001 | .0046 |
| PLANNING COMPETENCE | $E_1$ | .72 | .33 | .24 |
| | $F_1$ | .60 | .04 | .15 |
| | $G_1$ | .19 | .93 | .41 |
| | $H_1$ | .71 | .22 | .15 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | .53 | .68 | .98 |
| | $J_1$ | .47 | .23 | .50 |
| | $K_1$ | .69 | .0068 | .02 |
| | $L_1$ | .11 | .33 | .74 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | .54 | .03 | .06 |
| | $N_1$ | .79 | .18 | .15 |
| | $O_1$ | .99 | .12 | .20 |
| | $P_1$ | .90 | .10 | .11 |

[1]The statements of level one objectives appear on page 167.

Years of teacher education. In Table XXIII are displayed the ranks and medians assigned the level one objectives by student teachers in the first year, second and third years, and the fourth or final year of the degree program. It was found that the similarities of the three groups were very high: first year and second and third years ($r_s$ = .979), first year and fourth year ($r_s$ = .913), and second and third years, and fourth year ($r_s$ = .911).

Although there were no significant differences on any item over the three groups, certain interesting differences are apparent from Tables XXIII and XXIV. First year students tended to perceive a higher relative importance to a teacher's understanding of children than did students in the second and third years of the program. Student teachers in fourth year regarded an understanding of the role of education in society to be more important than did first year students.

Student teaching and teaching experience. The perceptions of the level one objectives for student teachers with no student teaching, one or two years student teaching, and some teaching experience are revealed in Table XXV. The similarities of the rankings were very high: the rank correlations ranged from .941 to .968. However, there were no significant differences on any of the objectives for student teachers with varying teaching experiences.

## Cooperating Teachers

Sex. In Table XXVII are displayed the rankings of the level one objectives by the sample of male and female cooperating teachers

TABLE XXIII

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY STUDENT TEACHERS IN FIRST YEAR, SECOND AND THIRD YEARS, AND THE FOURTH YEAR OF THE DEGREE PROGRAM

| OBJECTIVES[1] | | First Year n = 33 | | 2nd & 3rd Years n = 95 | | Fourth Year n = 26 | |
|---|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | $A_1$ | 9 | 4.15 | 10 | 4.28 | 11.5 | 4.50 |
| | $B_1$ | 6 | 3.73 | 7 | 3.87 | 7 | 3.96 |
| | $C_1$ | 7 | 3.89 | 6 | 3.82 | 6 | 3.83 |
| | $D_1$ | 8 | 4.11 | 9 | 4.24 | 13 | 4.59 |
| PLANNING COMPETENCE | $E_1$ | 11 | 4.32 | 11 | 4.35 | 9 | 4.06 |
| | $F_1$ | 5 | 3.46 | 5 | 3.20 | 5 | 3.36 |
| | $G_1$ | 2 | 2.26 | 2 | 2.22 | 3 | 2.65 |
| | $H_1$ | 4 | 2.79 | 4 | 3.03 | 4 | 2.83 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 12 | 5.00 | 12 | 4.48 | 8 | 4.00 |
| | $J_1$ | 1 | 1.29 | 1 | 1.72 | 1 | 1.37 |
| | $K_1$ | 3 | 2.54 | 3 | 2.73 | 2 | 2.40 |
| | $L_1$ | 13 | 5.13 | 15 | 5.16 | 11.5 | 4.50 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 10 | 4.29 | 8 | 4.22 | 10 | 4.22 |
| | $N_1$ | 14 | 5.33 | 13 | 5.06 | 15 | 5.67 |
| | $O_1$ | 15 | 5.44 | 14 | 5.15 | 14 | 5.38 |
| | $P_1$ | 16 | 6.06 | 16 | 5.67 | 16 | 5.72 |

[1]The statements of level one objectives appear on page 167.

TABLE XXIV

LEVELS OF SIGNIFICANCE FOR THE COMPARISONS OF ALL GROUPS IN TABLE XXIII ON EACH LEVEL ONE OBJECTIVE

| OBJECTIVES[1] | | First Year and 2nd & 3rd Years | First Year and Fourth Year | 2nd & 3rd Years and Fourth Year |
|---|---|---|---|---|
| COMMUNICATION COMPETENCE | $A_1$ | .61 | .27 | .40 |
| | $B_1$ | .67 | .15 | .67 |
| | $C_1$ | .68 | .96 | .78 |
| | $D_1$ | .31 | .12 | .44 |
| PLANNING COMPETENCE | $E_1$ | .99 | .31 | .26 |
| | $F_1$ | .09 | .66 | .39 |
| | $G_1$ | .55 | .58 | .25 |
| | $H_1$ | .34 | .74 | .62 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | .27 | .06 | .50 |
| | $J_1$ | .03 | .42 | .32 |
| | $K_1$ | .18 | .88 | .41 |
| | $L_1$ | .92 | .27 | .23 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | .75 | .55 | .70 |
| | $N_1$ | .29 | .42 | .03 |
| | $O_1$ | .55 | .68 | .36 |
| | $P_1$ | .14 | .23 | .93 |

[1]The statements of level one objectives appear on page 167.

TABLE XXV

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY STUDENT TEACHERS WITH NO STUDENT TEACHING, ONE OR TWO YEARS STUDENT TEACHING, AND THOSE WITH SOME TEACHING EXPERIENCE

| OBJECTIVES[1] | | No Student Teaching n = 55 | | 1 or 2 Years Student Teaching n = 74 | | Teaching Experience n = 25 | |
|---|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | $A_1$ | 8 | 4.02 | 12 | 4.42 | 10 | 4.31 |
| | $B_1$ | 6 | 3.73 | 6 | 3.79 | 8 | 4.11 |
| | $C_1$ | 7 | 3.88 | 7 | 3.80 | 6 | 4.04 |
| | $D_1$ | 9 | 4.16 | 10 | 4.24 | 12 | 4.45 |
| PLANNING COMPETENCE | $E_1$ | 11 | 4.43 | 9 | 4.17 | 7 | 4.08 |
| | $F_1$ | 5 | 3.47 | 5 | 3.38 | 5 | 3.13 |
| | $G_1$ | 2 | 2.20 | 2 | 2.22 | 3 | 2.36 |
| | $H_1$ | 4 | 2.91 | 4 | 3.04 | 4 | 2.75 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 12 | 4.80 | 11 | 4.38 | 11 | 4.44 |
| | $J_1$ | 1 | 1.45 | 1 | 1.67 | 1 | 1.39 |
| | $K_1$ | 3 | 2.65 | 3 | 2.77 | 2 | 2.15 |
| | $L_1$ | 13 | 5.13 | 13 | 5.17 | 13 | 4.69 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 10 | 4.29 | 8 | 4.15 | 9 | 4.14 |
| | $N_1$ | 14 | 5.16 | 14 | 5.22 | 15 | 5.31 |
| | $O_1$ | 15 | 5.52 | 15 | 5.24 | 14 | 5.18 |
| | $P_1$ | 16 | 6.12 | 16 | 5.65 | 16 | 5.90 |

[1]The statements of level one objectives appear on page 167.

TABLE XXVI

LEVEL OF SIGNIFICANCE FOR THE COMPARISONS OF ALL GROUPS ON TABLE XXV ON EACH LEVEL ONE OBJECTIVE

| OBJECTIVES[1] | | No Student Teaching and 1 or 2 Years Student Teaching | No Student Teaching and Teaching Experience | 1-2 Years Student Teaching and Teaching Experience |
|---|---|---|---|---|
| COMMUNICATION COMPETENCE | $A_1$ | .45 | .44 | .99 |
| | $B_1$ | .67 | .05 | .03 |
| | $C_1$ | .69 | .16 | .24 |
| | $D_1$ | .83 | .14 | .17 |
| PLANNING COMPETENCE | $E_1$ | .12 | .19 | .74 |
| | $F_1$ | .69 | .70 | .42 |
| | $G_1$ | .24 | .73 | .56 |
| | $H_1$ | .62 | .58 | .31 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | .84 | .99 | .68 |
| | $J_1$ | .20 | .83 | .25 |
| | $K_1$ | .54 | .08 | .03 |
| | $L_1$ | .72 | .20 | .13 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | .41 | .29 | .70 |
| | $N_1$ | .54 | .59 | .91 |
| | $O_1$ | .85 | .88 | .99 |
| | $P_1$ | .37 | .91 | .35 |

[1]The statements of level one objectives appear on page 167.

TABLE XXVII

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY COOPERATING TEACHERS, MALE AND FEMALE

| OBJECTIVES[1] | | Male n = 10 | | Female n = 40 | | Significance Level |
|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | |
| COMMUNICATION COMPETENCE | $A_1$ | 4.5 | 3.25 | 9 | 4.14 | .02 |
| | $B_1$ | 4.5 | 3.25 | 7 | 3.91 | .10 |
| | $C_1$ | 6.5 | 3.50 | 6 | 3.33 | .93 |
| | $D_1$ | 9.5 | 4.10 | 8 | 3.95 | .52 |
| PLANNING COMPETENCE | $E_1$ | 12 | 5.00 | 11 | 4.71 | .79 |
| | $F_1$ | 2 | 2.83 | 5 | 3.07 | .35 |
| | $G_1$ | 3 | 3.00 | 3 | 2.63 | .20 |
| | $H_1$ | 1 | 2.17 | 2 | 2.32 | .45 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 13 | 5.25 | 12 | 4.80 | .18 |
| | $J_1$ | 6.5 | 3.50 | 1 | 1.80 | .03 |
| | $K_1$ | 8 | 3.70 | 4 | 2.75 | .25 |
| | $L_1$ | 11 | 4.70 | 13 | 5.25 | .16 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 9.5 | 4.10 | 10 | 4.21 | .84 |
| | $N_1$ | 13.5 | 5.25 | 14 | 5.36 | .92 |
| | $O_1$ | 13.5 | 5.25 | 15 | 5.64 | .33 |
| | $P_1$ | 16 | 5.50 | 16 | 5.70 | .50 |

[1]The statements of level one objectives appear on page 167.

at the University of Alberta. It is apparent that the male and female cooperating teachers showed a high degree of similarity in the way they ranked the sixteen level one objectives ($r_s$ = .862).

Although there were no significant differences in the importance assigned the level one objectives by male and female cooperating teachers, one interesting difference tended to be the assignment of a higher value to an understanding of children by female cooperating teachers.

Age. Although there was a high similarity in the rankings of the level one objectives by cooperating teachers 30 years of age and under, and over 30 years of age ($r_s$ = .912), there were no significant differences in the importance assigned the objectives. These results appear in Table XXVIII.

When cooperating teachers are analyzed on the variable of age, there did not appear to be any significant differences in the importance assigned the level one objectives.

Years of teacher education. In Table XXIX are presented the rankings of the level one objectives as judged by cooperating teachers with fewer than three years and three years or more of teacher education. The similarities in the rankings by these groups is high ($r_s$ = .963).

When cooperating teachers' perceptions of the level one objectives are analyzed by years of teacher education, there were no significant differences in the importance assigned any of the objectives.

TABLE XXVIII

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY COOPERATING TEACHERS 30 YEARS AND UNDER, AND OVER 30 YEARS OF AGE

| OBJECTIVES[1] | | 30 Years & Under n = 30 | | Over 30 Years n = 20 | | Significance Level |
|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | |
| COMMUNICATION COMPETENCE | $A_1$ | 9 | 4.13 | 7 | 3.96 | .30 |
| | $B_1$ | 7 | 3.58 | 9 | 4.08 | .14 |
| | $C_1$ | 6 | 3.17 | 6 | 3.63 | .16 |
| | $D_1$ | 8 | 3.94 | 8 | 4.06 | .54 |
| PLANNING COMPETENCE | $E_1$ | 12 | 4.90 | 11 | 4.50 | .10 |
| | $F_1$ | 3 | 2.29 | 5 | 3.28 | .34 |
| | $G_1$ | 1 | 1.91 | 4 | 2.93 | .05 |
| | $H_1$ | 2 | 2.04 | 2 | 2.70 | .02 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 11 | 4.79 | 13 | 5.07 | .93 |
| | $J_1$ | 4 | 2.33 | 1 | 1.70 | .28 |
| | $K_1$ | 5 | 2.94 | 3 | 2.75 | .60 |
| | $L_1$ | 13 | 5.05 | 14 | 5.17 | .53 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 10 | 4.19 | 10 | 4.17 | .81 |
| | $N_1$ | 16 | 5.60 | 12 | 4.93 | .09 |
| | $O_1$ | 15 | 5.57 | 15 | 5.59 | .81 |
| | $P_1$ | 14 | 5.50 | 16 | 5.77 | .91 |

[1]The statements of level one objectives appear on page 167.

TABLE XXIX

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY COOPERATING TEACHERS WITH ONE TO TWO YEARS AND THREE OR MORE YEARS TEACHER EDUCATION

| OBJECTIVES[1] | | 1 to 2 Years n = 17 | | 3 or More Years n = 33 | | Significance Level |
|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | |
| COMMUNICATION COMPETENCE | $A_1$ | 9.5 | 4.11 | 8.5 | 4.03 | .64 |
| | $B_1$ | 9.5 | 4.11 | 7 | 3.61 | .04 |
| | $C_1$ | 6 | 3.57 | 6 | 3.27 | .89 |
| | $D_1$ | 7 | 3.86 | 8.5 | 4.03 | .42 |
| PLANNING COMPETENCE | $E_1$ | 11 | 4.78 | 11 | 4.71 | .89 |
| | $F_1$ | 5 | 3.00 | 5 | 3.06 | .97 |
| | $G_1$ | 3 | 2.75 | 3 | 2.68 | .93 |
| | $H_1$ | 2 | 2.19 | 2 | 2.38 | .96 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 15 | 5.58 | 12 | 4.73 | .30 |
| | $J_1$ | 1 | 2.00 | 1 | 2.08 | .49 |
| | $K_1$ | 4 | 2.92 | 4 | 2.86 | .80 |
| | $L_1$ | 12 | 5.38 | 13 | 5.00 | .47 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 8 | 4.00 | 10 | 4.25 | .25 |
| | $N_1$ | 13 | 5.40 | 14 | 5.31 | .93 |
| | $O_1$ | 14 | 5.56 | 15 | 5.53 | .98 |
| | $P_1$ | 16 | 5.69 | 16 | 5.64 | .63 |

Teaching experience. The results of ranking the level one objectives by the three groups of cooperating teachers, those with one to two years, three to five years, and more than five years teaching in the schools, are displayed in Table XXX. There was a high similarity in the ranking of the objectives as rank correlations ranged from .742 to .948.

In light of the small number of respondents with one or two years of teaching experience, statistical comparisons were made only on each objective between the remaining two groups. No significant differences in the assessment of the objectives were apparent when cooperating teachers are analyzed according to teaching experience.

## III. OTHER CANADIAN TEACHER EDUCATION PROGRAMS

The results of a Q-sort of the level one objectives by elementary teacher educators at McGill University, Simon Fraser University, and the University of Calgary are reported in this section. It is important to note that the judgements of objectives at the University of Calgary was undertaken by those teacher educators in the Department of Curriculum and Instruction (n = 19), and this constituted the pilot for this particular study.

### McGill University

Teacher educators at McGill University assigned the priority to an understanding of children, Item $J_1$, while an understanding of the fundamental processes of learning, Item $K_1$, and an ability to manage and organize the learning environment, Item $H_1$,

TABLE XXX

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY COOPERATING TEACHERS WITH ONE TWO TWO YEARS, THREE TO FIVE YEARS, AND MORE THAN FIVE YEARS TEACHING IN SCHOOLS

| OBJECTIVES[1] | | 1 to 2 Years n = 8 | | 3 to 5 Years n = 13 | | More Than 5 Years n = 24 | | Significance Level |
|---|---|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | Rank | Median | |
| COMMUNICATION COMPETENCE | $A_1$ | 8 | 3.90 | 9 | 4.25 | 9 | 4.03 | .30 |
| | $B_1$ | 4.5 | 3.17 | 7 | 3.92 | 7 | 3.91 | .83 |
| | $C_1$ | 4.5 | 3.17 | 6 | 3.13 | 6 | 3.56 | .22 |
| | $D_1$ | 7 | 3.75 | 8 | 4.00 | 10 | 4.04 | .80 |
| PLANNING COMPETENCE | $E_1$ | 10.5 | 4.50 | 12.5 | 5.00 | 12 | 4.67 | .51 |
| | $F_1$ | 3 | 2.75 | 5 | 3.06 | 4 | 2.54 | .99 |
| | $G_1$ | 1 | 2.00 | 3 | 2.75 | 3.5 | 2.46 | .75 |
| | $H_1$ | 2 | 2.17 | 2 | 2.08 | 3.5 | 2.46 | .19 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 10.5 | 4.50 | 11 | 4.88 | 14 | 5.14 | .70 |
| | $J_1$ | 12 | 4.75 | 1 | 1.31 | 1 | 2.06 | .14 |
| | $K_1$ | 6 | 3.70 | 4 | 2.80 | 5 | 2.71 | .91 |
| | $L_1$ | 13 | 5.25 | 12.5 | 5.00 | 11 | 4.25 | .57 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 9 | 4.00 | 10 | 4.63 | 8 | 4.00 | .05 |
| | $N_1$ | 14 | 5.83 | 16 | 5.88 | 13 | 5.08 | .07 |
| | $O_1$ | 16 | 6.10 | 14.5 | 5.25 | 15 | 5.53 | .35 |
| | $P_1$ | 14 | 5.83 | 14.5 | 5.25 | 16 | 5.77 | .24 |

[1]The statements of level one objectives appear on page 167.

followed next in importance. An ability to interpret research, Item $L_1$, was ranked of least importance. These results appear in Table XXXI.

Like the teacher educators of the University of Alberta, McGill teacher educators regarded an understanding of children and a basic knowledge of the learning process to be most important for the practising teacher.

The planning dimension was assigned the highest importance. The professional knowledge and communication dimensions followed closely in that order of importance, and the general knowledge dimension was ranked by the McGill University teacher educators as the least important dimension.

Simon Fraser University

Table XXXII displays the rankings assigned the level one objectives by teacher educators at Simon Fraser University. These teacher educators assigned the highest rank to an understanding of children, Item $J_1$, while an ability to evaluate the progress of pupils, Item $G_1$, and an understanding of the fundamental processes of learning, Item $K_1$, were ranked next in importance. There appeared to be a relatively high disagreement within this group in the ranking assigned Item $K_1$. A general understanding of the natural sciences and mathematics, Item $P_1$, was assigned the lowest rank of importance within the sixteen objectives.

The priorities assigned the level one objectives by the teacher educators of this recently designed Canadian teacher education program do not appear to differ from those assigned by

TABLE XXXI

RANKS, MEDIANS AND SEMI-INTEQUARTILE RANGES ASSIGNED LEVEL ONE OBJECTIVES BY TEACHER EDUCATORS AT McGILL UNIVERSITY

| | OBJECTIVES | n = 65 | | |
|---|---|---|---|---|
| | | Rank | Median | Q |
| $J_1$ | Understands children. | 1 | 1.49 | .68 |
| $K_1$ | Understands the fundamental processes of learning. | 2 | 2.27 | .66 |
| $H_1$ | Able to manage and organize the learning environment. | 3 | 2.79 | .84 |
| $G_1$ | Able to evaluate the progress of pupils. | 4 | 2.84 | .75 |
| $F_1$ | Able to select and organize content and materials. | 5 | 3.30 | .73 |
| $C_1$ | Competent in executing the communication strategies. | 6 | 3.85 | .81 |
| $B_1$ | Able to select appropriate communication strategies. | 7 | 4.05 | .76 |
| $M_1$ | Understands the content of the school curriculum. | 8 | 4.22 | .74 |
| $D_1$ | Able to assess communication strategies. | 9 | 4.27 | .77 |
| $E_1$ | Able to define appropriate purposes in building curriculum. | 10 | 4.30 | 1.06 |
| $I_1$ | Understands the role of education in society. | 11 | 4.33 | 1.09 |
| $A_1$ | Aware of a variety of communication strategies. | 12 | 4.57 | .76 |
| $P_1$ | Has a general understanding of the natural sciences and mathematics. | 13 | 4.86 | 1.00 |
| $N_1$ | Has a general understanding of the humanities. | 14 | 4.92 | .78 |
| $O_1$ | Has a general understanding of the social sciences. | 15 | 4.98 | .87 |
| $L_1$ | Able to interpret research. | 16 | 6.08 | 1.05 |

TABLE XXXII

RANKS, MEDIANS AND SEMI-INTERQUARTILE RANGES ASSIGNED LEVEL ONE OBJECTIVES BY TEACHER EDUCATORS AT SIMON FRASER UNIVERSITY

| OBJECTIVES | | n = 30 | | |
|---|---|---|---|---|
| | | Rank | Median | Q |
| $J_1$ | Understands children. | 1 | 1.25 | .73 |
| $G_1$ | Able to evaluate the progress of pupils. | 2 | 2.44 | .73 |
| $K_1$ | Understands the fundament processes of learning. | 3 | 2.70 | 1.06 |
| $F_1$ | Able to select and organize content and materials. | 4.5 | 3.33 | .67 |
| $H_1$ | Able to manage and organize the learning environment. | 4.5 | 3.33 | 1.00 |
| $B_1$ | Able to select appropriate communication strategies. | 6 | 3.77 | .80 |
| $C_1$ | Competent in executing the communication strategies. | 7 | 3.80 | .83 |
| $A_1$ | Aware of a variety of communication strategies. | 8 | 4.00 | 1.07 |
| $E_1$ | Able to define appropriate purposes in building curriculum. | 9 | 4.06 | .91 |
| $D_1$ | Abler to assess communication strategies. | 10 | 4.08 | .79 |
| $I_1$ | Understands the role of education in society. | 11 | 4.64 | 1.09 |
| $N_1$ | Has a general understanding of the humanities. | 12 | 4.77 | .80 |
| $L_1$ | Able to interpret research. | 13 | 4.86 | .81 |
| $O_1$ | Has a general understanding of the social sciences. | 14 | 5.23 | .70 |
| $M_1$ | Understands the content of the school curriculum. | 15 | 5.38 | .95 |
| $P_1$ | Has a general understanding of the natural sciences and mathematics. | 16 | 5.39 | .88 |

teacher educators within the long established programs of McGill University and the University of Alberta.

The planning dimension was judged to be the most important dimension by the teacher educators at Simon Fraser University. The professional knowledge and the communication dimensions followed next in importance, while the general knowledge dimension was ranked as the least important.

There exists among teacher educators at the Simion Fraser University two distinguishable groups. The regular teacher education staff, or the permanent staff of the Faculty of Education, and the staff associates who are those teacher educators working in the elementary teacher education program on a one year temporary basis. These staff associates are highly competent teachers from the schools within the Province of British Columbia and outside its boundaries who are hired for a one year period to work on the Simon Fraser staff.

The rankings of the level one objectives by the staff associates and the regular staff are displayed in Table XXXIII, and it is evident that there is a very high similarity in the ranking of the objectives by the two groups ($r_s$= .967). There were in fact no significant differences in the rankings of the sixteen objectives of these two groups.

The University of Calgary

Table XXXIV displays the rankings assigned the level one objectives by teacher educators in the Department of Curriculum and Instruction at the University of Calgary. These data were

TABLE XXXIII

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY TEACHER EDUCATORS WHO ARE ASSOCIATES OF THE CENTRE AND THOSE WHO ARE REGULAR STAFF MEMBERS AT SIMON FRASER UNIVERSITY

| OBJECTIVES[1] | | Associates n = 15 | | Regular Staff n = 15 | | Significance Level |
|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | |
| COMMUNICATION COMPETENCE | $A_1$ | 8 | 4.00 | 8 | 4.00 | > .10 |
| | $B_1$ | 7 | 3.80 | 6 | 3.77 | > .10 |
| | $C_1$ | 9 | 4.08 | 7 | 3.08 | > .10 |
| | $D_1$ | 10 | 4.19 | 10 | 4.08 | > .10 |
| PLANNING COMPETENCE | $E_1$ | 6 | 3.88 | 9 | 4.06 | > .10 |
| | $F_1$ | 5 | 3.43 | 4.5 | 3.33 | > .10 |
| | $G_1$ | 2 | 2.44 | 2 | 2.44 | > .10 |
| | $H_1$ | 4 | 3.13 | 4.5 | 3.33 | > .10 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 13 | 4.88 | 11 | 4.64 | > .10 |
| | $J_1$ | 1 | 1.13 | 1 | 1.25 | > .10 |
| | $K_1$ | 3 | 2.75 | 3 | 2.70 | > .10 |
| | $L_1$ | 12 | 4.80 | 13 | 4.86 | > .10 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 16 | 5.88 | 15 | 5.38 | > .10 |
| | $N_1$ | 11 | 4.40 | 12 | 4.77 | > .10 |
| | $O_1$ | 14 | 5.08 | 14 | 5.23 | > .10 |
| | $P_1$ | 15 | 5.71 | 16 | 5.39 | > .10 |

[1] The statements of level one objectives appear on page 167.

TABLE XXXIV

RANKS, MEDIANS AND SEMI-INTERQUARTILE RANGES ASSIGNED LEVEL ONE OBJECTIVES BY TEACHER EDUCATORS AT THE UNIVERSITY OF CALGARY

| OBJECTIVES | | n = 19 | | |
|---|---|---|---|---|
| | | Rank | Median | Q |
| $H_1$ | Able to manage and organize the learning environment. | 1 | 2.08 | 1.04 |
| $J_1$ | Understands children. | 2 | 2.40 | .93 |
| $F_1$ | Able to select and organize content and materials. | 3 | 2.60 | .88 |
| $G_1$ | Able to evaluate the progress of pupils. | 4 | 2.88 | 1.04 |
| $C_1$ | Competent in executing the communication strategies. | 5 | 3.06 | .73 |
| $K_1$ | Understands the fundamental processes of learning. | 6 | 3.38 | 1.06 |
| $B_1$ | Able to select appropriate communication strategies. | 7 | 3.60 | .90 |
| $M_1$ | Understands the content of the school curriculum. | 8 | 3.80 | 1.04 |
| $D_1$ | Able to assess communication strategies. | 9 | 4.11 | .62 |
| $A_1$ | Aware of a variety of communication strategies. | 10 | 4.19 | 1.05 |
| $E_1$ | Able to define appropriate purposes in building curriculum. | 11 | 4.29 | 1.29 |
| $O_1$ | Has a general understanding of the social sciences. | 12 | 4.96 | .41 |
| $P_1$ | Has a general understanding of the natural sciences and mathematics. | 13 | 5.00 | .65 |
| $N_1$ | Has a general understanding of the humanities. | 14 | 5.29 | .68 |
| $I_1$ | Understands the role of education in society. | 15 | 5.58 | .83 |
| $L_1$ | Able to interpret research. | 16 | 5.75 | 1.17 |

gathered as part of the pilot study, however, these results are reported in this section along with other institutions because there was only a minor modification in the research instrument as a result of the pilot study.

The teacher educators responding at the University of Calgary assigned the priority to Item $H_1$, an ability to manage and organize the learning environment. However, there was a high disagreement among teacher educators in placing this objective in the number one position. Ranked next in importance were Item $J_1$, an understanding of children, and Item $F_1$, an ability to select and organize content and materials. An ability to interpret research and keep up to date with professional knowledge, Item $L_1$, was assigned the lowest rank.

It is interesting to note that this group of teacher educators from the one department of the faculty displayed such a high disagreement in assigning the priorities to many of the level one objectives. Also, this group of teacher educators did not assign Item $K_1$ within the first five ranks, thereby differing from the priorities assigned by other groups of teacher educators in this study.

The planning dimension was perceived to be the most important by the teacher educators responding at the University of Calgary. The communication and professional knowledge dimensions were considered next in importance in the order. The general knowledge dimension was considered least important.

Teacher Educators at the Four Universities

In Table XXXV are displayed the ranks and medians assigned the level one objectives by teacher educators at McGill University, the University of Alberta, Simon Fraser University, and the University of Calgary. The levels of significance for statistical comparisons between each group, excluding the University of Calgary, appear in Table XXXVI. The results from the University of Calgary were not included in the statistical comparisons because these results represent only one department at the University of Calgary, the Department of Curriculum and Instruction. They have been included in Table XXXV so that the relationships between the responses of the one department in Calgary, and the three other institutions in Canada may be observed.

There were high correlations between the groups in their rankings of the sixteen level one objectives: McGill University and the University of Alberta ($r_s = .961$), McGill University and Simon Fraser University ($r_s = .854$), and Simon Fraser University and the University of Alberta ($r_s = .936$). There were, however, important differences on certain objectives.

Teacher educators at McGill University and the University of Alberta differed significantly in the values assigned two of the level one objectives. McGill University and Simon Fraser University teacher educators differed significantly on two level one objectives. Simon Fraser University and the University of Alberta teacher educators differed significantly on two of the level one objectives as well.

TABLE XXXV

RANKS AND MEDIANS ASSIGNED LEVEL ONE OBJECTIVES BY TEACHER EDUCATORS IN FOUR UNIVERSITIES

| OBJECTIVES[1] | | McGill n = 65 | | University of Alberta n = 68 | | Simon Fraser n = 30 | | University of Calgary n = 19 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | $A_1$ | 12 | 4.57 | 9 | 4.17 | 8 | 4.00 | 10 | 4.19 |
| | $B_1$ | 7 | 4.05 | 7 | 3.71 | 6 | 3.77 | 7 | 3.60 |
| | $C_1$ | 6 | 3.85 | 6 | 3.41 | 7 | 3.80 | 5 | 3.00 |
| | $D_1$ | 9 | 4.27 | 8 | 3.96 | 10 | 4.08 | 9 | 4.11 |
| PLANNING COMPETENCE | $E_1$ | 10 | 4.30 | 10 | 3.96 | 9 | 4.06 | 11 | 4.29 |
| | $F_1$ | 5 | 3.30 | 5 | 3.17 | 4 | 3.33 | 3 | 2.60 |
| | $G_1$ | 4 | 2.84 | 4 | 2.76 | 2 | 2.44 | 4 | 2.88 |
| | $H_1$ | 3 | 2.79 | 2.5 | 2.63 | 4 | 3.33 | 1 | 2.08 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | 11 | 4.33 | 12 | 4.75 | 11 | 4.64 | 15 | 5.88 |
| | $J_1$ | 1 | 1.49 | 1 | 2.17 | 1 | 1.25 | 2 | 2.40 |
| | $K_1$ | 2 | 2.27 | 2.5 | 2.63 | 3 | 2.70 | 6 | 3.38 |
| | $L_1$ | 16 | 6.08 | 16 | 5.60 | 13 | 4.86 | 16 | 5.75 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | 8 | 4.22 | 11 | 4.44 | 15 | 5.38 | 8 | 3.80 |
| | $N_1$ | 14 | 4.92 | 13 | 5.26 | 12 | 4.77 | 14 | 5.29 |
| | $O_1$ | 15 | 4.98 | 14 | 5.30 | 14 | 5.23 | 12 | 4.96 |
| | $P_1$ | 13 | 4.86 | 15 | 5.46 | 16 | 5.39 | 13 | 5.00 |

[1]The statements of level one objectives appear on page 167.

TABLE XXXVI

LEVELS OF SIGNIFICANCE FOR THE COMPARISONS OF ALL GROUPS IN TABLE XXXV ON EACH LEVEL ONE OBJECTIVE

| OBJECTIVES[1] | | McGill University and University of Alberta | University of Alberta and University of Calgary | University of Alberta and Simon Fraser University |
|---|---|---|---|---|
| COMMUNICATION COMPETENCE | $A_1$ | .26 | .12 | .39 |
| | $B_1$ | .04 | .22 | .76 |
| | $C_1$ | .06 | .88 | .10 |
| | $D_1$ | .02 | .36 | .42 |
| PLANNING COMPETENCE | $E_1$ | .35 | .17 | .58 |
| | $F_1$ | .33 | .90 | .49 |
| | $G_1$ | .62 | .25 | .51 |
| | $H_1$ | .36 | .30 | .12 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | $I_1$ | .26 | .27 | .87 |
| | $J_1$ | .01 | .28 | .0038 |
| | $K_1$ | .05 | .08 | .66 |
| | $L_1$ | .15 | .0036 | .02 |
| GENERAL KNOWLEDGE AND ATTITUDES | $M_1$ | .87 | .0010 | .0016 |
| | $N_1$ | .12 | .67 | .13 |
| | $O_1$ | .09 | .36 | .66 |
| | $P_1$ | .0064 | .12 | .60 |

[1]The statements of level one objectives appear on page 167.

The McGill University teacher educators assigned a significantly higher importance to Item $P_1$, a general understanding of the natural sciences and mathematics, than did the teacher educators at the University of Alberta ($p < .01$). There also existed a significant difference on Item $J_1$ ($p < .01$), however both the McGill and the University of Alberta teacher educators assigned the priority rank to this item. It was also evident from the table that McGill teacher educators tended to assign a high importance to an understanding of the fundamental processes of learning, although this difference was not significant. The University of Alberta teacher educators assigned higher ranks to the abilities of selecting appropriate communciation strategies and assessing their effectiveness, although these differences were not significant. The University of Alberta has embarked upon a program of micro-teaching which may account for the teacher educators' concern for the improvement of communication in teaching.

McGill University teacher educators ranked Item $M_1$, an understanding of the content in the school curriculum, significantly higher than teacher educators at Simon Fraser University ($p < .01$). On the other hand, Simon Fraser teacher educators ranked Item $L_1$, an ability to interpret research and keep up-to-date, significantly higher than teacher educators at McGill ($p < .01$). There appeared to be a higher concern for the research component at Simon Fraser University.

Simon Fraser teacher educators ranked Item $J_1$, and understanding of children, significantly more important than did teacher

educators at the University of Alberta ($p < .01$). On the other hand, the teacher educators at the University of Alberta ranked Item $M_1$, an understanding of the content of the elementary school curriculum, significantly higher than did teacher educators at Simon Fraser University ($p < .01$). The high emphasis upon the field experience component of the Simon Fraser program may in part explain the lower concern of the teacher educators for the understanding of curriculum content. Teacher educators at the University of Alberta tended to assign higher importance to Item $L_1$, an ability to interpret research, than did the teacher educators at Simon Fraser University. Although this difference was not statistically significant, it does indicate a lower concern for this component on the part of teacher educators at Simon Fraser University.

However, the over-riding result of this analysis appears to be the high agreement of all teacher educators in assessing the priorities of an elementary teacher education program. Teacher educators in these distinct program environments located in different regions of Canada assessed the level one objectives very similarly, although there were significant differences in their perceptions of some objectives.

## IV. THE LEVEL ONE AND THE LEVEL TWO OBJECTIVES

In this section of the chapter are reported the results of the sorting of the level one and level two objectives by the teacher educators from all institutions participating in this study. The analysis was made corresponding to the areas of teaching specialization identified by the teacher educators. The teacher

educators sorted the level two objectives of a basic course designed to acquaint the elementary student teacher with instruction in the elementary school. The results of the sorting of the two levels of objectives are described for each group and the rank correlations are computed and reported for the level one and level two objectives. Using this procedure it is possible to describe the degree of relationship between the level one and two objectives for a group identified with an area of teaching specialization. The responses of the group of teacher educators who did not wish to identify with a specific area of teaching specialization were also analyzed in the same way.

Art. Since the sample of teacher educators who identified with the area of art was very small, fewer than 10, the results of their assessment of the priorities shall not be described or statistically analyzed. However, the results are reported in Table XXXVII.

Mathematics. The teacher educators who identified with the area of mathematics perceived Item $E_2$, an ability to formulate and state suitable objectives, as the most important objective for the basic course (see Table XXXVIII). Followed very closely in importance were items $F_2$ and $M_2$, an ability to select and organize a content sequence and an ability to perform basic content skills. These two items were ranked of equal relative importance. Item $D_2$, an ability to interpret accurately the effectiveness of a teaching method was ranked next in importance.

When this group of teacher educators sorted the level one objectives they assigned the highest priority to Item $H_1$, an ability

TABLE XXXVII

RANKS AND MEDIANS ASSIGNED LEVEL ONE AND TWO OBJECTIVES BY ALL TEACHER EDUCATORS RESPONDING IN THE ART AREA OF SPECIALIZATION

| OBJECTIVES[1] | | Level One n = 7 | | Level Two n = 7 | |
|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | A | 8.5 | 4.17 | 7 | 3.38 |
| | B | 8.5 | 4.17 | 8.5 | 3.75 |
| | C | 11 | 4.25 | 10 | 4.00 |
| | D | 5.5 | 3.33 | 4 | 3.13 |
| PLANNING COMPETENCE | E | 3.5 | 3.00 | 1 | 2.90 |
| | F | 1 | 2.00 | 2.5 | 3.00 |
| | G | 10 | 4.00 | 6 | 3.64 |
| | H | 8.5 | 3.75 | 9 | 3.83 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | I | 16 | 6.00 | 15 | 5.90 |
| | J | 2 | 2.33 | 5 | 3.50 |
| | K | 3.5 | 3.00 | 8.5 | 3.75 |
| | L | 14 | 5.00 | 13 | 5.63 |
| GENERAL KNOWLEDGE AND ATTITUDES | M | 5.5 | 3.33 | 2.5 | 3.00 |
| | N | 12 | 4.28 | 16 | 6.00 |
| | O | 15 | 5.25 | 14 | 5.80 |
| | P | 13 | 4.75 | 12 | 4.30 |

[1]The statements of level one objectives appear on page 167 and the statements of level two objedtives appear on page 168.

TABLE XXXVIII

RANKS AND MEDIANS ASSIGNED LEVEL ONE AND TWO OBJECTIVES BY ALL TEACHER EDUCATORS IN THE MATHEMATICS AREA OF SPECIALIZATION

| OBJECTIVES[1] | | Level One n = 18 | | Level Two n = 18 | |
|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | A | 11 | 4.25 | 7 | 3.70 |
| | B | 6.5 | 3.50 | 11 | 4.17 |
| | C | 5 | 3.00 | 10 | 4.00 |
| | D | 10 | 4.17 | 4 | 3.13 |
| PLANNING COMPETENCE | E | 9 | 3.96 | 1 | 2.90 |
| | F | 6.5 | 3.50 | 2.5 | 3.00 |
| | G | 3 | 2.83 | 6 | 3.64 |
| | H | 1 | 2.00 | 9 | 3.83 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | I | 15 | 5.50 | 15 | 5.90 |
| | J | 2 | 2.75 | 5 | 3.50 |
| | K | 4 | 2.90 | 8 | 3.75 |
| | L | 16 | 5.90 | 13 | 5.63 |
| GENERAL KNOWLEDGE AND ATTITUDES | M | 8 | 3.90 | 2.5 | 3.00 |
| | N | 13 | 5.36 | 16 | 6.00 |
| | O | 14 | 5.39 | 14 | 5.80 |
| | P | 12 | 5.05 | 12 | 4.30 |

[1]The statements of level one objectives appear on page 167 and the statements of level two objectives appear on page 168.

manage and organize the learning environment. An understanding of children (Item $J_1$), and an ability to evaluate the progress of pupils (Item $G_1$) ranked next in importance for the level one objectives.

This group of teacher educators assigned a greater importance to those components relevant to the selection and planning of content when they assessed the level two objectives. In their assessment of the level one objectives of the program these same teacher educators placed a higher value upon the management of the learning environment and upon a concern for the child.

Teacher educators who identified with the mathematics area of teaching specialization perceived the planning dimension as the most important when considering either level one or level two objectives. Also the communication, professional knowledge, and general knowledge dimensions were ranked in that order of importance for both level one and level two objectives.

The rank correlation of the sixteen level one and level two objectives for the teacher educators who identified with mathematics was .524. Although this correlation was low, it does indicate that there is some degree of relationship between the level one and level two objectives when the teacher educators identifying with the mathematics area assess the objectives of the teacher education program and the basic course within the program.

Music. Since the sample of teacher educators who identified with the area of music was very small, fewer than 10, the results of their assessment of the level one and two objectives will not be described or statistically analyzed. The results of the sorting

are displayed in Table XXXIX.

Physical education. The teacher educators who identified with the area of physical education assigned the highest importance to Item $J_2$, and ability to explain the physical and intellectual needs of elementary school children (see Table XL). This group then ranked Item $F_2$, an ability to select and organize a content sequence, and Item $D_2$, an ability to interpret accurately the effectiveness of a teaching method, next in importance.

When sorting the level one and the level two objectives this group of teacher educators ranked the same component, an understanding of children, in the priority position. However, the high concern for content selection and teaching methods in the assessment of the level two objectives was not evident in their evaluation of the level one objectives.

The teacher educators who identified with the physical education area placed the highest importance upon the planning dimension, whether they were considering the level one objectives of the teacher education program or the level two objectives of the basic course within the program. When considering the basic course and the level two objectives, these teacher educators assigned a higher importance to the communication dimension than they did when assessing the level one objectives of the total program. The professional knowledge dimension received a higher ranking when the subjects considered the objectives of the total program. Whether these teacher educators considered the level one or the level two objectives, the general knowledge dimension was ranked of least importance.

TABLE XXXIX

RANKS AND MEDIANS ASSIGNED LEVEL ONE AND TWO OBJECTIVES BY ALL TEACHER EDUCATORS IN THE MUSIC AREA

| OBJECTIVES[1] | | Level One n = 4 | | Level Two n = 4 | |
|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | A | 15 | 5.75 | 7.5 | 3.50 |
| | B | 11.5 | 5.00 | 7.5 | 3.50 |
| | C | 6 | 3.33 | 4.5 | 3.00 |
| | D | 8 | 4.25 | 2.5 | 2.50 |
| PLANNING COMPETENCE | E | 9 | 4.33 | 2.5 | 2.50 |
| | F | 3 | 2.33 | 1 | 1.50 |
| | G | 4 | 2.75 | 10 | 4.00 |
| | H | 2 | 2.25 | 2.5 | 2.50 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | I | 11.5 | 5.00 | 15 | 6.00 |
| | J | 1 | 1.13 | 7.5 | 3.50 |
| | K | 5 | 3.25 | 11 | 4.17 |
| | L | 16 | 6.00 | 16 | 6.50 |
| GENERAL KNOWLEDGE AND ATTITUDES | M | 7 | 3.75 | 4.5 | 3.00 |
| | N | 10 | 4.88 | 14 | 5.50 |
| | O | 11.5 | 5.00 | 12.5 | 5.17 |
| | P | 11.5 | 5.00 | 12.5 | 5.17 |

[1]The statements of level one objectives appear on page 167 and the statements of level two objectives appear on page 168.

TABLE XL

RANKS AND MEDIANS ASSIGNED LEVEL ONE AND TWO OBJECTIVES BY ALL TEACHER EDUCATORS IN THE PHYSICAL EDUCATION AREA OF SPECIALIZATION

| OBJECTIVES[1] | | Level One n = 17 | | Level Two n = 17 | |
|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | A | 7 | 3.86 | 6 | 3.42 |
| | B | 6 | 3.69 | 10 | 4.08 |
| | C | 8 | 4.00 | 8 | 3.94 |
| | D | 10 | 4.11 | 3 | 3.06 |
| PLANNING COMPETENCE | E | 9 | 4.08 | 4 | 3.25 |
| | F | 4.5 | 3.29 | 2 | 2.81 |
| | G | 3 | 2.44 | 11.5 | 4.25 |
| | H | 4.5 | 3.29 | 7 | 3.63 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | I | 12 | 4.40 | 13 | 5.08 |
| | J | 1 | 1.11 | 1 | 1.88 |
| | K | 2 | 2.35 | 5 | 3.40 |
| | L | 13 | 5.29 | 16 | 6.14 |
| GENERAL KNOWLEDGE AND ATTITUDES | M | 11 | 4.20 | 11.5 | 4.25 |
| | N | 15.5 | 5.71 | 14 | 5.20 |
| | O | 14 | 5.69 | 15 | 5.88 |
| | P | 15.5 | 5.71 | 9 | 4.00 |

[1]The statements of level one objectives appear on page 167 and the statements of level two objectives appear on page 168.

The rank correlation between the level one and level two objectives for the responses of teacher educators identifying with physical education was .646. This correlation indicates that there is a moderately high relationship between the assessment of the level one and level two objectives.

Reading and language arts. In Table XLI are displayed the results of the sorting of the level one and level two objectives by teacher educators who identified with the reading and language arts area of teaching specialization. These teacher educators ranked Item $F_2$, an ability to select and organize a content sequence, as the most important level two objective. This item was followed in importance by Items $D_2$ and $J_2$, an ability to interpret accurately the effectiveness of a teaching method and an ability to explain the physical and intellectual needs of elementary school children.

When this group of teacher educators ranked the level one objectives they tended to place a higher importance upon the knowledge and behaviors fundamental to a teacher's understanding of children and the learning process. Although, there was a high concern for an understanding of children when the level two objectives were sorted, there was a higher importance placed upon planning content and teaching methods.

The teacher educators in the area of reading and language arts considered the dimensions of planning, communication, professional knowledge, and general knowledge in that order of importance whether they were assessing the level one objectives of program or the level two objectives of the basic course.

TABLE XLI

RANKS AND MEDIANS ASSIGNED LEVEL ONE AND TWO OBJECTIVES BY TEACHER EDUCATORS IN THE READING AND LANGUAGE ARTS AREA

| OBJECTIVES[1] | | Level One n = 35 | | Level Two n = 35 | |
|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | A | 9 | 4.40 | 9 | 3.88 |
| | B | 7 | 3.88 | 11 | 4.43 |
| | C | 6 | 3.69 | 10 | 4.00 |
| | D | 8 | 4.17 | 2 | 2.56 |
| PLANNING COMPETENCE | E | 10 | 4.50 | 4 | 3.00 |
| | F | 5 | 3.15 | 1 | 2.55 |
| | G | 3 | 2.61 | 7 | 3.56 |
| | H | 4 | 2.79 | 6 | 3.33 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | I | 12 | 4.83 | 14 | 5.55 |
| | J | 1 | 1.63 | 3 | 2.92 |
| | K | 2 | 2.30 | 8 | 3.69 |
| | L | 16 | 5.50 | 16 | 5.95 |
| GENERAL KNOWLEDGE AND ATTITUDES | M | 11 | 4.72 | 5 | 3.05 |
| | N | 13 | 4.96 | 15 | 5.63 |
| | O | 14 | 5.00 | 13 | 5.53 |
| | P | 15 | 5.30 | 12 | 5.15 |

[1]The statements of level one objectives appear on page 167 and the statements of level two objectives appear on page 168.

The rank correlation of .659 between the level one and level two objectives, as assessed by the teacher educators identifying with the reading and language arts area, indicated that there is a moderately high relationship between the rankings of objectives at the two levels.

Science. The results of the sorting of the level one and level two objectives by teacher educators identifying with the science area appear in Table XLII. Among the level two objectives this group of teacher educators assigned the highest importance to Item $F_2$, an ability to select and organize a content sequence. They then proceeded to rank Item $B_2$, able to make a selection of the inquiry method where appropriate, second in importance; Item $E_2$, an ability to formulate and state suitable objectives, was ranked third.

In ranking the level one objectives this same group of teacher educators assigned a high importance to management of the learning environment and an understanding of children and learning. High importance was given other components when the level two objectives were sorted, and like teacher educators in other subject areas, these teacher educators assigned the priorities to the selection of content and teaching methods.

In their assessment of the level one and level two objectives the teacher educators in the science area assigned the highest importance to the planning dimension, and this was followed by the communication dimension in the next important position. However, when these teacher educators assessed the level two objectives of a basic course, they gave a higher position of importance to the

TABLE XLII

RANKS AND MEDIANS ASSIGNED LEVEL ONE AND TWO OBJECTIVES BY ALL TEACHER EDUCATORS IN THE SCIENCE AREA

| OBJECTIVES[1] | | Level One n = 12 | | Level Two n = 12 | |
|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | A | 8 | 4.00 | 9 | 3.90 |
| | B | 7 | 3.80 | 2 | 2.83 |
| | C | 6 | 3.63 | 5 | 3.17 |
| | D | 9 | 4.25 | 6 | 3.50 |
| PLANNING COMPETENCE | E | 15 | 5.13 | 3 | 3.00 |
| | F | 4 | 3.08 | 1 | 2.17 |
| | G | 5 | 3.40 | 10.5 | 4.00 |
| | H | 1 | 2.38 | 7.5 | 3.75 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | I | 11 | 4.80 | 14 | 5.50 |
| | J | 2 | 2.63 | 10.5 | 4.00 |
| | K | 3 | 2.88 | 10.5 | 4.00 |
| | L | 16 | 5.63 | 13 | 5.30 |
| GENERAL KNOWLEDGE AND ATTITUDES | M | 10 | 4.40 | 4 | 3.10 |
| | N | 14 | 5.00 | 16 | 6.33 |
| | O | 13 | 4.92 | 15 | 6.13 |
| | P | 12 | 4.88 | 7.5 | 3.75 |

[1]The statements of level one objectives appear on page 167 and the statements of level two objectives appear on page 168.

general knowledge dimension than they did when sorting the level one objectives. They gave a higher composite rank to the professional knowledge dimension when assessing the total teacher education program and the level one objectives.

There did not appear to be a close relationship between the assessment of the level one and level two objectives by the teacher educators in the area of science, and this is supported by the low correlation of .306.

Second language. Since the sample of teacher educators who identified with the area of second language was very small, fewer than 10, the results of their assessment were not described or statistically analyzed. However, the results are displayed in Table XLIII.

Social studies. In Table XLIV are displayed the results of the assessment of the level one and level two objectives by teacher educators who identified with the social studies area of teaching specialization. In the sixteen level two objectives Item $F_2$, an ability to select and organize a content sequence, was given the highest priority. In the second position of rank was Item $E_2$, an ability to formulate and state suitable objectives; in the third rank position was Item $D_2$, an ability to interpret accurately the effectiveness of a teaching method.

The results of the assessment of level one and level two objectives by teacher educators in the social studies area supports other results in this section. When sorting the level one objectives of the teacher education program a priority is placed on the under-

TABLE XLIII

RANKS AND MEDIANS ASSIGNED LEVEL ONE AND TWO OBJECTIVES BY ALL TEACHER EDUCATORS IN THE AREA OF SECOND LANGUAGE

| OBJECTIVES[1] | | Level One n = 7 | | Level Two n = 7 | |
|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | A | 15 | 5.50 | 5 | 3.25 |
| | B | 8.5 | 4.17 | 8 | 4.00 |
| | C | 10 | 4.25 | 11.5 | 4.75 |
| | D | 6 | 3.75 | 3.5 | 3.00 |
| PLANNING COMPETENCE | E | 14 | 5.00 | 6 | 3.38 |
| | F | 3.5 | 3.00 | 2 | 2.88 |
| | G | 3.5 | 3.00 | 9 | 4.13 |
| | H | 8.5 | 4.17 | 11.5 | 4.75 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | I | 7 | 4.00 | 14 | 5.00 |
| | J | 1.5 | 2.00 | 7 | 3.75 |
| | K | 1.5 | 2.00 | 3.5 | 3.00 |
| | L | 16 | 3.50 | 15 | 5.25 |
| GENERAL KNOWLEDGE AND ATTITUDES | M | 5 | 3.50 | 1 | 2.75 |
| | N | 11.5 | 4.50 | 16 | 5.38 |
| | O | 11.5 | 4.50 | 10 | 4.25 |
| | P | 13 | 4.70 | 11.5 | 4.75 |

[1]The statements of level one objectives appear on page 167 and the statements of level two objectives appear on page 168.

TABLE XLIV

RANKS AND MEDIANS ASSIGNED LEVEL ONE AND TWO OBJECTIVES BY ALL TEACHER EDUCATORS IN THE SOCIAL STUDIES AREA

| OBJECTIVES[1] | | Level One n = 21 | | Level Two n = 21 | |
|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | A | 10 | 4.21 | 6 | 3.56 |
| | B | 9 | 4.14 | 10 | 4.06 |
| | C | 6 | 3.04 | 7.5 | 3.57 |
| | D | 7 | 3.92 | 3 | 3.19 |
| PLANNING COMPETENCE | E | 8 | 4.11 | 2 | 2.63 |
| | F | 5 | 3.00 | 1 | 2.57 |
| | G | 3 | 2.67 | 11 | 4.22 |
| | H | 2 | 2.40 | 5 | 3.43 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | I | 15 | 5.20 | 14 | 5.75 |
| | J | 1 | 1.80 | 9 | 3.69 |
| | K | 4 | 2.88 | 7.5 | 3.57 |
| | L | 16 | 5.86 | 16 | 5.88 |
| GENERAL KNOWLEDGE AND ATTITUDES | M | 11 | 4.57 | 4 | 3.38 |
| | N | 13 | 4.86 | 15 | 5.80 |
| | O | 12 | 4.59 | 13 | 5.29 |
| | P | 14 | 4.75 | 12 | 5.04 |

[1]The statements of level one objectives appear on page 167 and the statements of level two objectives appear on page 168.

standing of the individual and the processes of learning; high importance is given to the selection and organization of content, and the teaching process when the level two objectives are assessed.

The teacher educators in the social studies area perceived the planning dimension to be the most important whether they were considering the level one or the level two objectives. The communication dimension was ranked next in importance when sorting level one and level two objectives. The general knowledge dimension was considered more important than the professional knowledge dimension when considering the level two objectives. The professional knowledge dimension was regarded as more important than the general knowledge dimension when assessing the objectives of the total teacher education program.

The correlation between the teacher educators assessment of the level one and two objectives was low (.565), however, it does give some indication that a relationship does exist between the assessment of the two levels of objectives.

Prefer not to identify with area of specialization. In Table LXV are displayed the results of the assessment of the level one and level two objectives by teacher educators who preferred not to identify with any one area of teaching specialization. Among the sixteen level two objectives Item $F_2$, an ability to select an organize a content sequence, was given the highest priority. This objective was followed by Item $D_2$, an ability to interpret accurately the effectiveness of a teaching method, and by Item $K_2$, an ability to explain motivation in the learning processes.

TABLE XLV

RANKS AND MEDIANS ASSIGNED LEVEL ONE AND TWO OBJECTIVES BY TEACHER EDUCATORS WHO PREFER NOT TO IDENTIFY WITH AN AREA OF TEACHING SPECIALIZATION

| OBJECTIVES[1] | | Level One n = 19 | | Level Two n = 19 | |
|---|---|---|---|---|---|
| | | Rank | Median | Rank | Median |
| COMMUNICATION COMPETENCE | A | 11 | 4.38 | 11 | 4.09 |
| | B | 7 | 3.72 | 10 | 3.98 |
| | C | 6 | 3.54 | 7 | 3.69 |
| | D | 8 | 3.94 | 2 | 2.65 |
| PLANNING COMPETENCE | E | 9 | 4.18 | 4 | 3.13 |
| | F | 5 | 3.46 | 1 | 2.44 |
| | G | 2 | 2.71 | 9 | 3.82 |
| | H | 4 | 2.89 | 8 | 3.68 |
| PROFESSIONAL KNOWLEDGE AND ATTITUDES | I | 10 | 4.21 | 12 | 4.67 |
| | J | 1 | 1.69 | 6 | 3.54 |
| | K | 3 | 2.82 | 3 | 2.84 |
| | L | 13 | 5.07 | 15 | 5.77 |
| GENERAL KNOWLEDGE AND ATTITUDES | M | 12 | 4.78 | 5 | 3.46 |
| | N | 14 | 5.23 | 16 | 5.92 |
| | O | 15 | 5.46 | 14 | 5.35 |
| | P | 16 | 5.61 | 13 | 4.97 |

[1]The statements of level one objectives appear on page 167 and the statements of level two objectives appear on page 168.

Although teacher educators did not relate to any particular subject area when they sorted the level two objectives, the same components are given high importance when these more specific objectives are sorted. Changes in the priorities of the components may be due to the specificity of the objectives rather than to a relation to any given subject area of teaching specialization.

This group of teacher educators also ranked the planning dimension of highest importance whether sorting level one or level two objectives. For the level one objectives, the professional knowledge dimension appeared to be next in relative importance, while for the level two objectives, the communication dimension was ranked second in importance. The general knowledge dimension was considered of least relative importance when sorting either the level one or level two objectives.

The rank correlation between the assessment of the level one and level two objectives by this group of teacher educators was .635, which indicated that a moderately high relationship exists between the two levels of objectives.

## V. SUMMARY OF FINDINGS

Four hypotheses were tested in this study. In order that a hypothesis may be rejected it was assumed that a significant difference (at the .01 level of confidence) must occur on one or more objectives between the groups of respondents.

Hypothesis 1.0

There are no significant differences in the perceptions of the level one objectives of the elementary teacher education program at the University of Alberta, as measured by The Teacher Education Opinionnaire Form I, for teacher educators, student teachers, and cooperating teachers.

Teacher educators and student teachers differed significantly on two objectives, and therefore the hypothesis is rejected for these groups.

Since teacher educators and cooperating teachers did not differ significantly on any one objective, the hypothesis is accepted for these groups.

Student teachers and cooperating teachers differed significantly on three level one objectives, and therefore the hypothesis is rejected for these groups.

Hypothesis 2.0

There are no significant differences in the perceptions of the level one objectives of an elementary teacher education program, as measured by The Teacher Education Opinionnaire Form I, for teacher educators, student teachers, and elementary school cooperating teachers across sex, age, years of teacher education, years of school teaching experience, years of experience in teacher education, areas of concern in the teacher education program, and amount of involvement with elementary student teachers (where applicable).

There were within group significant differences when groups were analyzed for certain independent variables. These within group differences are summarized under the following sub-hypotheses.

Hypothesis 2.1. There are no significant differences in the perceptions of the level one objectives of an elementary teacher education program, as measured by The Teacher Education Opinionnaire Form I, for teacher educators across sex, age, years of school teaching experience, years of experience in teacher education, areas of concern in teacher education, and the time involvement with elementary student teachers.

Although there were differences in the values assigned certain items by male and female teacher educators, there were no significant differences and therefore the hypothesis is not rejected for the sex variable.

Since teacher educators 35 years of age and under and teacher educators over 35 years of age did not differ significantly on any level one objective the hypothesis is not rejected for the age variable.

The University of Alberta teacher educators did not differ significantly on any objective when the group was analyzed according to years of teaching in the schools, and therefore the hypothesis is accepted.

Since the teacher educators differed significantly on one item when the group was analyzed according to years of teacher education experience, the hypothesis is rejected for the variable years of experience in teacher education.

No statistical comparisons were made for the areas of concern in the teacher education program, and therefore no conclusive results can be reported.

Since the teacher educators did not differ significantly on any item when the group was analyzed according to the degree of involvement with student teachers in the elementary route, the hypothesis cannot be rejected.

Hypothesis 2.2. There are no significant differences in the perceptions of the level one objectives of an elementary teacher education program, as measured by The Teacher Education Opinionnaire Form I, for student teachers across sex, age, years of teacher education, and student teaching and teaching experience.

Since female and male student teachers differed significantly on the values assigned one objective, the hypothesis is rejected for the sex variable.

There were no significant differences on any objective when student teachers under 21 years of age and 21 to 30 years of age were analyzed, and hence for these two groups the hypothesis is accepted. However, there were significant differences on three objectives when student teachers under 21 years of age and over 30 years of age were compared, and therefore the hypothesis must be rejected in this case. The hypothesis is also rejected when comparing student teachers 21 to 30 years of age and over 30 years of age because of significant differences on one objective.

Since student teachers when compared on the year in the teacher education program did not differ significantly on any one of the level one objectives the hypothesis must be accepted.

Since student teachers did not differ significantly when compared on the years of student teaching and teaching experience, the hypothesis is accepted for this variable.

Hypothesis 2.3. There are no significant differences in the perceptions of the level one objectives of an elementary teacher education program, as measured by The Teacher Education Opinionnaire Form I, for cooperating teachers across sex, age, years of teacher education, and years of school teaching experience.

Since male and female cooperating teachers did not differ significantly on any objective, the hypothesis must be accepted for the variable of sex.

Since cooperating teachers 30 years of age and under, and over 30 years of age did not differ significantly on any of the level

one objectives, the hypothesis for the age variable is accepted.

Cooperating teachers with less than three years and three years or more of teacher education did not differ significantly on any objectives, and therefore for the variable years of teacher education the hypothesis is accepted.

When cooperating teachers with three to five years and more than five years of school teaching experience were compared there were no significant differences on any objectives, and therefore the hypothesis must be accepted. Because no statistical comparisons were made with cooperating teachers with one or two years teaching experience, no conclusive results can be reported.

Hypothesis 3.0

There are no significant differences in the perceptions of the level one objectives of an elementary teacher education program, as measured by The Teacher Education Opinionnaire Form I, for teacher educators at four universities in Canada.

Since McGill and the University of Alberta teacher educators differed significantly on the values assigned two of the level one objectives, the hypothesis must be rejected.

McGill University and Simon Fraser teacher educators also differed significantly in the values assigned two level one objectives, and therefore the hypothesis is rejected.

Simon Fraser and the University of Alberta teacher educators differed significantly in the values assigned two level one objectives, and therefore the hypothesis is also rejected in this case.

Since statistical comparisons were not made with the one department responding from the University of Calgary, no conclusive

results are reported involving the University of Calgary teacher educators.

Hypothesis 4.0

There are no relationships between the perceptions of the level one objectives of an elementary teacher education program and the perceptions of the level two objectives of a basic course in the program, as measured by The Teacher Education Opinionnaire, for teacher educators in the areas of art, mathematics, music, physical education, reading and language arts, science, second language, social studies, and teacher educators who preferred not to identify with any particular area.

For the purpose of describing the relationships between the perceptions of the level one objectives of an elementary teacher education program and the perceptions of the level two objectives of a basic course in the program, the magnitudes of the reported correlations were examined. It was assumed that the relationship between level one and level two objectives was "low" if the magnitude of the correlation was in the range of .500 to .599. The relationship between levels one and two objectives was considered to be "moderately high" if the correlation ranged from .600 to .699, and this same relationship was assumed to be "high" if the correlation was .700 or greater. It was assumed that there was no important relationship between the level one and level two objectives if the correlation was less than .500.

Since the numbers of teacher educators who identified with the areas of art, music, and second language were very small, no conclusive results can be reported for each of these subject areas.

Teacher educators in the mathematics area displayed some relationship between their assessment of the level one and the level two objectives. This relationship was considered low.

Teacher educators in the physical education area displayed a moderately high relationship between their assessment of the level one and level two objectives.

Teacher educators identifying with the reading and language arts area demonstrated a moderately high relationship between their assessment of the level one and the level two objectives.

Teacher educators in the area of science did not display an important relationship between their assessment of the level one and the level two objectives.

Teacher educators in the social studies area of teaching specialization demonstrated a low relationship in their assessment of the level one and level two objectives.

Teacher educators who preferred not to identify with any area of teaching specialization displayed a moderately high relationship between their assessment of the level one and the level two objectives.

Although a statistical decision test was not applied to determine the relationships between the level one and the level two objectives, in view of the assumptions made, Hypothesis 4.0 must be rejected for teacher educators in the areas of mathematics, physical education, reading and language arts, social studies, and for teacher educators who preferred not to identify with an area of teaching specialization. However, Hypothesis 4.0 is accepted for teacher educators in the areas of science.

The following two pages fold-out to provide the statements of objectives relevant to the tables in this chapter. The level one objectives appear on the first fold-out, and the level two objectives are listed in the second fold-out page.

## Level One Objectives

| | |
|---|---|
| $A_1$ | Aware of a variety of strategies for communicating within and outside the classroom. |
| $B_1$ | Able to select appropriate communication strategies to be used within and outside the classroom. |
| $C_1$ | Competent in executing the communication strategies used within and outside the classroom. |
| $D_1$ | Able to assess the effectiveness of the communication strategies used within and outside the classroom. |
| $E_1$ | Able to define appropriate purposes when building a curriculum. |
| $F_1$ | Able to select and organize content and materials appropriate for the situation. |
| $G_1$ | Able to evaluate the progress of pupils and diagnose their needs. |
| $H_1$ | Able to manage and organize the learning environment. |
| $I_1$ | Understands the role of education and the educator in society. |
| $J_1$ | Understands children and all aspects of child development. |
| $K_1$ | Understands the fundamental processes of learning. |
| $L_1$ | Able to interpret research and keep up to date with professional knowledge. |
| $M_1$ | Has an understanding of the content in the elementary school curriculum. |
| $N_1$ | Has a general understanding of the humanities. |
| $O_1$ | Has a general understanding of the social sciences. |
| $P_1$ | Has a general understanding of the natural sciences and mathematics. |

Level Two Objectives

$A_2$ Able to explain various teaching methods for the subject area which may be employed in the elementary classroom.

$B_2$ Able to make a selection of the inquiry method when appropriate to the situation.

$C_2$ Able to demonstrate the inquiry teaching method relevant to the subject content.

$D_2$ Able to interpret accurately the effectiveness of a teaching method used by observing the children in the situation.

$E_2$ Able to formulate and state suitable objectives for a unit in the subject area.

$F_2$ Able to select and organize a content sequence to involve a group of children in the learning of a concept or skill.

$G_2$ Able to select the appropriate tests and diagnostic instruments for evaluating pupils in the subject area.

$H_2$ Able to organize children into groups for learning in the subject area.

$I_2$ Able to explain his view of the task of the elementary school in society.

$J_2$ Able to explain physical and intellectual needs of elementary children as they relate to the subject area.

$K_2$ Able to explain motivation in the learning processes relevant to the subject area.

$L_2$ Able to analyse a research study in the subject area and interpret the results.

$M_2$ Able to perform the basic content skills included in a subject area of the elementary school curriculum.

$N_2$ Able to describe the artistic qualities in the subject area.

$O_2$ Able to explain the effects of segregation and social stratification on children from minority and low income groups.

$P_2$ Able to explain scientific principles applicable to the subject area.

# CHAPTER VI

## OTHER FINDINGS - A VALIDATION OF THE PROCEDURES

In view of the fact that one of the major purposes of this study was to validate a procedure for evaluating the objectives of an elementary teacher education program, the findings relating to this validation are reported in this chapter.

A group of teacher educators in each of the institutions was interviewed to ascertain their reactions to the overall assessment procedure, as well as the details of The Teacher Education Opinionnaire. In this manner, important information was acquired relevant to this instrument and the conceptual model upon which the instrument was based.

Further information relevant to the validity of the instrument and the conceptual model was obtained by statistically extracting the conceptual structure of teacher educators, student teachers, and cooperating teachers toward the level one objectives of an elementary teacher education program. A principal components analysis of the intercorrelations among all level one objectives was carried out for each group, and these components were rotated according to the varimax criterion. The results of this factor analytic technique are reported in this chapter.

## I. RESULTS OF THE INTERVIEWS

A total of 89 teacher educators for the four teacher education institutions were interviewed employing the interview guide

which appears in Appendix B. It was not possible to interview all teacher educators who responded to The Teacher Education Opinionnaire (TEO), but of those teacher educators who volunteered, individuals were selected who represented a varied involvement in the teacher education program. This variety was made up of those who were interested in different areas of teaching specialization and different concerns within the teacher education program, such as administration, psychology, and curriculum and instruction. Not all interview questions were asked of all teacher educators interviewed, and because some teacher educators had not completed the TEO certain questions were immediately eliminated from the interview procedure.

Primarily the first two sections of the interview guide are reported in this chapter as they are most relevant to this study. These questions served to gain more information about the validity of the TEO and to seek an understanding of teacher educators' reaction to the employment of objectives in the planning and operation of the elementary teacher education curriculum.

The presentation of the results of the interviews will be dealt with in the order of the questions, and no attempt is made to relate responses to individuals or institutions.

When teacher educators were asked what particular group of student teachers they had in mind as they sorted the level one objectives of a program, there appeared to be high agreement in their response to this question. Teacher educators did not regard any one particular group of student teachers, but they thought of a wide variety of student teachers and interpreted their responses in terms

of the general program designed to prepare elementary teachers.

Teacher educators did not necessarily consider any one constraint such as facilities, time, staff or resources as they sorted the level one objectives. The majority of teacher educators believed that they regarded the ideal condition and they were not concerned with details which might influence their assessment of the objectives. Most teacher educators thought specifically of preparing the teacher candidate for a future involvement in the elementary school as they perceived elementary education. The time considered for the total program was generally regarded to be a degree program of three or four years duration. It was only the occasional teacher educator who was influenced in his assessment by the facilities available to him in the teacher education institution.

If the TEO was to be used as an instrument to assess the level one objectives of a teacher education program operating under rather ideal conditions, then the instrument appeared to fill that requirement.

When sorting the level two objectives, teacher educators found little difficulty identifying with a basic course designed to acquaint the student teacher with instruction in the elementary school. The general course offered within an area of teaching specialization was usually kept in mind while sorting the level two objectives. There did not appear to be a particular concern for the year in the program for which such a course might be planned. However, most teacher educators indicated that such a course would most likely be planned for the student teacher who was not in the first year of the teacher education program.

It was the intent that the TEO serve as a research instrument to assess the level two objectives of a general education course, and it is evident from these interview results that this instrument can be used for this purpose.

Teacher educators did offer some general comments about The Teacher Education Opinionnaire, and these may be summarized as follows

a) In general, the instrument did provide a realistic approach to an assessment of the priorities of a teacher education program.

b) There were concerns about the use of a forced choice method, however, such criticism was not strong and it did not suggest a re-examination of the use of the Q-sort approach.

c) The majority of teacher educators felt that the objectives were inclusive of most of the level one objectives of a program. There was, however, an expression of need for an objective dealing with the "student teacher's development of self-awareness".

d) Most objectives in the level one set were regarded to be written at the same general level of specificity. There were some teacher educators who felt that Items $M_1$, $N_1$, $O_1$ and $P_1$ were slightly more general than the rest of the level one objectives. Some teacher educators had difficulty at first in separating the meaning of the four communication objectives within the level one objectives. However, most teacher educators agreed that the communication objectives could be regarded as separate objectives after giving them some thought.

There were relatively minor problems identified with the use of the TEO as an instrument to evaluate the level one and level two objectives of an elementary teacher education program. These interview results validate its use with teacher educators.

Teacher educators were asked whether they would subscribe to a teacher education curriculum plan where the objectives were stated in precise performance terms. To this question a high majority of teacher educators indicated that they would agree with this approach to the curriculum plan with certain qualifications. This group of teacher educators felt that all aspects of the teacher education program could not be reduced to objectives stated in performance terms. The areas of the curriculum within the affective domain might be treated somewhat differently from those which could readily be written in performance terms. There was also a concern for flexibility in the formulation and statement of objectives. The objectives must be relevant to the individuals and the context of the curriculum. The objectives of the curriculum should be defined only after the individuals concerned have come together, and all individuals involved in the curriculum have taken part in the selection of group goals and specific individual goals. "Programming an individual may be dangerous; however if they have an opportunity to make choices this reduces this inherent danger".

When teacher educators were asked for the time allotment they would assign to certain parts of the teacher education program, different responses were recorded. In the consideration of general education requirements, professional education sequence, and direct

teaching experience, the opinions of the teacher educators varied between one-third of the time to each, and two-thirds general education and the rest of the time to the professional education and direct teaching experience. Most teacher educators had great difficulty attempting to allot time to aspects of the three to four year degree program. Many regarded this to be an unrealistic exercise. However, most teacher educators agreed to attempt the exercise.

The teacher educators were asked to describe what they regarded as the professional education sequence in a teacher education program. There were a variety of responses to this question, however, an attempt is made to summarize these responses under four points of view.

There was a group of teacher educators who emphasized an understanding of children as the essential part of the professional education sequence. This focus on the child was usually described as not only a theoretical understanding of child development, but also a direct experience with children in many real-time situations. Although this group of teacher educators emphasized the understanding of children, they also included in their discussion of the professional education sequence other elements such as curriculum planning, psychology, educational philosophy, and teaching methods. This point of view is represented within the professional knowledge dimension of the model developed in this study.

There were other teacher educators who wished to emphasize the communication aspect of teaching as the most essential element of

the professional education sequence. This focus upon communication was based on the premise that the professional education of the teacher would provide an indepth background in communications applicable within and outside the teacher-pupil learning situation. This emphasis upon communication is also represented as a major dimension of the PCTE.

Although most teacher educators interviewed regarded the curriculum planning element of the professional education sequence to be an essential part, there was a group of teacher educators who wished to focus upon this component. This group felt that not enough had been done in the area of curriculum planning, and this part of the professional education sequence should be emphasized in future. Relating to this concern, planning is also a major dimension of the PCTE.

Finally one other basic point of view was identified when teacher educators were asked to outline the contents of the professional education sequence. A group of teacher educators emphasized that part of the curriculum is designed to assist the change of attitudes on the part of the student teacher. The focus appeared to be the affective outcomes in the form of professional attitudes. This point of view is subsumed within the major dimension of the PCTE, known as professional knowledge and attitudes.

When teacher educators were asked whether the elementary teacher candidate should be prepared for an area of specialization, the majority of those responding indicated that, although there was room for some specialization, the elementary school teacher should

be prepared for an involvement in the total elementary school curriculum. As stated by one respondent, "the teacher should be involved in the education of the total child with some area of expertise development". This concern for some teaching specialization in the elementary school is represented in the PCTE by the study of teaching specialization component within the general knowledge dimension.

## II. EXTRACTION OF THE FACTORS

The Q-sort responses to the level one objectives by teacher educators, student teachers, and cooperating teachers were analyzed to extract the conceptual structure of these groups toward the level one objectives of an elementary teacher education program. For each group, intercorrelations were calculated among all items or statements of objectives. The intercorrelations among objectives for teacher educators appear in Table LVII of Appendix D. Similar tables in Appendix D display the intercorrelations among objectives for student teachers, Table LVIII, and cooperating teachers, Table LIX.

A principal component analysis of the correlation matrix was carried out for each group, and the six components corresponding to eigenvalues greater than one were extracted. In the data collected for all teacher educators who participated in this study, there were six factors with eigenvalues ranging in value from 3.402 to 1.091, and accounting for 66.325 percent of the total variance. These factors and their eigenvalues are included in Table XLVI.

In the data collection from student teachers there were six factors with eigenvalues ranging in value from 2.482 to 1.149, and accounting for 61.494 percent of the total variance. These factors and their eigenvalues are also given in Table XLVI.

From the results analyzed for cooperating teachers there were factors with eigenvalues ranging in value from 3.210 to 1.075, and accounting for 70.194 percent of the total variance. These factors and their eigenvalues also appear in Table XLVI.

TABLE XLVI

FACTORS WITH EIGENVALUES GREATER THAN UNITY

| Factor | Teacher Educators | Student Teachers | Cooperating Teachers |
|---|---|---|---|
| 1 | 3.402 | 2.482 | 3.210 |
| 2 | 2.050 | 2.097 | 2.555 |
| 3 | 1.577 | 1.544 | 1.630 |
| 4 | 1.292 | 1.366 | 1.518 |
| 5 | 1.199 | 1.201 | 1.243 |
| 6 | 1.091 | 1.149 | 1.075 |
| Percent of Total Variance | 66.325 | 61.494 | 70.194 |

The principal components extracted for each group (teacher educators, student teachers, and cooperating teachers), were rotated according to the varimax criterion in an effort to distribute the variance among components. The rotated components, which shall be called factors, and the percentages of the common variance accounted

for by each component are shown in Tables XLVII, XLVIII, and XLIX.

Item Selection

Items with absolute factor loadings of .400 or higher were initially selected, however, when the remaining items were examined it was decided to include eight items with loadings which ranged in value from .306 to .394 because of the conceptual meaningfulness. The selection of .400 as the critical value was somewhat arbitrary, although its use as a guideline meant that each factor was characterized by at least two items. The use of a lower cut-off would allow many items to appear in more than one factor, making it more difficult to detect the underlying commonality.

On the basis of common meaning across the items that contributed most to each of the factors, a set of descriptive labels was suggested for the components. These labels are shown in Tables L (teacher educators), LI (student teachers), and LII (cooperating teachers). The items, or objectives, in these tables have been grouped according to common meaning and the order of magnitude. In the case of negative correlations, the direction of the item has been reversed. These factors were labelled and described after examining the priorities assigned to the level one objectives by each of the three groups.

The first factor identified in the teacher educators' and student teachers' groups was labelled Communication versus General Knowledge, and it contains the same core of highly loaded items in both groups. This factor may be regarded as a continuum running between an importance for communication strategies, and an importance

TABLE XLVII

VARIMAX ROTATED FACTORS - TEACHER EDUCATORS

| Objectives | Factors | | | | | |
|---|---|---|---|---|---|---|
| | One | Two | Three | Four | Five | Six |
| $A_1$ | -.394 | .538 | -.003 | .290 | -.130 | .185 |
| $B_1$ | -.386 | .398 | .327 | -.116 | .163 | .463 |
| $C_1$ | -.336 | .238 | .598 | .276 | .052 | .095 |
| $D_1$ | -.493 | .434 | .183 | -.080 | .132 | .364 |
| $E_1$ | -.242 | -.059 | .129 | -.696 | .040 | -.197 |
| $F_1$ | -.082 | -.623 | .174 | .043 | .277 | .181 |
| $G_1$ | -.105 | -.182 | -.101 | -.134 | .783 | -.052 |
| $H_1$ | -.128 | -.252 | .258 | .725 | .109 | -.213 |
| $I_1$ | .073 | -.021 | -.102 | -.409 | -.676 | -.120 |
| $J_1$ | .008 | .217 | -.750 | -.029 | .227 | -.038 |
| $K_1$ | -.137 | -.052 | -.647 | .130 | -.436 | .156 |
| $L_1$ | -.182 | .219 | .071 | -.091 | .036 | -.846 |
| $M_1$ | .021 | -.722 | -.036 | .107 | -.025 | .084 |
| $N_1$ | .781 | .064 | -.108 | -.182 | -.092 | .030 |
| $O_1$ | .868 | -.017 | -.042 | .103 | -.004 | .015 |
| $P_1$ | .848 | -.120 | .091 | .174 | -.056 | .131 |
| Percent of Common Variance | 18.075 | 11.363 | 10.263 | 9.306 | 9.244 | 8.069 |

TABLE XLVIII

VARIMAX ROTATED FACTORS - STUDENT TEACHERS

| Objectives | Factors | | | | | |
|---|---|---|---|---|---|---|
| | One | Two | Three | Four | Five | Six |
| $A_1$ | -.235 | .254 | .110 | .469 | .114 | -.441 |
| $B_1$ | -.320 | .556 | .134 | .149 | .269 | -.004 |
| $C_1$ | -.201 | .673 | .288 | .165 | -.052 | .068 |
| $D_1$ | -.306 | .202 | .629 | .072 | .237 | .042 |
| $E_1$ | -.395 | -.455 | -.079 | .373 | .062 | -.154 |
| $F_1$ | -.030 | -.315 | -.633 | -.123 | .246 | -.014 |
| $G_1$ | -.000 | .082 | .041 | -.486 | .508 | -.327 |
| $H_1$ | -.053 | .101 | -.019 | .024 | .129 | .857 |
| $I_1$ | -.092 | .011 | -.017 | -.097 | -.881 | -.181 |
| $J_1$ | -.052 | -.611 | .234 | .070 | .003 | .167 |
| $K_1$ | -.139 | -.702 | .086 | -.034 | -.005 | -.094 |
| $L_1$ | -.211 | -.079 | .015 | -.802 | -.039 | -.008 |
| $M_1$ | -.207 | -.032 | -.729 | .159 | -.058 | .105 |
| $N_1$ | .771 | .025 | .106 | .066 | -.049 | -.140 |
| $O_1$ | .808 | -.039 | .054 | .071 | -.047 | .169 |
| $P_1$ | .730 | -.014 | -.149 | .002 | .224 | -.032 |
| Percent of Common Variance | 14.695 | 12.913 | 9.669 | 8.474 | 8.250 | 7.469 |

TABLE XLIX

VARIMAX ROTATED FACTORS - COOPERATING TEACHERS

| Objectives | Factors | | | | | |
|---|---|---|---|---|---|---|
| | One | Two | Three | Four | Five | Six |
| $A_1$ | .572 | -.024 | -.092 | -.150 | .172 | -.615 |
| $B_1$ | .796 | -.158 | .112 | .058 | .113 | -.090 |
| $C_1$ | .722 | .316 | -.061 | -.003 | -.054 | .307 |
| $D_1$ | .795 | .307 | -.280 | -.218 | -.189 | .129 |
| $E_1$ | -.317 | -.488 | -.055 | .073 | -.076 | -.277 |
| $F_1$ | .175 | -.128 | .745 | .235 | -.082 | .070 |
| $G_1$ | .091 | -.167 | .036 | -.075 | .144 | .767 |
| $H_1$ | .037 | -.008 | .175 | .721 | .005 | .069 |
| $I_1$ | -.258 | -.748 | -.289 | -.124 | -.059 | .030 |
| $J_1$ | -.638 | -.124 | -.267 | -.181 | -.106 | .170 |
| $K_1$ | -.410 | -.039 | .075 | -.195 | -.768 | -.117 |
| $L_1$ | -.077 | .088 | -.191 | .774 | -.040 | -.114 |
| $M_1$ | -.218 | .178 | .741 | -.289 | -.032 | .023 |
| $N_1$ | -.290 | .308 | -.061 | -.296 | .770 | .018 |
| $O_1$ | -.327 | .762 | -.329 | .059 | .187 | -.154 |
| $P_1$ | -.013 | .823 | -.034 | -.008 | .050 | -.168 |
| Percent of Common Variance | 19.643 | 14.856 | 9.706 | 9.500 | 8.475 | 8.013 |

TABLE L

THE FACTORS FOR TEACHER EDUCATORS AND THE ITEM LOADINGS AFTER ROTATION

| Factor 1 | Factor 2 |
|---|---|
| Communication vs. General Knowledge | Content Knowledge and Selection vs. Communication |
| Able to assess the effectiveness of communication strategies. .493 | Has an understanding of the content in the school curriculum. .722 |
| Aware of a variety of strategies for communicating. .394 | Able to select and organize content and materials. .623 |
| Able to select appropriate communication strategies. .386 | Aware of a variety of strategies for communicating. -.538 |
| Competent in executing communication strategies. .336 | Able to assess the effectiveness of the communication strategies. -.434 |
| Has a general understanding of the social sciences. -.868 | Able to select appropriate communication strategies. -.398 |
| Has a general understanding of the natural sciences and mathematics. -.848 | |
| Has a general understanding of the humanities. -.781 | |

TABLE L - Continued

| Factor 3 | Factor 4 |
|---|---|
| Professional Knowledge vs. Communication | Management & Organization vs. Educational Objectives |
| Understands children. .750 | Able to define appropriate purposes when building a curriculum. .696 |
| Understands the fundamental processes of learning. .647 | Understands the role of education. .409 |
| Competent in executing the communication strategies. -.598 | Able to manage and organize the learning environment. -.725 |
| Able to select appropriate communication strategies. -.327 | |

| Factor 5 | Factor 6 |
|---|---|
| Evaluation of Pupils vs. Educational Objectives | Research vs. Communication |
| Understands the role of education. .676 | Able to interpret research. .846 |
| Able to define appropriate purposes when building a curriculum. .436 | Able to select appropriate communication strategies. -.463 |
| Able to evaluate the progress of pupils and diagnose their needs. -.783 | |

TABLE LI

THE FACTORS FOR STUDENT TEACHERS AND THE ITEM LOADINGS AFTER ROTATION

| Factor 1 | Factor 2 |
|---|---|
| Communication vs. General Knowledge | Professional Knowledge vs. Communication |
| Able to select appropriate communication strategies. .320 | Understands the fundamental processes of learning. .702 |
| Able to assess the effectiveness of communication strategies. .306 | Understands children. .611 |
| Has a general understanding of the social sciences. -.808 | Able to define appropriate purposes when building a curriculum. .455 |
| Has a general understanding of the humanities. -.771 | Competent in executing communication strategies. -.673 |
| Has a general understanding of the natural sciences and mathematics. -.730 | Able to select appropriate communication strategies. -.556 |

TABLE LI - Continued

| Factor 3 | Factor 4 |
|---|---|
| Content Knowledge & Selection vs. Communication | Research and Evaluation vs. Communication |
| Has an understanding of the content in the school curriculum. .729 | Able to interpret research. .802 |
| Able to select and organize content and materials. .633 | Able to evaluate the progress of pupils. .486 |
| Able to assess the effectiveness of communication strategies. -.629 | Aware of a variety of strategies for communicating. -.469 |

| Factor 5 | Factor 6 |
|---|---|
| Role of Education vs. Evaluation of Pupils | Communication vs. Management and Organization |
| Understands the role of education. .881 | Aware of a variety of strategies for communicating. .441 |
| Able to evaluate the progress of pupils. -.508 | Able to manage and organize the learning environment. -.857 |

TABLE LII

THE FACTORS FOR COOPERATING TEACHERS AND THE ITEM LOADINGS AFTER ROTATION

| Factor 1 | Factor 2 |
|---|---|
| Professional Knowledge vs. Communication | Educational Objectives vs. General Education |
| Understands children. .638 | Understands the role of education. .748 |
| Understands the fundamental processes of learning .410 | Able to define appropriate purposes when building a curriculum. .488 |
| Able to select appropriate communication strategies. -.796 | Has a general understanding of the natural sciences and mathematics. -.823 |
| Able to assess the effectiveness of communication strategies. -.795 | Has a general understanding of the humanities. -.762 |
| Competent in executing the communication strategies. -.722 | Has a general understanding of the social sciences. -.308 |
| Aware of a variety of strategies for communicating. -.572 | |

TABLE LII - Continued

| Factor 3 | Factor 4 |
|---|---|
| Content Knowledge and Selection | Management and Organization - Research |
| Able to select and organize content and materials. .745<br>Has an understanding of the content of the school curriculum. .741 | Able to interpret research. .774<br>Able to manage and organize the learning environment. .721 |
| **Factor 5** | **Factor 6** |
| Knowledge of Learning Process vs. Knowledge of Humanities | Communication vs. Evaluation of Pupils |
| Understands the fundamental processes of learning. .768<br>Has a general understanding of the humanities. -.770 | Aware of a variety of strategies for communicating. .615<br>Able to evaluate the progress of pupils. -.767 |

for the general knowledge aspect of teacher education program. This factor did not emerge from the analysis of the cooperating teachers' data.

The first factor for cooperating teachers, which was labelled Professional Knowledge versus Communication, contrasts an importance for professional knowledge, and an importance for communication strategies. This factor with the same core of items loading on the component was evident as the second factor for student teachers, and the third factor for teacher educators.

The second factor for teacher educators, labelled Content Knowledge and Selection versus Communication, is regarded as a continuum running between importance to content knowledge and its selection, and an importance for communication strategies. This factor appeared also as the third factor for student teachers, with fewer core items loading in this component. A very similar factor was evident as the third component for cooperating teachers, and it was labelled Content Knowledge and Selection indicating an importance to the knowledge and selection of content. No items for the communication dimension were contained in this factor.

In summary, three factors were extracted and found to be common to more than one of the groups. These factors were: Communication versus General Knowledge, Professional Knowledge versus Communication, and Content Knowledge and Selection versus Communication.

Also, there was a number of unique factors evident as a result of the principal components analysis and the varimax rotation of the components. A factor was considered unique where certain items loaded heavily in one group and not in the same way in any other group.

Three unique factors for teacher educators were identified as follows: Educational Objectives versus Management and Organization may be regarded as a continuum running between an importance to the consideration of the purposes and objectives of education, and an importance to management and organization in teaching. Evaluation of Pupils versus Educational Objectives contrasts an importance to the evaluation and diagnosis of pupil progress, and an importance to a consideration of the purposes and objectives of education. Research versus Communication contrasts an importance to interpreting research and keeping up to date with professional knowledge, and an importance to communication.

For student teachers, three unique factors were also extracted as a result of the analysis. Research and Evaluation versus Communication is regarded as a continuum running between importance to the interpretation of research and the evaluation of pupil progress, and an importance to an awareness of a variety of communication strategies. Role of Education versus Evaluation of Pupils contrasts an importance to the role of education in society, and an importance to the evaluation and diagnosis of pupil needs. Communication versus Management and Organization contrasts an importance to communication, and an importance to management and organization in teaching.

Four unique factors became evident for cooperating teachers as a result of the analysis. Educational Objectives versus General Education was identified as the second factor for cooperating teachers, and it is regarded as a continuum running between an importance to a general education, and an importance to a consideration of the pur-

poses and objectives of education. Management and Organization - Research is regarded as an importance to management and organization in teaching and to the ability to interpret research and keep up to date with professional knowledge. Knowledge of Learning Process versus Knowledge of Humanities contrasts an importance to an understanding of the learning processes and an importance to an understanding of the humanities. Communication versus Evaluation of Pupils contrasts an importance to communication, and an importance to the evaluation and diagnosis of pupils.

The factors found common to two or more groups are represented in the conceptual model developed in this study, the PCTE. The major clusters of objectives evident in these factors are, in fact, the four dimensions of the PCTE - Communication, Content Knowledge and Selection (a major part of the planning dimension), Professional Knowledge, and General Knowledge. These results, therefore, contribute to the validation of the conceptual model.

## III. SUMMARY OF FINDINGS

The findings relating to a validation of the assessment procedures employed in this study are reported in this chapter. The specific information relevant to the validity of the research instrument, The Teacher Education Opinionnaire, and the validity of the conceptual model for teacher education, the Performance Criteria for Teacher Education, was described. The information was acquired by interviewing teacher educators who participated in this study, and by factor analyzing the responses of teacher educators,

student teachers, and cooperating teachers to the level one objectives. This analysis was carried out so that various factors could be statistically extracted.

The interviews of teacher educators provided worthwhile information relevant to the validity of the instrument and the conceptual model.

1. When sorting level one objectives, teacher educators focused upon a general program designed to prepare elementary teachers. They were not concerned with the constraints which may affect the program, but thought of ideal conditions.

2. When sorting level two objectives, teacher educators found little difficulty using as a frame of reference a basic course designed to acquaint the student teacher with instruction in the elementary school.

3. Teacher educators found the instrument and the Q-sort approach to be a viable means to assessing the priorities of elementary teacher education objectives.

4. Teacher educators did subscribe to a teacher education curriculum plan where the objectives are stated in precise performance terms, although not all areas of the teacher education curriculum were considered applicable to this behavioral objective approach.

After requesting teacher educators to assign a time allotment to large segments of the elementary teacher education program, three parts of the program were assigned the largest blocks of time: general education, professional education, and direct teaching experience.

When the teacher educators were asked to describe the professional education sequence, sizeable groups of teacher educators identified and emphasized the following parts: an understanding of the child, developing communication skills in teaching, developing curriculum planning skills, understanding the psychology of learning, and developing professional attitudes.

These findings have a direct relationship to the validity of the instrument and the conceptual model.

Although the principal components analysis of the responses to the level one objectives extracted somewhat unique factors for each of the three groups, teacher educators, student teachers, and cooperating teachers, there were also three factors evident in the assessment of the level one objectives which were common to two or more of the groups.

These factors were: Communication versus General Knowledge, or an importance to communication, contrasted with an importance to general knowledge; Professional Knowledge versus Communication, or an importance to professional knowledge, contrasted with an importance to communication in teaching; and Content Knowlege and Selection versus Communication, or an importance to the knowledge and selection of content for curriculum, contrasted with an importance to communication in teaching.

These findings also have a direct relationship to the validity of the conceptual model for teacher education, which was developed in this study.

# CHAPTER VII

## SUMMARY AND CONCLUSIONS

A brief summary of the procedures employed in this study and a description of the findings of the research appears in this chapter. An effort is made to explain further the nature of the findings and to describe their implications for curriculum evaluation and teacher education. Based upon the conclusions reported in this chapter, recommendations for future related work in the areas of curriculum evaluation and teacher education are proposed.

### I. THE CONCEPTUAL MODEL AND THE RESEARCH INSTRUMENT

In this study an attempt was made to build a conceptual model for teacher education which contained the sufficient components of the elementary teacher education curriculum. This model evolved from the research of the literature on teaching and teacher education as well as the author's conception of the elementary teacher education curriculum. Although an extensive literature review which is reported in this study was the first stage in the validation of the model, other procedures for its validation were employed. A panel of judges was utilized to test the validity of the model in an early stage of this study, and subsequent efforts to validate the conceptual model were designed within the stages of the study. The resulting conceptual model was called the Performance Criteria for Teacher Education (PCTE).

This conceptual model was made up of four dimensions: Communication Competence, Planning Competence, Professional Knowledge and Attitudes, and General Knowledge and Attitudes. Within each of the four dimensions, four components were detailed as the sufficient elements of the dimension. A full description of the dimensions of the model and each of the sixteen components was presented and validated from the literature.

In the early stages of validation, prior to the collection of information in the pilot or main study, this conceptual model was considered to be a model which displayed those components most regarded as sufficient for the education of the elementary teacher candidate. A further check of the validity of the model progressed along with the main study.

A research instrument designed to record the opinions of various persons concerning the objectives of an elementary teacher education program was derived from the dimensions and components of the PCTE. The version of this instrument employed in this study was divided into two forms, each form containing sixteen statements of objectives. Form I of The Teacher Education Opinionnaire (TEO) was made up of sixteen level one statements, while Form II of this instrument contained sixteen level two objectives.

The construction of this instrument began with the design of objectives representative of the components of the PCTE. It was also feasible to state objectives in different levels of specificity, and it became necessary for the construction of the instrument to identify objectives at two distinct levels of specificity, level one

and level two. The selection of the suitable objectives for the instrument was made by a panel of judges. This panel was requested to select objectives by first judging whether a given statement followed directly from a component of the PCTE. The panel was then asked to judge whether a given pair of objectives representing a component of the model differed with regard to specificity, level one and level two. Once a high agreement was reached on these questions, the sixteen level one and sixteen level two objectives were incorporated into the instrument.

The Q-sort technique was decided to be the most relevant procedure to employ in the instrument. In the case of level one objectives the respondent was asked to decide which objectives of the elementary teacher education program were most important, and then to sort them accordingly. The level two objectives were sorted according to their importance as objectives of the basic course designed to acquaint elementary student teachers with instruction in the elementary school. This instrument was pilot tested to determine its feasibility as a research instrument for this study.

The findings in the pilot study supported the use of this instrument in the main study, with only minor revisions. However, through the main study other information was collected from some teacher educators who responded to validate the instrument's use in the assessment of the objectives of an elementary teacher education program. By way of a test re-test procedure an estimate of the reliability of the instrument proved to be exceedingly high.

## II. A SUMMARY OF THE PROCEDURES

The Teacher Education Opinionnaire was employed in the main study to assess the perceptions of level one and level two objectives. Samples of teacher educators, 182 subjects, were administered both forms of the TEO. These teacher educators were members of faculties of education at the University of Alberta, McGill University, and Simon Fraser University. A representative sample of the student teachers, 154 subjects, in the four year teacher education program at the University of Alberta were administered Form I of the TEO. A random sample of 50 cooperating teachers at the University of Alberta were also administered Form I of the TEO.

The data gathered were processed by a number of statistical procedures including the computation of the medians and semi-interquartile ranges for each variable, the calculation of the rank correlations between the sets of sixteen objectives, the use of the Mann Whitney U test for significance of difference between distributions, and the employment of the principal components analysis techniques to factor analyze the responses to the level one objectives.

## III. FINDINGS, CONCLUSIONS, AND IMPLICATIONS

Hypothesis 1.0

There are no significant differences in the perceptions of the level one objectives of the elementary teacher education program at the University of Alberta, as measured by The Teacher Education Opinionnaire, Form I, for teacher educators, student teachers, and cooperating teachers.

This hypothesis is rejected for the following groups: teacher educators and student teachers, and student teachers and cooperating teachers. This hypothesis is accepted for teacher educators and cooperating teachers.

It would therefore follow that the teacher educators and the cooperating teachers should become aware of the differences which appear to exist between their own perceptions and those of the student teachers. Where differences exist in the perceptions of the broad objectives of the elementary teacher education program, steps should be taken so that the student teachers' perceptions of the program objectives may be better understood. This may lead to a modification of the intended outcomes to move closer to the perceptions of the student teachers, or it may mean a more concerted effort to explain the program rationale as perceived by the teacher educators and cooperating teachers.

In particular, teacher educators and cooperating teachers should re-examine their priorities in the planning dimension. It would appear that the student teachers, at this one point in time, are placing a high importance upon the individual pupil, and the ability of the teacher to evaluate and diagnose individual needs. In like manner, they are placing a lower importance on the selection and organization of content, and the management and organization of the learning environment. The student teachers appear to be examining the priorities of the teacher education curriculum in light of the current trends by placing a high concern for the individual and the diagnosis of his needs, and a somewhat reduced importance to the

teaching of content or structured organization of the learning environment.

It is also important to note that the lack of significant difference between the perceptions of the level one objectives by teacher educators and cooperating teachers would indicate that there is a strong possibility that these groups may work together toward the common purposes of the elementary teacher education curriculum. It would appear that this cooperative effort in planning is imperative if the student teacher is to benefit from his contacts with the teacher educator and the cooperating teacher in the schools. This lack of difference in perceptions of the level one objectives may also suggest that under ideal conditions the teacher educators are looking in the same directions for program as cooperating teachers. Where the teacher education program may fall short of the expectations of cooperating teachers, this may largely be a result of certain constraints of facilities and time which impinge upon the teacher education program, and not as a result of the fundamental differences in intent between teacher educators and cooperating teachers.

The high correlations between the overall rankings of the level one objectives among the three groups, teacher educators, student teachers, and cooperating teachers, suggest that all three groups may be very close in their perceptions of the intended outcomes of an elementary teacher education program. Although they may differ in their perceptions of some individual objectives, a most important finding of this study is that there exists such high agreement over all objectives, and therefore these groups should be able to work very

closely in the planning of a teacher education curriculum.

The child. The priority assigned an understanding of children indicates that a high emphasis in the elementary teacher education curriculum should be placed upon this program component. Although courses in child development have traditionally been offered in teacher education programs, the evidence available suggests that there exists discrepancies between teachers' knowledge of good teaching practices and their actual teaching behaviors (Combs, 1963, and Brown, 1967). If a knowledge of child development has not made a difference in teaching practices, it may be due to the absence of any framework in the teacher education curriculum for connecting the theory with the teaching task as perceived by the practitioner. Sarason (1962) recommended a series of closely supervised observational experiences which has as its objectives the exemplification of principles and concepts considered in the lecture situation. Systematic observations of children's behavior may be a major vehicle through which learning may take place within this component. However, whatever the processes for learning chosen within teacher education programs, an evaluation should be conducted to determine the degree of attainment of this objective.

Teacher as manager. The three groups regarded an important objective of the elementary teacher education program to be the preparation of the teacher candidate in those teacher behaviors intended to organize the learning activities of children to facilitate the personal and intellectual growth of pupils. This high importance assigned to this level one objective would suggest that the elementary teacher education curriculum should be strong in its

emphasis upon the preparation of the student teacher for the management and organization of the learning environment. The student teacher should be trained not only to manage and organize the teaching-learning environment with which he is directly involved, but he should also be prepared to work as a member of an organizational team which is concerned with the larger environment, the school and the communities around the school. The teacher must work, and assume a leadership role in the planning and management of education within the environments, and as a member of a larger team, it is necessary that he be prepared to take an active role in the planning and organization carried on by this team.

Processes of learning. The objective concerned with an understanding of the fundamental processes of learning was also given a high ranking by teacher educators, student teachers, and cooperating teachers at the University of Alberta. Although this objective is closely related to an understanding of children, its focus remains upon the ways in which children learn. This high importance attached to this objective would presuppose that an understanding of learning is a direct influence upon the quality of teaching. There is reason to suspect, however, that a knowledge of the theories of learning may not directly influence teacher behaviors (Smith, 1971). Interviews with experienced teachers indicate that the concepts they use to interpret pupil behavior are simple and include few elements of the sophisticated knowledge found in studies of educational psychology (Jackson, 1968). Although some educators maintain that the rate and density

of events occurring in the classroom make it most difficult to employ sophisticated techniques, there is reason to believe that teachers do not make use of many of these theoretical ideas when they have time to reflect upon their work in classrooms. A strong criticism of some educators is that the more sophisticated knowledge in learning theories is not taught in a meaningful context, and it is therefore most difficult to apply in the teaching situation.

The results of this study indicated that the student teachers' understanding of the fundamental processes of learning is most important. Although there are courses in the theories of learning which are offered in the elementary teacher education program, such a high importance assigned this objective should lead to a re-examination of these learning experiences for the teacher candidate. Efforts should be made to evaluate the present program to assess the effectiveness of this component in the elementary teacher education program.

The student teacher's ability to evaluate the progress of pupils and diagnose their needs was also considered most important by teacher educators, student teachers, and cooperating teachers at the University of Alberta. These groups regarded the teacher as one who is capable of evaluating and diagnosing the needs of his pupils. If this is an important objective, the elementary teacher education curriculum should be evaluated to determine the success of the program in educating the prospective teacher towards his role in diagnosis and assessment.

Teacher as Planner. When the sum of the ranks of the level one objectives from each of the four dimensions of the model, the Performance Criteria for Teacher Education, were compared, teacher educators, student teachers, and cooperating teachers assigned the highest importance to the planning dimension. As a result of such a high importance attached to this dimension of an elementary teacher education program, it would appear necessary that this dimension of the teacher education program be thoroughly assessed to determine its effectiveness in meeting the needs of the teacher candidates. Many of the courses of the elementary teacher education program are described as experiences in curriculum and instruction. It would appear that essential parts of these curricular experiences should be the preparation of the teacher candidate for curriculum planning in the elementary school.

A general education. When teacher educators, student teachers, and cooperating teachers examined the level one objectives of the elementary teacher education program the general knowledge dimension was considered to be of least importance. It would appear that in the preparation of the elementary teacher candidate other objectives take precedence over those level one objectives directed toward their acquisition of a general knowledge of the environment. Although, this may be a function of the forced choice technique used. The immediate concerns of these groups involve the preparation of the student teacher for the teaching-learning process within the elementary school.

However from the interviews of teacher educators, it was apparent that the general knowledge dimension remains important to the total program, but, when asked to assess specific priorities by way of the opinionnaire, teacher educators are forced to make trade-offs and rate the objectives of the general knowledge dimension relatively very low in importance. This result may have some implications for the structure of the teacher education curriculum. Because teacher educators and cooperating teachers are most concerned about the preparation of the student teacher for work in the elementary school, they may wish to expect the student teachers enter the teacher education program with certain prerequisites that are the beginnings of a general education. Although parts of the teacher education program may assist the student in expanding that general education, its prime concern would be directed toward the communication competencies, planning competencies, and professional knowledge. The perceptions of student teachers appear to support this organizational structure, for students in the teacher education program also regarded the dimensions other than general education as being more important. In light of these findings the organizational structure of the elementary teacher education program should be assessed. It may be better program planning to consider the first years of the teacher education curriculum as that stage for development of a general education, an important prerequisite for the education of the elementary teacher candidate.

Hypothesis 2.0

There are no significant differences in the perceptions of the level one objectives of an elementary teacher education program, as measured by The Teacher Education Opinionnaire, Form I, for teacher educators, student teachers, and cooperating teachers across sex, age, years of teacher education, years of school teaching experience, years of experience in teacher education, areas of concern in the teacher education program, amount of involvement with elementary student teachers (where applicable).

For teacher educators, this hypothesis was accepted for the independent variables: sex, age, years of teaching in schools, and degree of involvement with student teachers in the elementary route. This hypothesis is rejected for the variable, years of experience in teacher education. No conclusive results can be reported for the variable, areas of concern in the teacher education program.

The teacher educators at the University of Alberta demonstrated that their perceptions of the level one objectives of the elementary teacher education program did not differ significantly when the subgroups of teacher educators were compared. The one exception to this was according to years of experience in teacher education. In this case those teacher educators with less than three years teacher education experience differed significantly with teacher educators having more experience in teacher education.

It appears from these results, and the magnitudes of the reported correlations, that the subgroups of teacher educators at the University of Alberta perceived the level one objectives of program very similarly. In fact, there are only differences when the teacher educators are grouped according to years of experience in teacher education. It would therefore appear quite feasible, from

this viewpoint, for various groups of teacher educators to work together in the planning of the elementary teacher education program. Although it is difficult to achieve a within group consensus on the level one objectives of program, this evidence demonstrated that it is possible to achieve a great deal more agreement among the members of the teacher education group than might have been anticipated.

For student teachers, Hypothesis 2.0 was accepted for the independent variables: age (under 21 years of age and 21 to 30 years of age), year in the teacher education program, years of student teaching and teaching experience. This hypothesis was rejected for the variables: sex, age (under 21 years of age and over 30 years of age, 21 to 30 years of age and over 30 years of age).

It appears from the results of student teachers' assessment of the level one objectives that there are important within group differences. There are differences in the perceptions of the level one objectives when student teachers are grouped according to sex and age. If the differences which appear to exist are made known to student teachers, this would provide a greater understanding of the differences which may exist within the group of student teachers. With such an understanding student teachers may be able to work more harmoniously toward the planning of curriculum in elementary teacher education.

For cooperating teachers, Hypothesis 2.0 was accepted for all independent variables employed for classification: sex, age, years of teacher education, and years of school teaching experience (where conclusive results are reported).

These results lead to a conclusion that cooperating teachers would have little difficulty in working together towards the level one objectives of program in view of their perceptions of the broad objectives of program.

Hypothesis 3.0

There are no significant differences in the perceptions of the level one objectives of an elementary teacher education program, as measured by The Teacher Education Opinionnaire, Form I, for teacher educators at four universities in Canada.

For teacher educators at McGill University and the University of Alberta, McGill University and Simon Fraser University, and the University of Alberta and Simon Fraser University this hypothesis was rejected. No conclusive results could be reported involving the University of Calgary as only one department of the Faculty of Education of this university responded.

What appears important from these results is the fact that there are differences between institutions in their assessments of the level one objectives of an elementary teacher education program. There may be distinct differences in the way that teacher educators view the teacher education program from one institution to the other. However, the correlations of the rankings of the level one objectives between institutions is high, and it may therefore be concluded that there are high similarities in the perceptions of the teacher educators. It would follow that although there are distinct differences from institution to institution, teacher educators at different institutions in Canada view the objectives of program in a similar

way. In light of these similarities it may be possible for teacher educators in different parts of Canada to work together toward common aims of program.

Hypothesis 4.0

There are no relationships between the perceptions of the level one objectives of an elementary teacher education program and the perceptions of the level two objectives, as measured by The Teacher Education Opinionnaire, for teacher educators in the areas of art, mathematics, music, physical education, reading and language arts, science, second language, social studies, and teacher educators who preferred not to identify with any particular area.

This hypothesis was rejected for teacher educators in the areas of mathematics, physical education, reading and language arts, social studies, and for teacher educators who preferred not to identify with an area of teaching specialization. Hypothesis 4.0 is accepted for teacher educators in the science area. No conclusions were reached for the areas of art, music, and second language.

The results of this study would support the theory that there is some relationship between the priorities assigned more specific instructional unit objectives (level two) and those assigned the broad objectives of program (level one). It therefore appears that once the priorities of the intended outcomes for the total program have been assessed, it is reasonable to assume that the specific objectives of a course, or an instructional unit, within the program will be assigned priorities somewhat consistent with the broad objectives of the total program. Although the relationships between the priorities assigned the level one and the level two objectives may not be very high, it may be reasonable to assume that after an assessment of level two objectives of a number of

instructional units within a total curriculum has been made, the aggregate of these priorities will have a high relationship to the broad objectives of program. The priorities assigned the instructional units within a total curriculum reflect those priorities assigned the broad objectives of the program.

However, because there was not a high relationship between the assessments of level one and level two objectives it is important to describe the components where consistent differences occurred in the assessments of the level one and level two objectives. When teacher educators assessed the level two objectives of the basic course they tended to place a higher importance upon the components of selection and organization of content and materials, the formulation of objectives, the study of a teaching specialization, and the evaluation of communication strategies than they did when assessing the broad objectives of the elementary teacher education program. It should also be noted that whether the teacher educators were assessing the objectives of the program or the basic course within the program, they regarded the planning dimension as the most important.

A Validation of the Procedures

A total of 89 teacher educators in four institutions in Canada were interviewed, and the results of these interviews assisted the validation of The Teacher Education Opinionnaire. It was evident that the TEO provided a valid and reliable instrument by which the level one objectives of an elementary teacher education program and the level two objectives of a basic course within the program could

be assessed. When sorting the level one objectives, the respondents were able to focus upon the elementary teacher education program in a somewhat ideal situation with very few constraints. While assessing the level two objectives, teacher educators were able to use as a frame of reference a basic course designed to acquaint the student teacher with instruction in the elementary school. The employment of the Q-sort technique was found to be an appropriate force choice method in making decisions about two levels of objectives.

The objectives generated and validated for inclusion in both forms of The Teacher Education Opinionnaire were derived from the conceptual model, the Performance Criteria for Teacher Education, which was constructed as part of this study. The results of the interviews and the factors analysis is the level one responses supplied information which tended to support this conceptual model. It is also reasonable to assume that the methodology used in assessing the elementary teacher education objectives represented a viable approach.

Recommendations for Further Study.

The procedures employed in this study may be applied to other teacher education programs for the preparation of the elementary teacher candidate. By focusing upon other institutions and securing the perceptions of teacher educators, student teachers, and cooperating teachers it would be possible to compare the perceptions of student teachers and cooperating teachers with these groups at the University of Alberta.

An identical study may take place at a different point in the time of year, say the beginning of the academic year, and com-

parisons might be made of the objectives at two different points in time for the same groups.

The results of this study may be utilized as a basis of the perceived needs for elementary teacher education programs. Studies should follow which describe and analyze the procedures employed for the follow-through in development and modification of elementary teacher education programs.

The conceptual model, the Performance Criteria for Teacher Education, may be examined within the context of the secondary teacher education program. The research instrument, The Teacher Education Opinionnaire, may be modified, if necessary, based on any changes to the PCTE and employed in the assessment of the objectives of a secondary teacher education program.

The general methodology employed in this study may prove useful for examining professional education programs in fields other than teaching, such as medical or nursing education. This curriculum evaluation methodology may have an application to most curriculum, and it may provide a most worthwhile strategy for the assessment of the curriculum objectives.

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# APPENDIX A

March 12, 1971

Dear

I am a graduate student in the Department of Elementary Education at the University of Alberta, and I am presently working on my doctoral dissertation.

Dr. Ellis has given me permission to write you to request your assistance with my dissertation research project. The study is concerned with the exploration of objectives of elementary teacher education programs. In addition to approaching academic staff in the Professional Development Centre, I am including in my study Faculty of Education staff at Simon Fraser University, McGill University, the University of Calgary, and academic staff, student teachers, and cooperating teachers at the University of Alberta.

I would appreciate it if you could take the time to complete the enclosed form during the next two days. When completed, would you please place it in the enclosed envelope, seal the envelope, and leave it with Dr. Ellis' secretary. She has agreed to assist me in this way.

Thank you.

Yours very truly,

Norman Watts
Graduate Student
University of Alberta

Encl.

Invitation to Participate

(Dissertation: N. Watts - University of Alberta)

Instructions: Please complete this form, seal it in envelope, and return it to Dr. Stratton's Secretary.

1. I perceive as part of my role or responsibility as a member of staff the education of the elementary teacher candidate.

Yes _____ No _____

If the answer to #1 is "Yes," please consider participating in the study by reading and filling in the remainder of the items.

If the answer to #1 is "No," please fill in only item #5 below, and return. You are not considered as a member of the research population.

2. The instruments of the study are two 16-item Q-sorts which can be completed in one hour, or less, in your own time. The task in both instruments requires you to sort sixteen objectives of an elementary teacher education program. Although both instruments can be completed in your time, I would ask you to complete them while I am at Simon Fraser (March 29th - April 2nd).

Would you be prepared to assist me with my research by completing the two instruments?

Yes _____ No _____

If the dates above are not convenient and you can assist me, please state a more convenient arrangement, and I will attempt to alter the plan for you.

_____

_____

3. If you will have some time during the week of March 29th, I would like to meet you briefly, and ask some questions about teacher education. Should this be possible, kindly indicate times and locations where I might contact you. (Include phone number if you wish)

_____

_____

4. Area of Concern in Teacher Education Program
(Please circle the appropriate number)

| | |
|---|---|
| Administration | (1) |
| Curriculum and Instruction | (2) |
| Foundations | (3) |
| Psychology | (4) |
| Other _____ | (5) |

5. Name _____

Office _____ Phone _____

If you are participating in the study, all instruments will be delivered to you upon my arrival - March 29.

PLEASE SEAL IN ENVELOPE AND RETURN TO DR STRATTON'S SECRETARY

April 16, 1971

Three weeks ago I was at Simon Fraser University and distributed the Teacher Education Opinionnaire, which is the main instrument of my dissertation research project. You had agreed to assist me with this research on the objectives of an elementary teacher education program. As of this date I have not received your completed opinionnaire. (If you have already sent it please disregard this letter.)

Approximately 60% of the teacher educators who are participating have completed and returned the opinionnaire. The nature of the study requires that I receive the highest response possible. If you object to the completion of this opinionnaire, then I fully respect your feelings. However, I feel that in most cases a crowded schedule may have interfered.

I should very much appreciate receiving the opinionnaire at your earliest convenience. If you require another booklet in order to complete the instrument, I shall be very happy to oblige.

Yours sincerely,

Norman Watts
Graduate Student
University of Alberta

NW:ps

April 12, 1971

Dear

I am a graduate student in the Department of Elementary Education at the University of Alberta, and I am presently working on my doctoral dissertation.

I understand that you have been a co-operating teacher in the University of Alberta elementary teacher education program, and I would like to ask your assistance with my dissertation project. The study is concerned with the exploration of objectives of an elementary teacher ducation program. I am requesting a sample of the co-operating teachers in the City of Edmonton to participate in the study by making some judgements about objectives. In addition to approaching co-operating teachers in this City, I am including in my study academic staff at Simon Fraser University, McGill University, University of Calgary, and the University of Alberta. Student teachers at the University of Alberta are also included in this research.

I would appreciate it if you could take time to complete the enclosed form during the next two days. When completed, would you please place it in the enclosed envelope, seal the envelope, and return it to me in this self-addressed stamped envelope.

Thank you.

Yours sincerely,

Norman Watts
Graduate Student
University of Alberta

NW:ps

Encl.

Invitation to Participate

(Dissertation: N. Watts - University of Alberta)

Instructions: Please complete this form, seal it in the self-addressed envelope, and return it.

1. I was involved as a co-operating teacher during the academic year 1970-71. Yes ( ) No ( )

   If the answer to #1 is "Yes", please consider participating in the study by reading and filling in the remainder of the items.

   If the answer to #1 is "No", please fill in only item #3 below, and return. You are not considered as a member of the research population.

2. The instrument or opinionnaire of the study is a 16-item Q-sort which can be completed in one-half hour, or less, in your own time. The task in the instrument requires you to sort sixteen objective of an elementary teacher education program. Although the instrument can be completed in your time, I would ask you to complete it before May 15th.

   Would you be prepared to assist me with my research by completing the instrument? Yes ( ) No ( )

3. Name _____

   Address _____ Phone _____

   If you are participating in the study the instrument will be mailed to you by April 30th.

   PLEASE SEAL IN THE ENVELOPE AND RETURN AS SOON AS POSSIBLE.

# INTERVIEW GUIDE

Number _____ Position _____

Institution _____

Field _____

Date _____ Date _____

## The Purposes of the Interview Data Collection

1. To assist in the validation of the Performance Criteria for Teacher Education as a performance model for elementary teacher education curriculum.

2. To gain information about the Teacher Education Opinionnaire to assist the further improvement of this instrument.

3. To determine what Canadian teacher educators regard as essential characteristics of a good elementary teacher education program.

I. Objectives of the Program

1. When you sorted the broad objectives of the teacher education program did you have in mind any particular group of student teachers? Is there a difference in the preparation of teachers for early childhood, division I, and division II?

2. Did the thoughts of any constraints (facilities, time, staff, and resources) influence you in your sort of the program objectives?

3. Did you think of any course in particular when you sorted the more specific objectives? If yes, what particulars of the course can you identify?

4. Have you any general comments about the instruments?

5. Do you have any copies of stated objectives of the total program or courses which I may take with me to study?

II. Implementation of Objectives

1. Would you subscribe to a curriculum plan where the objectives of the teacher education program are stated in precise performance terms for the students and instructors? Under what modifications would you accept this proposal?

2. Would you care to allot a fraction of the total time to each? (3-4 year degree program.)

   General Education Requirements

   Professional Education Sequence

   Direct Teaching Experience

3. What should the Professional Education sequence really contain? Would you include the preparation of teachers for curriculum planning?

4. If you indicated that some direct involvement in teaching is an important aspect of the program, what form(s) of experience should it take? (Practice teaching as we now know, or use of simulation experiences.)

5. Should the elementary teacher candidate be prepared for an area of teaching specialization?

III. Selection and Concern for the Student Teacher

1. What means appear appropriate and effective to you for the selection of the teacher candidates?

2. What concern should be shown for the teacher candidate in the form of student personnel services?

IV. Climate for Teacher Preparation

1. What should the relationship be between the teacher preparation program and the other academic divisions or departments in the institution?

2. What should be the relationship between the teacher preparation program and the public schools?

3. What changes in the teacher education program do you see most necessary?

4. What innovations have been made in teacher education programs in the last five years which you see contributing most to teacher education?

5. What provisions should be made for curricular changes in the teacher education program?

6. What elements of the curriculum do you see as most effective in integrating theory to practice?

7. Do you have any general comments?

# APPENDIX B

# INTRODUCTION FOR JUDGES

The Performance Criteria for Teacher Education is a performance model for teacher education composed of sixteen components which have been found by the author to be those elements most commonly regarded as sufficient for the education of the teacher candidate. The model has not been generated with any particular direction for teacher education in mind, but the attempt is to cover the essential dimensions and elements of a teacher education program as it exists today, and as the program is perceived by experts in the future.

The analysis of teaching, and the indepth study of present and proposed teacher education programs has led to a synthesis of the essential components which comprise a teacher education program. These appear in the F.C.T.E. Following such a description of the intended performances and experiences of the teacher candidate, it may be necessary for the individuals concerned about a particular teacher education curriculum to indentify for their purposes more precise performance standards. The F.C.T.E. is designed only to describe the performance and criteria in broad generic terms. The model of performance criteria may be regarded as a conceptual framework, for it may serve to organize thinking about the performance competencies and experiences which are essential for the preparation of the teacher candidate.

## ORGANIZATION

The P.C.T.E. has been organized into four sections, called dimensions of the teacher education curriculum. Two of these dimensions

relate to content knowledge, and subsequent development of attitudes. Two dimensions relate to the behavioral and human relations skills which are included in the curriculum. The order in which the dimensions have been presented in the P.C.T.E. is not significant, but the two dimensions concerned with content knowledge have been placed together at the bottom of the outline. The intention is that all dimensions are interdependent, for the teacher candiate's competence within the planning dimension may be quite dependent upon some components in the professional knowledge dimension. The purpose of the Performance Criteria for Teacher Education is to identify the dimensions and components of a teacher education program such that one may focus upon these essential performances for discussion and study of the total or the parts of the program.

# PERFORMANCE CRITERIA FOR TEACHER EDUCATION

## Notes on the dimensions

### I. COMMUNICATION COMPETENCE

This dimension refers primarily to the teacher-pupil instructional relationship and the awareness, selection, practice, and evaluation of the instructional strategies. Instructional strategies in this context refer to the communication behavior of the teacher in the instructional situation, and such behavior may range from no overt teacher behavior, to a complex of verbal and non-verbal teacher behaviors interlaced with pupil behavior. Included in this dimension are the communication techniques which the teacher may employ to set the stage for learning, such as teacher-pupil interpersonal relationships which are conducive to learning; motivation of pupils; development of a social order which is conducive to learning. The communicative dimension does include the use of various media equipment employed in the instructional situation. Also included are other communication techniques which are important for the practising teacher: teacher-parent interviews, teacher-pupil guidance involvement, and teacher-administrator or teacher-teacher relationships.

### II. PLANNING COMPETENCE

This dimension refers primarily to the curriculum development process which includes the identification of the intended outcomes of the curriculum, selection and organization of subject-matter and materials, the use of evaluation skills and techniques for planning

individual and group programs, and the leadership and organization skills essential to accomplish the planned goals. Where the communication dimension refers to the interactive phase of teaching, the planning dimension focuses upon the pre-active phase in the teaching process. The components of the planning dimension are relevant to the teacher's involvement in a specific subject curriculum at the classroom level, or they are also applicable to the teacher's anticipated involvement in curriculum at the system level.

III. GENERAL KNOWLEDGE OF ENVIRONMENT

This dimension refers to a continuing general education which is well balanced in the domain of the humanities, social sciences, and the natural sciences and mathematics. This dimension also includes the development of knowledge in the area(s) of teaching specialization relevant to the school curriculum.

IV. PROFESSIONAL KNOWLEDGE

This dimension refers to the professional body of knowledge which is often regarded as educational theory. The components of this dimension include: an understanding of the role and reponsibility of the professional educator in the profession and in society; and understanding of the processes of human learning applicable for the teacher; an understanding of the physical, social, intellectual, and emotional development of children; a knowledge of the relevant research resources, and an understanding of the most basic means of analysing and interpreting research work in the field. The acquisition of professional knowledge is basic to professional decision making.

# PERFORMANCE CRITERIA FOR TEACHER EDUCATION

## I. Communication Competence

A. Identification of Communication Strategies
(An awareness of different strategies, and the principles underlying them.)

B. Selection of Communication Strategies
(Choice of strategies to meet objectives and the needs of individuals.)

C. Practice of Communication Strategies
(Execution of strategies.)

D. Evaluation of Communication Strategies
(Assessment of the use of strategies.)

## II. Planning Competence

E. Formulating Objectives
(Constructing objectives for curriculum planning.)

F. Selection and Organization of Content and Materials
(Choice of content, materials, and resources in relation to objectives.)

G. Evaluation of Pupils and Program
(Evaluating pupils and program in relation to objectives.)

H. Leadership and Organization
(Interpersonal and intrapersonal organization skills.)

III. General Knowledge of Environment

I. Study of Teaching Specialization
(Understanding content relating directly to school curriculum.)

J. Study of Humanities
(Artistic, moral and cultural growth.)

K. Study of Social Sciences
(Understanding of local and global society.)

L. Study of Natural Sciences and Mathematics
(Understanding of the natural environment.)

IV. Professional Knowledge

M. Professional Role and Responsibility
(The role and responsibility of the educator in the profession and in society.)

N. Human Learning
(Understanding learning.)

O. Child Development
(Understanding the physical, social, intellectual, and emotional development of children.)

P. Research
(Remaining up-to-date with the literature in education.)

OBJECTIVES SET # 1

(Initial Set of Level One Objectives)

The Student Teacher:

A. will be aware of a variety of strategies for communicating within and outside the classroom.

B. will be able to select appropriate communication strategies to be used within and outside the classroom.

C. will be competent in executing the communication strategies used within and outside the classroom.

D. will be able to assess the effectiveness of the communication strategies used within and outside the classroom.

E. will be able to define the appropriate purposes when building a curriculum.

F. will be able to select and organize content and materials appropriate for the situation.

G. will be able to evaluate the progress of pupils and diagnose their needs.

H. will be able to manage and organize the learning environment.

I. will understand the role of education and the educator, in society.

J. will understand the fundamental processes of learning.

K. will understand children, and all aspects of child development.

L. will be able to interpret research and keep up-to-date with professional knowledge.

M. will have a general understanding of the humanities.

N. will have a general understanding of social sciences.

O. will have a general understanding of the natural sciences and mathematics.

P. will have an understanding of the specific content of the elementary school curriculum.

OBJECTIVES SET # 2

(Initial Set of Level Two Objectives)

The Student Teacher:

A. will be able to explain various teaching methods for the subject area which may be employed in the elementary classroom.

B. will be able to make a choice of an instructional method which is appropriate to the situation.

C. will be able to perform the teaching method chosen for the lesson.

D. will be able to interpret accurately the effectiveness of a teaching method used by observing the children in the situation.

E. will be able to formulate and state suitable objectives for a unit in the subject area.

F. will be able to select content and organize a sequence to involve a group of children in the learning of a concept or skill.

G. will be able to select the appropriate tests and diagnostic instruments for evaluating pupils in the subject area.

H. will be able to organize groups of children for meaningful learning in the subject area.

I. will be able to explain his view of the task of the elementary school in society.

J. will be able to explain the importance of reinforcement in the learning processes relevant to the subject area.

K. will be able to describe the needs of elementary children as they relate to the subject area.

L. will be able to analyse a research study and interpret the results.

M. will be able to explain the influences of different ethnic and religious views on the behavior of children.

N. will be able to describe the effects of segregation and social stratification on children for minority and low income groups.

O. will be able to describe the effects of scientific technology on the current behavior of children.

P. will perform competently in the subject content of the elementary school curriculum.

PAIRS OF OBJECTIVES PRESENTED TO SECOND PANEL OF JUDGES

The Student Teacher:

1. X. will be able to make a selection of the inquiry method when appropriate to the situation.

   Y. will be able to select appropriate communication strategies to be used within and outside the classroom.

2. X. will be able to demonstrate the inquiry teaching method relevant to the subject content.

   Y. will be able to execute the communication strategies used within and outside the classroom.

3. X. will be able to manage and organize the learning environment.

   Y. will be able to organize motivation in the learning processes relevant to the subject area.

4. X. will be able to explain motivation in the learning processes relevant to the subject area.

   Y. will understand the fundamental processes of learning.

5. X. will have an understanding of the content in the elementary school curriculum.

   Y. will be able to perform the basic skills included in a subject content of the elementary school curriculum.

PAIR OF OBJECTIVES PRESENTED TO THIRD PANEL OF JUDGES

1. X. will have a general understanding of the natural sciences and mathematics.

   Y. will be able to explain the scientific principles applicable to the subject area.

APPENDIX C

# THE TEACHER EDUCATION OPINIONNAIRE

AN INSTRUMENT FOR OBTAINING

OPINIONS REGARDING

## Objectives of an Elementary Teacher Education Program

Department of Elementary Education
The University of Alberta



You are participating in an assessment of objectives of an Elementary Teacher Education Program.

The TEACHER EDUCATION OPINIONNAIRE is not a test of your knowledge or skill, but it is simply a device to record your opinions of the importance of some stated objectives of an Elementary Teacher Education Program.

In Section I, you are asked to provide certain information about yourself—you will note that your name is not required. Information and opinions will not be identified with individuals.

Please turn to Section I and answer all the parts to the best of your ability, being assured that your anonymity will be carefully protected.

SECTION I

Respondent's Number

Please circle the appropriate number

1. Occupation
   - Student Teacher* (1)
   - Faculty Member (Teacher Educator) (2)
   - School Teacher (3)
   - Other ..... (4)

2. Sex
   - Male (1)
   - Female (2)

3. Age
   - 20 years or under (1)
   - 21 - 25 years (2)
   - 26 - 30 years (3)
   - 31 - 35 years (4)
   - 36 - 40 years (5)
   - 41 - 50 years (6)
   - 51 - 60 years (7)
   - 61 and older (8)

4. Years of Post-secondary Education (include present year)

| Teacher Education | | | | Other Education | | | |
|---|---|---|---|---|---|---|---|
| None | (1) | 4 years | (5) | None | (1) | 4 years | (5) |
| 1 year | (2) | 5 years | (6) | 1 year | (2) | 5 years | (6) |
| 2 years | (3) | 6 years or more | (7) | 2 years | (3) | 6 years or more | (7) |
| 3 years | (4) | | | 3 years | (4) | | |

5. Years of Teaching or Student Teaching in Schools (K-12)
   - None (1)
   - Student Teaching 1 year (2)
   - 2 years (3)
   - 3 years (4)
   - 4 years (5)
   - 1 - 2 years experience (6)
   - 3 - 5 years experience (7)
   - 6 - 10 years (8)
   - 11 - 15 years (9)
   - 16 or more years (10)

* A student teacher is a student who is preparing for teaching. Teacher candidate and teacher trainee are other terms used to designate this individual.



6. Area of Teaching Specialization (Please circle one number)
   - Art (1)
   - Mathematics (2)
   - Music (3)
   - Physical Education (4)
   - Reading & Language Arts (5)
   - Science (6)
   - Second Language (7)
   - Social Studies (8)
   - Other ..... (9)
   - Prefer not to identify with teaching specialization (10)

The Remaining Items in Section I are to be completed only by members of Teacher Education Staff.

7. Principal Area of Concern in Teacher Education Program
   - Administration (1)
   - Curriculum and Instruction (2)
   - Foundations (3)
   - Psychology (4)
   - Other ..... (5)

8. Years of Experience on Teacher Education Staff
   - 1 - 2 years (1)
   - 3 - 5 years (2)
   - 6 - 10 years (3)
   - 11 - 15 years (4)
   - 16 years or more (5)

9. Current Involvement with the Teacher Candidates

| Elementary Students | | Secondary Students | |
|---|---|---|---|
| up to 25% of time | (1) | up to 25% of time | (1) |
| 26 - 50% | (2) | 26 - 50% | (2) |
| 51 - 75% | (3) | 51 - 75% | (3) |
| 76 -100% | (4) | 76 -100% | (4) |

PLEASE BE CERTAIN YOU HAVE COMPLETED SECTION I

SEE SECTION II BELOW

## SECTION II

If you are involved, or have been involved in an elementary teacher education program, you will no doubt have some feelings about the purposes of the program. It is important to identify the opinions of many individuals toward the objectives of an elementary teacher education program.

Please assume for the next twenty or thirty minutes that it is necessary for program planning to identify the most important objectives of the Elementary Teacher Education program in your institution.* As a person who is involved, or who has been involved in a teacher education program, your opinion is sought.

You realize that the education of the teacher candidate may include many things—you must decide which objectives of the Elementary Teacher Education program are most important.

* School teachers should consider the institution which sends student teachers to their school.

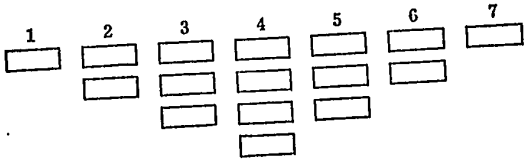


## TEACHER EDUCATION OPINIONNAIRE (Form I)

Objectives of an elementary teacher education program are listed on the yellow cards attached to this booklet. Each objective is stated as an intended outcome for the Student Teacher. Please indicate your opinion of their importance as objectives of an elementary teacher education program in the following way:

First, read them carefully and sort them into three piles on the desk in front of you. On the left, place the three or four which you regard as most important. On the right, place the three or four which are least important. Place the remainder of the pile in the middle.

Now, sort them further into seven piles—the one most important in the first pile, the two next important in the second pile, three next important in the third pile, four in the fourth, three in the fifth, two in the sixth and the one least important in the seventh. When you have finished, your sort will look like this:




When you are satisfied with your sort, place the cards in the slots below, as you sorted them—one in slot 1, two in 2, and so on.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| One Most Important | Two Next Important | Three Next Important | Four Next Important | Three Next Important | Two Next Important | One Least Important |

PLEASE BE CERTAIN THAT YOU HAVE COMPLETED SECTION II

If you are not to complete SECTION III please close the booklet carefully and return it

Thank you for your time and co-operation

IF you are continuing, see SECTION III Below

## SECTION III

Please assume for the next twenty or thirty minutes that it is necessary for curriculum planning purposes to identify the most important objectives of a teacher education course. You are asked to indicate your opinion of their importance as objectives of the basic course designed to acquaint elementary student teachers with instruction in the elementary school.

In order that you can indicate your opinion of more specific objectives, it may be necessary for you to identify the basic course with an area of teaching specialization or a subject matter area. Please circle the number below which corresponds to the area of teaching specialization with which you identify while considering the objectives of the basic course.

| | |
|---|---|
| Art | (1) |
| Mathematics | (2) |
| Music | (3) |
| Physical Education | (4) |
| Reading and Language Arts | (5) |
| Science | (6) |
| Second Language | (7) |
| Social Studies | (8) |
| Other | (9) |
| Prefer not to identify with an area | (10) |

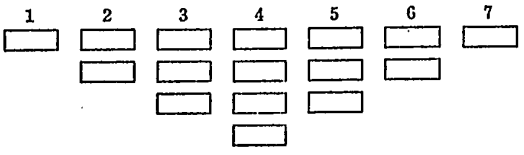


## TEACHER EDUCATION OPINIONNAIRE (Form II)

The objectives of the basic course designed to acquaint elementary student teachers with instruction in the elementary school are listed on the blue cards. Each objective is stated as an intended outcome for the Student Teacher. Please sort them as you did the others.

First, sort them into three piles—most important, important, and least important.

Now, sort them into seven piles as before. Your final sorting will look like this:




When you are satisfied with your sort, insert the cards in the slots as you did before.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| One Most Important | Two Next Important | Three Next Important | Four Next Important | Three Next Important | Two Next Important | One Least Important |

| For examiner's use | |
|---|---|
| | 21 |
| | 22 |
| | 23 |
| | 24 |
| | 25 |
| | 26 |
| | 27 |
| | 28 |
| | 29 |
| | 30 |
| | 31 |
| | 32 |
| | 33 |
| | 34 |
| | 35 |

**PLEASE BE CERTAIN YOU HAVE COMPLETED SECTION III**

When you have completed the second sort, please close the booklet and return it.

Thank you for your time and co-operation.

| For examiner's u | |
|---|---|
| | 37 |
| | 38 |
| | 39 |
| | 40 |
| | 41 |
| | 42 |
| | 43 |
| | 44 |
| | 45 |
| | 46 |
| | 47 |
| | 48 |
| | 49 |
| | 50 |
| | 51 |

Able to explain scientific principles applicable to the subject area. (37)

Able to explain his view of the task of the elementary school in society. (38)

Able to interpret accurately the effectiveness of a teaching method used for observing the children in the situation. (39)

Able to explain motivation in the learning process relevant to the subject area. (40)

Able to formulate and state suitable objectives for a unit in the subject area. (41)

Able to explain various teaching methods for the subject area which may be employed in the elementary classroom. (42)

Able to demonstrate the inquiry teaching method relevant to the subject content. (43)

Able to describe the artistic qualities in the subject area. (44)

Able to organize children into groups for learning in the subject area. (45)

Able to make a selection of the inquiry method when appropriate to the situation. (46)

Able to perform the basic content skills included in a subject area of the elementary school curriculum. (47)

Able to explain physical and intellectual needs of elementary children as they relate to the subject area. (48)

Able to explain the effects of segregation and social stratification on children from minority and low income groups. (49)

Able to analyse a research study in the subject area and interpret the results. (50)

Able to select the appropriate tests and diagnostic instruments for evaluating pupils in the subject area. (51)

Able to select and organize a content sequence to involve a group of children in the learning of a concept or skill. (52)

Has a general understanding of the natural sciences and mathematics.
(21)

Understands the role of education and the educator in society.
(22)

Able to assess the effectiveness of the communication strategies used within and outside the classroom.
(23)

Understands the fundamental processes of learning.
(24)

Able to define appropriate purposes when building a curriculum.
(25)

Aware of a variety of strategies for communicating within and outside the classroom.
(26)

Competent in executing the communication strategies used within and outside the classroom.
(27)

Has a general understanding of the humanities.
(28)

Able to manage and organize the learning environment.
(29)

Able to select appropriate communication strategies to be used within and outside the classroom.
(30)

Has an understanding of the content in the elementary school curriculum.
(31)

Understands children and all aspects of child development.
(32)

Has a general understanding of the social sciences.
(33)

Able to interpret research and keep up to date with professional knowledge.
(34)

Able to evaluate the progress of pupils and diagnose their needs.
(35)

Able to select and organize content and materials appropriate for the situation.
(36)

APPENDIX D

TABLE LIII

SEMI-INTERQUARTILE RANGES FOR THE LEVEL ONE OBJECTIVES FOR TEACHER EDUCATORS AT THE UNIVERSITY OF ALBERTA

| Objectives | Sex | | Age | | Teaching Exp. in School | | Exp. in Teaching Ed. | | Areas of Teacher Educator Specialization | | | | Involve. with Elem. Student Teachers | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male n=50 | Female n=18 | 35 & Under n=28 | Over 35 n=40 | 5 Yrs. or Less n=23 | More Than 5 Yrs. n=43 | 1-2 Years n=30 | 3 or More Years n=38 | Admin. n=8 | Curr. & Inst. n=43 | Founda-tions n=4 | Psychol-ogy n=9 | Up to 50% n=38 | More Than 50% n=30 |
| $A_I$ | .82 | 1.20 | .72 | 1.05 | .99 | .84 | 1.11 | .83 | .67 | 1.05 | .67 | .96 | .74 | 1.03 |
| $B_I$ | .69 | .54 | .70 | .59 | .69 | .67 | .71 | .72 | .40 | .74 | .33 | .50 | .72 | .63 |
| $C_I$ | .58 | .90 | .67 | .78 | .81 | .78 | .73 | .76 | .67 | .79 | .33 | 1.04 | .78 | .75 |
| $D_I$ | .66 | .38 | .46 | .84 | .71 | .70 | .42 | .72 | .63 | .50 | .33 | 1.00 | .72 | .47 |
| $E_I$ | .97 | .94 | 1.00 | .94 | .81 | 1.13 | .93 | .86 | .63 | 1.13 | .63 | .56 | .85 | 1.24 |
| $F_I$ | .66 | .77 | .64 | .71 | .74 | .73 | .63 | .82 | .50 | .82 | .55 | .63 | .68 | .70 |
| $G_I$ | .91 | .61 | .74 | .87 | .96 | .88 | 1.03 | .68 | .75 | .88 | .67 | .81 | .87 | .84 |
| $H_I$ | 1.25 | .66 | 1.17 | 1.03 | 1.23 | 1.04 | 1.05 | 1.16 | .54 | 1.05 | 1.00 | 1.21 | .95 | 1.17 |
| $I_I$ | 1.22 | 1.29 | .71 | 1.54 | .83 | 1.52 | .92 | 1.12 | 1.50 | 1.58 | 1.50 | .69 | 1.33 | 1.29 |
| $J_I$ | 1.25 | .86 | 1.28 | 1.09 | 1.43 | 1.14 | 1.23 | 1.23 | 1.00 | 1.18 | .50 | 1.31 | 1.27 | 1.19 |
| $K_I$ | .98 | .56 | .81 | .90 | .97 | .86 | .67 | .88 | .40 | .85 | .47 | .94 | .76 | .93 |
| $L_I$ | .86 | .88 | .83 | .91 | .96 | .92 | 1.14 | .83 | 1.00 | .86 | 1.00 | .81 | 1.06 | .63 |
| $M_I$ | .77 | .81 | .75 | .98 | .91 | .91 | .62 | 1.01 | .63 | .96 | .67 | 1.04 | .78 | .91 |
| $N_I$ | .90 | .66 | .74 | .89 | .83 | .82 | .69 | .66 | .67 | .75 | .54 | 1.19 | .75 | .78 |
| $O_I$ | .72 | .41 | .66 | .67 | .82 | .64 | .54 | .73 | .58 | .63 | 1.33 | 1.00 | .77 | .60 |
| $P_I$ | .82 | .60 | .79 | .70 | .72 | .79 | .73 | .68 | .83 | .82 | .75 | .50 | .65 | .90 |

TABLE LIV

SEMI-INTERQUARTILE RANGES FOR THE LEVEL ONE OBJECTIVES FOR STUDENT TEACHERS AT THE UNIVERSITY OF ALBERTA

| Objectives | Sex | | Age of Student | | | Year in Teacher Education Program | | | Student Teachers With Some Teaching Experience & no Student Teaching | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | 20 Years & Under | 21-30 Years | Over 30 Years | First Year | 2nd & 3rd Years | Fourth Year | No Student Teaching | 1-2 Years Student Teaching | Teaching Experience |
| | n = 17 | n = 137 | n = 71 | n = 60 | n = 22 | n = 33 | n = 95 | n = 26 | n = 55 | n = 74 | n = 25 |
| $A_1$ | .46 | .78 | .79 | .68 | .91 | .73 | .75 | .69 | .74 | .79 | .58 |
| $B_1$ | .61 | .60 | .61 | .68 | .52 | .57 | .61 | .67 | .62 | .69 | .49 |
| $C_1$ | .53 | .76 | .78 | .87 | .60 | .66 | .76 | .88 | .68 | .77 | .56 |
| $D_1$ | .55 | .64 | .54 | .66 | .76 | .44 | .67 | .69 | .54 | .63 | .69 |
| $E_1$ | .75 | .89 | .89 | .88 | .91 | .68 | .99 | .88 | .76 | .83 | 1.12 |
| $F_1$ | .61 | .75 | .78 | .79 | .37 | .82 | .68 | .99 | .78 | .73 | .59 |
| $G_1$ | .94 | .60 | .63 | .66 | .56 | .58 | .62 | .65 | .54 | .60 | .59 |
| $H_1$ | .81 | .76 | .84 | .67 | .80 | .70 | .79 | .74 | .78 | .77 | .64 |
| $I_1$ | .98 | 1.29 | 1.43 | 1.32 | 1.01 | .89 | 1.38 | 1.40 | 1.23 | 1.44 | .87 |
| $J_1$ | .43 | .74 | .72 | .76 | .51 | .52 | .74 | .83 | .64 | .89 | .59 |
| $K_1$ | .71 | .89 | .94 | .91 | .55 | .67 | .96 | .94 | .77 | .98 | .59 |
| $L_1$ | .80 | 1.06 | 1.14 | 1.12 | .73 | .79 | 1.14 | 1.28 | .76 | 1.17 | .84 |
| $M_1$ | .69 | .87 | 1.00 | .76 | .69 | .78 | .99 | .67 | .88 | .97 | .79 |
| $N_1$ | 1.36 | .74 | .67 | .79 | 1.35 | .91 | .75 | .68 | .88 | .75 | .75 |
| $O_1$ | .76 | .65 | .58 | .79 | .85 | .72 | .63 | | .71 | .69 | .61 |
| $P_1$ | .65 | .84 | .83 | .80 | .94 | .87 | .78 | .92 | .81 | .76 | .63 |

TABLE LV

SEMI-INTERQUARTILE RANGES FOR THE LEVEL ONE OBJECTIVES FOR COOPERATING TEACHERS AT THE UNIVERSITY OF ALBERTA

| Objectives | Sex | | Age | | Years of Teacher Ed. | | Teaching Experience | | |
|---|---|---|---|---|---|---|---|---|---|
| | Male n=10 | Female n = 40 | 30 Years & Under n = 30 | Over 30 Years n = 20 | 1-2 Years n = 17 | 3 Or More n = 33 | 1-2 Years n = 8 | 3-5 Years n = 13 | More Than 5 Years n = 29 |
| $A_1$ | .81 | .44 | .57 | .46 | .48 | .44 | .40 | .63 | .44 |
| $B_1$ | .69 | .59 | .65 | .42 | .48 | .60 | .67 | .54 | .46 |
| $C_1$ | .90 | .81 | .86 | .78 | .88 | .75 | .67 | .73 | .88 |
| $D_1$ | .58 | .53 | .48 | .63 | .59 | .44 | .54 | .33 | .69 |
| $E_1$ | 1.06 | .81 | .79 | 1.12 | .61 | 1.00 | .83 | .65 | .93 |
| $F_1$ | .96 | .51 | .56 | .64 | .63 | .48 | .63 | .38 | .62 |
| $G_1$ | .71 | .64 | .62 | .74 | .71 | .59 | .50 | .53 | .58 |
| $H_1$ | .77 | .65 | .64 | .56 | .66 | .63 | .67 | .52 | .67 |
| $I_1$ | 1.13 | 1.08 | 1.20 | .93 | 1.00 | .82 | .83 | .88 | 1.13 |
| $J_1$ | 1.83 | 1.01 | 1.38 | .97 | .81 | 1.59 | 1.38 | .66 | .98 |
| $K_1$ | 1.10 | .87 | .84 | 1.25 | .80 | 1.00 | .80 | .64 | 1.02 |
| $L_1$ | .54 | .99 | .79 | 1.18 | 1.11 | .73 | .63 | .67 | 1.16 |
| $M_1$ | .58 | .80 | .69 | .93 | .84 | .73 | .83 | .65 | .78 |
| $N_1$ | .81 | .79 | .72 | 1.17 | .80 | .75 | .75 | .81 | .61 |
| $O_1$ | .69 | .53 | .55 | .61 | .53 | .55 | .40 | .53 | .52 |
| $P_1$ | .63 | .68 | .74 | .61 | .66 | .66 | .67 | .63 | .60 |

TABLE LVI

SEMI-INTERQUARTILE RANGES FOR THE LEVEL ONE AND LEVEL TWO OBJECTIVES FOR ALL TEACHER EDUCATORS IN AREAS OF TEACHING SPECIALIZATION

| Objectives | Art | | Mathematics | | Music | | Physical Education | | Reading and Language | | Science | | Second Language | | Social Studies | | Preferred Not | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Level One n=8 | Level Two n=7 | Level One n=20 | Level Two n=18 | Level One n=5 | Level Two n=4 | Level One n=17 | Level Two n=17 | Level One n=38 | Level Two n=35 | Level One n=13 | Level Two n=12 | Level One n=8 | Level Two n=7 | Level One n=21 | Level Two n=21 | Level One n=23 | Level Two n=43 |
| A | 1.00 | .69 | .74 | 1.30 | .63 | .50 | .61 | .73 | .92 | .61 | 1.06 | .63 | 1.25 | 1.38 | .73 | .59 | 1.10 | .77 |
| B | .67 | 1.38 | .67 | .79 | .88 | .75 | .55 | 1.00 | .78 | .91 | .83 | .96 | .67 | 1.25 | .88 | .74 | .73 | .62 |
| C | .75 | 1.00 | 1.13 | .67 | .38 | .50 | .67 | .59 | .66 | .47 | 1.19 | 1.00 | .63 | 2.00 | .42 | .84 | .84 | .96 |
| D | 1.33 | .80 | .69 | .66 | .63 | .75 | .50 | .53 | .54 | .91 | .56 | .88 | .63 | 1.00 | .87 | .65 | .81 | .97 |
| E | .50 | 1.00 | .46 | .87 | .50 | .50 | .81 | .67 | 1.29 | .98 | 1.00 | 1.17 | .92 | .69 | 1.22 | 1.19 | .84 | .99 |
| F | .75 | 1.13 | .77 | 1.30 | .50 | .75 | .81 | .59 | .60 | .85 | .58 | .96 | .50 | 1.06 | .60 | .64 | .80 | 1.20 |
| G | .75 | 1.00 | .85 | .83 | .50 | .25 | .84 | .71 | .87 | 1.08 | .60 | .50 | .50 | .69 | 1.00 | .60 | .75 | .83 |
| H | .75 | 1.50 | 1.19 | .88 | .50 | 2.00 | .64 | .93 | .96 | .85 | .85 | .83 | 1.50 | 1.13 | 1.35 | .77 | .81 | .87 |
| I | 1.00 | .88 | 1.17 | 1.04 | 1.00 | .50 | .80 | .90 | 1.03 | .79 | .83 | .60 | 1.25 | 1.25 | .98 | .69 | 1.06 | 1.50 |
| J | .67 | 1.29 | 1.08 | 1.01 | .25 | .75 | .29 | 1.05 | .92 | 1.16 | 1.00 | .88 | .92 | 1.75 | .84 | 1.28 | .90 | 1.07 |
| K | .88 | .88 | .89 | .72 | .50 | .33 | .69 | .74 | .64 | .74 | .77 | .79 | .50 | 1.38 | 1.16 | .77 | .90 | .99 |
| L | .67 | .67 | 1.27 | .69 | 1.25 | .75 | .81 | .59 | 1.00 | .90 | 1.19 | .73 | .50 | 1.00 | .79 | .66 | 1.06 | 1.20 |
| M | .47 | .79 | 1.13 | .83 | .50 | 1.00 | .83 | .88 | 1.13 | 1.11 | .77 | .75 | .75 | 1.00 | .77 | 1.03 | .83 | 1.31 |
| N | .75 | 2.00 | .71 | 1.26 | .25 | 2.00 | .64 | .80 | .86 | .78 | .84 | .53 | 1.25 | .94 | .79 | .96 | .80 | .74 |
| O | .80 | 1.00 | .62 | .56 | .33 | .33 | .66 | .83 | .56 | .79 | .58 | .38 | 1.00 | 1.50 | .66 | .71 | .85 | 1.08 |
| P | 1.50 | 1.50 | .46 | 1.06 | .33 | .33 | .71 | .69 | .97 | .95 | .81 | 1.00 | .55 | 1.88 | .58 | .42 | .75 | .78 |

TABLE LVII

INTERCORRELATIONS AMONG LEVEL ONE OBJECTIVES -
TEACHER EDUCATORS

| | $A_1$ | $B_1$ | $C_1$ | $D_1$ | $E_1$ | $F_1$ | $G_1$ | $H_1$ | $I_1$ | $J_1$ | $K_1$ | $L_1$ | $M_1$ | $N_1$ | $O_1$ | $P_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $A_1$ | 1000 | | | | | | | | | | | | | | | |
| $B_1$ | 300 | 1000 | | | | | | | | | | | | | | |
| $C_1$ | 227 | 307 | 1000 | | | | | | | | | | | | | |
| $D_1$ | 305 | 479 | 330 | 1000 | | | | | | | | | | | | |
| $E_1$ | -082 | 035 | -056 | 025 | 1000 | | | | | | | | | | | |
| $F_1$ | -252 | -031 | -011 | -144 | -094 | 1000 | | | | | | | | | | |
| $G_1$ | -156 | 011 | -093 | 049 | 039 | -207 | 1000 | | | | | | | | | |
| $H_1$ | -001 | -069 | 187 | -106 | -264 | 171 | 035 | 1000 | | | | | | | | |
| $I_1$ | -129 | -170 | -279 | -167 | 026 | -207 | -289 | -308 | 1000 | | | | | | | |
| $J_1$ | -017 | -127 | 0247 | -100 | -041 | -181 | 008 | -220 | -023 | 1000 | | | | | | |
| $K_1$ | 038 | -177 | -297 | -052 | -133 | -135 | -203 | -148 | 128 | 149 | 1000 | | | | | |
| $L_1$ | -039 | -108 | -003 | -003 | 129 | -153 | 016 | -028 | 019 | -040 | -111 | 1000 | | | | |
| $M_1$ | -276 | -283 | -125 | -259 | -061 | 159 | 037 | 097 | -128 | -085 | -047 | -199 | 1000 | | | |
| $N_1$ | -300 | -311 | -348 | -354 | -138 | -075 | -163 | -263 | 131 | 047 | 006 | -125 | -047 | 1000 | | |
| $O_1$ | -311 | -362 | -332 | -399 | -242 | -103 | -089 | -055 | 013 | -026 | -037 | -186 | 069 | 509 | 1000 | |
| $P_1$ | -312 | -322 | -211 | -431 | -271 | 008 | -154 | 001 | -035 | -105 | -065 | -283 | 122 | 489 | 688 | 1000 |

Decimal has been omitted

TABLE LVIII

INTERCORRELATIONS AMONG LEVEL ONE OBJECTIVES - STUDENT TEACHERS

| | $A_1$ | $B_1$ | $C_1$ | $D_1$ | $E_1$ | $F_1$ | $G_1$ | $H_1$ | $I_1$ | $J_1$ | $K_1$ | $L_1$ | $M_1$ | $N_1$ | $O_1$ | $P_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $A_1$ | 1000 | | | | | | | | | | | | | | | |
| $B_1$ | 172 | 1000 | | | | | | | | | | | | | | |
| $C_1$ | 166 | 391 | 1000 | | | | | | | | | | | | | |
| $D_1$ | 143 | 218 | 246 | 1000 | | | | | | | | | | | | |
| $E_1$ | 059 | -057 | -196 | -023 | 1000 | | | | | | | | | | | |
| $F_1$ | -024 | 046 | -035 | -139 | -122 | 1000 | | | | | | | | | | |
| $G_1$ | -037 | 057 | -080 | 065 | -141 | 057 | 1000 | | | | | | | | | |
| $H_1$ | -133 | 004 | 002 | 029 | -095 | 038 | -101 | 1000 | | | | | | | | |
| $I_1$ | -090 | -188 | -107 | -130 | -009 | -122 | -205 | -190 | 1000 | | | | | | | |
| $J_1$ | -140 | -265 | -248 | -006 | 083 | -219 | -099 | -062 | -051 | 1000 | | | | | | |
| $K_1$ | -139 | -253 | -321 | -091 | 180 | -260 | -098 | -151 | -017 | 210 | 1000 | | | | | |
| $L_1$ | -194 | -101 | -114 | -090 | -099 | -006 | 124 | -057 | -035 | -046 | 060 | 1000 | | | | |
| $M_1$ | -059 | -065 | -085 | -304 | 013 | 171 | -081 | -004 | -038 | -064 | -028 | -104 | 1000 | | | |
| $N_1$ | -072 | -304 | -093 | -190 | -260 | -080 | -004 | -100 | -091 | -044 | -141 | -182 | -198 | 1000 | | |
| $O_1$ | -223 | -192 | -176 | -250 | -262 | -163 | -076 | 037 | -089 | -024 | -108 | -181 | -130 | 442 | 1000 | |
| $P_1$ | -229 | -134 | -200 | -203 | -207 | 112 | -033 | -092 | -203 | -131 | -060 | -135 | -133 | 325 | 464 | 1000 |

Decimal has been omitted.

TABLE LIX

INTERCORRELATIONS AMONG LEVEL ONE OBJECTIVES -
COOPERATING TEACHERS

| | $A_1$ | $B_1$ | $C_1$ | $D_1$ | $E_1$ | $F_1$ | $G_1$ | $H_1$ | $I_1$ | $J_1$ | $K_1$ | $L_1$ | $M_1$ | $N_1$ | $O_1$ | $P_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $A_1$ | 1000 | | | | | | | | | | | | | | | |
| $B_1$ | 461 | 1000 | | | | | | | | | | | | | | |
| $C_1$ | 104 | 379 | 1000 | | | | | | | | | | | | | |
| $D_1$ | 336 | 448 | 604 | 1000 | | | | | | | | | | | | |
| $E_1$ | -170 | -246 | -311 | -276 | 1000 | | | | | | | | | | | |
| $F_1$ | -137 | 237 | 101 | -081 | -013 | 1000 | | | | | | | | | | |
| $G_1$ | -225 | 083 | 070 | 062 | -095 | -020 | 1000 | | | | | | | | | |
| $H_1$ | -055 | 002 | -009 | -085 | -086 | 169 | -057 | 1000 | | | | | | | | |
| $I_1$ | -178 | -175 | 0324 | -143 | 325 | -208 | 013 | -110 | 1000 | | | | | | | |
| $J_1$ | -366 | -473 | -453 | -342 | 025 | -202 | -072 | -118 | 255 | 1000 | | | | | | |
| $K_1$ | -217 | -352 | -401 | -213 | 156 | -024 | -093 | -156 | 124 | 243 | 1000 | | | | | |
| $L_1$ | -053 | -020 | -091 | -199 | -006 | -035 | -095 | 234 | -112 | -134 | -049 | 1000 | | | | |
| $M_1$ | -141 | -182 | -128 | -264 | -150 | 183 | 007 | -038 | -184 | -073 | 145 | -219 | 1000 | | | |
| $N_1$ | -041 | -233 | -133 | -229 | -157 | -215 | 018 | -234 | -179 | 086 | -337 | -175 | 064 | 1000 | | |
| $O_1$ | -099 | -307 | -051 | -199 | -200 | -370 | -272 | -050 | -405 | 133 | -057 | 165 | -072 | 446 | 1000 | |
| $P_1$ | 055 | -133 | 199 | -075 | -207 | -133 | -172 | -057 | -522 | -212 | -095 | 010 | 043 | 223 | 603 | 1000 |

Decimal has been omitted.