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TEACHER SELECTION : A DELPHI INVESTIGATION

A thesis presented in partial fulfilment
of the requirements for the Degree
of Master of Education at
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ABSTRACT

This study used the Delphi Technique to investigate weaknesses of Division "A" (primary) teacher selection procedures in New Zealand.

Some of the major criteria on which New Zealand Division "A" (primary) teacher candidates are selected are:

- a] Personal qualities overt (e.g. sense of humour)
- b] Personal qualities covert (e.g. initiative)
- c] Academic ability (including communication skills)
- d] Involvement (e.g. with children)

A review of the literature as it relates to these criteria revealed:

- 1] The existence of apparent discrepancies between candidates' academic ability and intelligence and their success in teaching.
- 2] The personality traits and characteristics of teachers on entry to training show no consistent relationship with success in teaching.
- 3] The criterion of experience with children (involvement) is based more on common sense than research evidence.

The results of the three round Delphi confirm and extend the findings of the review of the literature by indicating that there are eleven major and significant weaknesses in Division "A" (primary) teacher selection procedures

in New Zealand. In this light and in the context of recent overseas innovations in teacher selection, the present study concludes by making eight recommendations for change.

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INTRODUCTION

Currently there is world-wide concern to improve the quality of the teaching force (Wilson, 1985). One manifestation of this is renewed interest in the selection of applicants for entry to teacher training. Selection has become salient because in most countries in Europe, and in parts of the USA and Canada, a quota system has been imposed on admissions to primary and some secondary teacher education programmes. In these instances, an "open door" policy to teacher education has been dispensed with and selection from the applicant pool has been introduced. In this situation close consideration has been given to the criteria on which selection decisions should be based and the means by which evidence might be collected on the extent to which candidates meet these criteria.

In New Zealand, both the criteria on which Division "A" (primary) teacher candidates are selected and the means by which evidence is collected have been established for over thirty years. However, three recent trends have emerged which, when combined, have heightened the need to review Division "A" (primary) teacher selection procedures in New Zealand. First, Division "A" teacher selection procedures have been subject to intense criticism (Ramsay, 1979; Freyberg, 1980). Secondly, and in support of these criticisms, there is a body of research and much speculation to suggest that present teacher selection procedures do not reliably predict success in teaching (Purdie, 1977; Norman, 1978; and Whalley, 1978). Thirdly, historically there has been a surplus of candidates for teaching over places available in training (see Appendix 2, page 114).

Despite these three trends, studies which have investigated the specific weaknesses of Division "A" teacher selection procedures in New Zealand have not been forth-

coming. Accordingly, the purpose of the present study was to investigate the weaknesses of the criteria on which Division "A" selection decisions are based and the weaknesses of the means by which evidence is collected on the extent to which candidates meet these criteria. The research tool used to achieve the aims of this study was the Delphi Technique.

The study begins in the following chapter by reviewing the literature as it relates to the procedures which are used in New Zealand to select Division "A" (primary) teacher candidates. Following this, a description of the procedures which are used in New Zealand to select Division "A" teacher candidates is given in Chapter Two. Characteristics and applications of Delphi are outlined in Chapter Three, as also is the selection of the sample.

Chapter Four gives details of the results from each round of Delphi, and discusses the findings in the context of the research reviewed in Chapters One and Three and concludes by making recommendations for change.

GLOSSARY

Teachers

Unless otherwise stated, the "teachers" in this study are primary teachers. In New Zealand, primary teachers in training are classified as Division "A". This is distinct from other groups of teachers such as Secondary teachers (Division "C") or kindergarten teachers (Division "E").

Applicant

In this study, a person who has filled in an application form for Teachers' College but who has not been admitted to a course of teacher training is termed an "applicant".

Trainee

The term trainee applies to a person who is training at a Teachers' College.

Beginning Teacher

Following graduation from a Teachers' College, trainees are placed in certificating positions in schools for two years. Teachers in certificating positions are called "Beginning teachers". At the end of their two years in a certificating position, beginning teachers may or may not be "certificated".

Certification

Each beginning teacher's performance is evaluated by a New Zealand Department of Education Inspector of primary schools. The inspector then recommends whether a beginning teacher be certificated or not. Once certificated, the teacher is deemed by the Director General of Education in New Zealand to be eligible for appointment to permanent teaching positions in the primary service.

Candidates

In some cases it is necessary to use a term to describe

the pool of applicants, trainees, and beginning teachers. In this case, the term "candidate" is applied. Candidate is used in the sense that applicants, trainees, and beginning teachers have in common the objective of being certificated and of "becoming" a teacher.

Training

"Training" refers to the period of time trainees spend in a Teachers' College as well as the period as a beginning teacher in a school up to the point of certification. For primary applicants, training at college is three years, reduced to two years for applicants with university credits or similar qualifications.

Selection and Withdrawal

Selection is distinct from withdrawal. Withdrawal refers to candidates who, of their own accord, decide not to continue with a career in teaching. With withdrawal, the candidate makes the decision to leave. Selection refers to the process of deciding which candidates are suitable for teaching. Decisions to reject candidates are usually made by the staff of the Education Board, the Department of Education or the Teachers' College.

Interview Committee

This term is used to describe the group of people who interview candidates. Sometimes the group is referred to as the selection committee or the selection panel.

CHAPTER ONE

LITERATURE REVIEW

The reasons for this research are expanded upon at the beginning of this chapter. Following this, a review of the literature reveals that some of the major criteria on which Division "A" (primary) teacher candidates in New Zealand are selected (viz., "Academic record and Intelligence", "experience with children", and "personality traits and characteristics"), cannot be substantiated from research. A report on the use of "work samples" which are currently assuming new importance overseas as a significant and reliable selection criterion is presented. The chapter concludes with a discussion of the advantages and disadvantages of the formal interview as a procedure for collecting evidence on candidates' suitability for teaching.

Reasons for this Research

In November 1977, the then Minister of Education, the Honourable L.W. Gandar acted upon a recommendation from the Advisory Council on Educational Planning to review teacher training. The ensuing Review [1] received submissions from almost 120 people representing a wide range of bodies and institutions either directly or indirectly involved in teacher education in New Zealand. The many areas of concern identified by the Review were grouped into seven broad categories, two of which were **Teacher Recruitment** and **Teacher Selection**. Under these two headings were listed three issues which are

[1] Review of the Report of the steering committee associated with the Ministerial Conference of November 1977. (Department of Education, Wellington, 1979).

of particular relevance to this study:

- i] *"There was continuing criticism of interview procedures, of selection processes, and of the level of success in ensuring that the most suitable applicants enter teaching".*

[Review of Teacher Training, 1979: 9]

- ii] *"There has been a failure to recruit an adequate mix of entrants to teaching ..."*

[ibid., P.9]

- iii] *"There was a need for greater research into the areas of recruitment, selection, and interviewing for teaching".*

[ibid., P.20]

In response to these recommendations, four changes have been made to the selection procedures since 1977. These are:

- i] In 1978, a minimum intake figure for "Maori and Pacific Islanders; males, and mature applicants" was established. In 1979, "male" and "mature" applicant groups were dropped from the reserve quota so that the quota remained exclusively for Maori and Pacific Island applicants. The Department of Education made a further modification in 1982 when it advised Boards that it was preferable [2] to increase the number of Maori and Pacific Island applicants to levels equal to or above the percentage of Maori and Pacific Island applicants admitted the previous year.

[2] Department of Education circular, paper b., 35b, 1982.

- ii] In 1983, the academic criterion from the applicant's selection profile was abolished.
- iii] In 1985, recruitment officers were reintroduced.
- iv] In 1986, the minimum entry qualification was amended to one sixth form certificate subject (any subject) for candidates under the age of 20. No formal qualifications are required for applicants over the age of 20 years.

It is too early to adjudge what the impact of lowering the minimum entry qualification will be, but neither of the other two changes made between 1978 and 1983 can be considered to be major and it is likely that neither has had any significant impact on alleviating the concerns of the Review of Teacher Education (1979). For example, the deletion of the terms "male" and "mature" from the wording of the regulation regarding quotas was significant on two counts.

First, it was clear that sufficient numbers of these applicants were now entering teaching. Secondly, the fact that the quota became exclusive for Maori and Pacific Island candidates indicated that there was still a serious concern that these candidates were under-represented in teaching. The reintroduction of recruitment officers in 1985 was a further move to ameliorate this problem. However, Department of Education Statistics (see Appendix 1 for details) show that the number of Maori and Pacific Island students offered a place in Teacher Training declined for three intake periods between 1979 and 1986. For the 1980/81, 1982/83, and 1985/86 intake periods, the percentage of Maori and Pacific Island applicants offered a place of training, as a percentage of the total intake,

declined by 10.8 percent, 28.1 percent, and 30.6 percent respectively compared with previous intakes. This illustrates well the point that Freyberg (1977) made that

"... 'tinkering' around with selection procedures before training begins will, on the evidence of considerable research in vocational guidance, achieve only marginal gains."

[Freyberg, 1977 :2]

In relation to the other two concerns of the Review mentioned above, namely, that there were both criticisms and a dearth of research about teacher selection processes and interview procedures, it does seem that very little has been done to rectify these concerns. Indeed, even the New Zealand research that has been completed seems to have focussed mainly on pre-selection data, particularly interview ratings. Norman (1978), for instance, completed a longitudinal study of 572 Division "A" teacher candidates with the aim of determining relationships between high pre-teacher selection scores and college progress/teaching performance. Significant correlations were notable by their absence. In fact,

"There was no consistent relationship between the interview scores and the dropout rate ... [and] none of the selection information was consistently associated with teaching practice ratings."

[Norman, 1978 :28]

Concluding, Norman writes,

"... it does not seem possible to predict college or teaching performance from any of the data currently recorded at the time of selection."

[Norman, 1978 :30]

Other studies, such as Whalley (1978), report similar findings.

To summarise: despite the criticisms of Teacher selection procedures which were expressed by the Review of Teacher Training in 1979, there have been no studies which have sought to establish the precise weaknesses of Division "A" (primary) selection procedures. The urgency to undertake such research was reiterated at the recent Annual General Meeting of the New Zealand Educational Institute (N.Z.E.I.) where a number of recommendations were passed, including:

Recommendation 7: *"That the Department of Education undertake research into the effectiveness of both the selection process and recruitment schemes for teacher trainees".*

[N.Z.E.I., 1986 :108]

In the light of the above, it therefore seems both timely and appropriate that such a study be undertaken. As a backdrop to the present investigation, the remainder of this chapter reviews the relevant literature as it relates to teacher selection procedures.

The Scope of this Review

Overseas, much attention has been paid to teacher selection. Wilson (1985a), for instance, provides an extensive review of over 180 research projects which are either directly or indirectly related to teacher selection. While it is inappropriate to review all the research examined by Wilson, considerable attention has been given in this chapter to the studies he reviewed and others which report on those criteria used to select Division "A" (primary) candidates in New Zealand. (e.g. intelligence and ability, personality traits and characteristics, experience with children). [3]

[3] The criteria on which Division "A" primary teachers in New Zealand are selected are elaborated on in the following chapter and a copy of the interview rating sheet is given in Appendix IV.

Also included in this literature review is a discussion of the "interview" as a selection procedure and an alternative criterion, namely "work samples", which has begun to assume new importance (Thorton and Byam, 1982; Wilson and Mitchell, 1986 b).

To date, research on the criteria used to select teachers has tended to be correlational in design in that it has investigated the relationship between selection criteria and a specified dependent variable such as teaching effectiveness, programme completion or attainment of a teaching certificate.

The ability to predict success in the career stage of teaching from pre-training interview scores is of considerable importance to selectors (Menges, 1975). Accordingly, to narrow the focus of this review, only studies involving "success in full-time employment" (i.e. when teachers take up full-time teaching positions in schools) as ^ameasure of teaching effectiveness have been included. Unless otherwise stated, "success" is defined by the ratings of teaching performance given to first or second year teachers by the principal of the school where the beginning teacher is employed, and/or the ratings given by school inspectors.

The following section of this literature review reports on correlational research which has investigated:

- a] Intelligence and ability as predictors of success in teaching.
- b] Personality traits and characteristics as predictors of success in teaching, including overt and covert personality scores.
- c] Work samples as predictors of success in teaching.

Unfortunately, much of the work on correlational research was completed in the period between 1955 and 1980 and, as such, is becoming dated. However, these studies remain relevant in two ways: they

have not been superseded and the results of these studies remain the basis on which many institutions, such as those in New Zealand, select teachers for training (Mitchell, 1985).

To date, the most widely assumed predictor of a successful teacher has been academic ability and intelligence.

Studies of Academic Ability and Intelligence as Predictors of Success in Teaching

Stenhouse (1975) defines a teacher as "a person of learning, skilled in teaching". This definition suggests that the teacher is first of all a learner and that assessment of suitability for training as a teacher is based on evidence obtained from past performance on learning tasks. It assumes teachers will be knowledgeable of the subject they are teaching and that they will be able to help others become similarly knowledgeable. Yet, despite the logic involved, measures of intelligence and academic ability have not proved to be strong predictors of success in teaching. Early work found small, positive correlations between measures of intellectual ability and success in teaching. (Hellfritzsch, 1945; Rostker, 1945). Of the 55 studies investigating the relationship between intellectual ability and success in teaching which are reviewed by Morsh and Wilder (1979), 16 reported correlation coefficients that approached or exceeded $+0.30$, but 15 reported negative correlations. More recent studies focussing on academic ability and achievement measures have shown essentially the same results. In New Zealand, for instance, Norman (1978) conducted a longitudinal study of 572 Division "A" primary trainees over the period of pre-training through to the first year teaching and reported:

"academic ratings at selection tended to correlate more highly than other variables with college course marks ... [but] ... teaching performance ratings were not significantly related to sixth form, seventh form or university qualifications".

[Norman, 1978 :28]

North American research (Durcharme, 1970; Greaves, 1972; Ferguson 1977) also confirms that academic performance, as measured by university examination grades, is not a reliable predictor of success in teaching. Durcharme (1970) correlated university entrance examination and teacher examination scores with ratings which were given to first year teachers by school principals. He concluded that there was no significant correlation between exam results and ratings by principals on teaching success or between examination results and ratings of pupil achievement. Durcharme did find, however, that various combinations of grade point averages obtained from university study showed low but consistently, positive relationships to both criteria. Greaves (1972) in a similar study found that various combinations of undergraduate university grade scores correlated positively with associate teachers' ratings of performance in student teaching, but not with the principals' ratings of performance as first year teachers. Ferguson (1977) reports three findings which support Greaves. These are:

- i] Grades attained at university correlate highly and significantly with teaching performance in a 2 to 5 day full responsibility teaching situation, correlations ranging from .43 to .27.
- ii] Grades attained at university correlate positively but not significantly with performance in student teaching, correlations ranging from .43 to .27.

- iii] Grades attained at university correlate negatively with performance in first year teaching. The negative correlations were not of a size to be statistically significant but all correlations computed assumed a negative direction.

In summary, what studies to date seem to suggest is that, although intelligence and ability as measured by school examinations are likely predictors of academic success at a later time, there is no evidence that the best academically qualified students are ipso facto the "best" teachers. [4]

The lack of correlation between academic criteria and success in teaching performance indicates that other variables, reflecting personal qualities and skills, may be important.

Studies of Personality Traits and Characteristics as Predictors of Success in Teaching

In 1963, Getzels and Jackson, concluding their extensive review of literature on the relationship between teacher personality and teacher effectiveness, wrote:

"Good teachers are friendly, cheerful, sympathetic and morally virtuous rather than cruel, depressed, unsympathetic and morally depraved. But when this has been said, not very much that is especially useful has been revealed. For what conceivable human interaction - and teaching implied first and foremost human interaction - is not better if the people involved are friendly, cheerful, sympathetic, and virtuous rather than the opposite."

[Getzels and Jackson,
1963:547]

Few studies have been completed which specifically allude to the relationship between pre-teacher training personality traits and success in teaching. Although this is a neglected area of research, Norman's (1978) study provides several insights. Investigating New Zealand selection procedures, Norman correlated scores (N=572) at the pre-entry interview on two measures of personality with ratings given to first year teachers by inspectors and the principal of the school at which the teacher was first employed. The two criteria of personality on which each applicant was scored at the interview were:

- i] **Overt Personality:** These characteristics include such traits as self-confidence, vitality, and sense of humour.
- ii] **Covert Personality:** These characteristics include initiative and resourcefulness.

Commenting on an applicant's personality scores and the correlations of these scores with performance as first year teachers, Norman writes:

"There was no consistent patterns for either personality score according to the teacher rating given by the principal but high ratings by inspectors seemed to be associated with high personality scores at the interview ...[however]... none of the selection information was consistently associated with teaching practice ratings."

[Norman, 1978 :31]

Although these findings may be discouraging, personality factors continue to be used by teacher selectors in New Zealand and overseas as a criterion to assess teacher candidates. Similarly, experience with children has been maintained in Division "A" selection procedures as an important selection criterion.

Studies of Experience With Children as Predictors of Success in Teaching

There are several reasons why many teacher selection procedures have included this criterion as a consideration for entry into teacher training. First, it is commonly presumed that a candidate who has had experience with children prior to entry into teacher training will be more successful in dealing with children generally than a similar person who has not had such experience.

The second reason why experience with children has been maintained as a criterion for teacher selection is that such experience has often been interpreted as one measure of a candidate's interest in children. Interest in the learners has long been considered an important condition of a positive learning climate (Emmerling, 1961; Schmuck, 1966). However, there appears to be few studies which positively correlate the experience with children that a candidate brings to teaching and later success in teaching. Those few studies which have been completed appear to be conflicting in their findings. For example, Durcharme (1970), investigating relationships between the pre-service entry characteristics of first and second year teachers (N=370) and success as a beginning teacher, found that pre-service experience with children predicted principals' ratings of teaching performance in first and second year teachers almost as well as performance in student teaching (a correlation of .41 versus correlations ranging between .48 and .59) and was more effective as a predictor of learning gains by pupils of these teachers (a correlation of .41 versus correlations ranging between .25 and .30). Durcharme concludes that pre-service experience with children and performance in student teaching are both better predictors of principals' ratings and learning than scores on high school examination results.

However, studies carried out at Oregon College of Education (Gengler, 1977) contradict Durcharme's findings. In three replications of a study correlating experience with children with success in teaching, Gengler found no consistent relationship between work experience with children prior to entering a teacher preparation programme and success in three to five days of full responsibility teaching and no relationship between experience with children and success in two to five weeks of full responsibility teaching. Most of the correlations obtained were near zero, but on one term's population of student teachers all correlations assumed a negative direction. No explanation for this result is offered by Gengler. Moreover, four other variables correlated negatively with experience with children. These were instructional functions, assessment of student learning, relating inter-personally to students and colleagues, and the performance of professional responsibilities related to teaching. In all cases the scores computed for each variable were derived from a series of detailed ratings relating to each of the teaching functions assessed.

Because of the important differences in both the dependent and independent variables in the three studies cited (Ryans, 1958; Durcharme, 1970; Gengler, 1977), it is difficult to interpret the variations in these results. Taken as the available data base, it is doubtful whether the studies cited can adequately justify the inclusion of "experience with children" as a criterion in a selection process.

It would appear, then, that common sense and not research evidence is the primary justification for the inclusion of the criterion of experience with children in teacher selection procedures. Secondary

to this is another source which may have had an influence on the inclusion of experience with children as a selection criterion, namely psychotherapy. Noted psychotherapist Barrett-Lennard (1962) drew conclusions from his research that authentic, accepting, empathetic personalities in teachers facilitated learning. In his study, he correlated client (N=260) improvement with therapist personality type, concluding that clients who showed the most therapeutic change perceived their therapists as being more genuine, prizing, and empathetic. Rogers (1969) remarked that this relationship has been confirmed in replications of Barrett-Lennard's study. While there is no evidence that this research has directly influenced teacher selection procedures, Gage and Berliner (1979)) maintain that the results of studies in psychotherapy had a major influence on the development of "humanistic education" in the 1960's and 1970's and that this influence would most certainly have permeated teacher selection procedures.

More recently, several teacher selection institutions overseas have steered away from searching for single variables (e.g. academic attainment, personality factors, and experience with children) as indicators of success in teaching and instead have begun to look at the quality of teaching performance under simplified or real-life teaching conditions. In this respect, the use of "work samples" as a predictor of success in teaching is beginning to assume new importance as a criterion in teacher selection procedures.

Studies of Work Samples as Predictors of Success in Teaching

In the industrial world and in the military, the use of work samples as predictors of job performance is widely used (Bray, Campbell and Grant, 1974; Campbell and Bray, 1967; Ghiselli, 1966).

Work samples as predictors are also used in teacher training in the form of student teaching, though student teaching is rarely thought of in these terms. Micro teaching and other forms of simulated teaching experience could also be treated as work samples but historically these experiences have been used largely to develop skills rather than to obtain samples of work performance to be used as predictors of success in first year teaching. Studies which have used performance in student teaching as a predictor of success in full-time employment hold considerable promise. For example, Durchame (1970) found the relationship between Training College and associate teacher ratings of student teaching performance and principals' ratings of first and second year teaching performance range from .48 to .59, all significant at or beyond the .01 level of confidence. Greaves (1972) and Crocker (1974) report similar findings. Norman (1978), in her longitudinal study of Division "A" teacher candidates in New Zealand, also concluded:

"Teaching performance ratings were significantly related to teaching practice assessments."

[Norman, 1978 :22]

Schalock (1979) is more emphatic:

"A form of work sample is obtained in essentially all teacher preparation programs, and when careful assessment procedures are used performance under these conditions appears to predict performance in the early years of teaching about as well as any of the measures of teaching performance that have emerged from the past 20 years of research on teaching effectiveness."

[Schalock, 1979 :394]

An analysis of Wilson's (1985a) extensive review of the literature reveals that, since 1979, very little evidence has come to hand to contradict this conclusion.

In summary, work samples appear to offer potential promise as predictive measures of success in teaching, both in Training College and as full-time teacher. Yet, despite this, work samples have not been widely used by teacher selectors. Rather, selectors in New Zealand and overseas (Wilson, 1985c) have relied heavily on the formal interview as an instrument to provide vital selection information on applicants who apply for teacher training.

Studies of the Formal Interview as a Teacher Selection Procedure

The report of the New Zealand Review of Teacher Training (1979) noted that changes over the past ten years had led to improvement in teacher training but that there were a number of areas of concern. One of these areas related to the formal interview as a selection procedure.

"There is continuing criticism of interview procedures, of selection processes, and of their level of success in ensuring that the most suitable applicants enter teaching."

[Review of Teacher Training,
Department of Education, 1979 :9]

In order to understand these criticisms, the notion of a formal interview needs clarification. The selection interview, as used for the selection of teachers, is distinct from other varieties of interview used in education such as "appraisal" and "counselling" interviews (Riches, 1983). The selection interview is sometimes called the employment

interview in the sense that applicants are selected for a position of employment. With the selection interview, one or more selectors normally interact with an applicant for a period of time between 15 minutes and one hour. This interaction is in the nature of a conversation which may be tightly or loosely structured and which often proceeds from general pleasantries to the main topic for discussion, normally selected by the interviewer(s). As the interview nears its conclusion, the interviewer(s) will often give the applicant an opportunity to raise points for clarification or discussion. After all applicants have been seen, the interviewers discuss their selection findings. Herriot (1981) describes types of selection interviews in terms of "rules and roles". For example, it is considered appropriate for the interviewer to take charge of the situation and to ask questions of the applicant. The applicant is usually expected to wait until invited before asking questions and is expected to be confident where there is reason to be (Tessler and Susschelsky, 1978). There is also an expectation that the applicant is keen, but not sycophantic, and will defer to the interviewer's questioning although will occasionally volunteer additional information.

With this clarification in mind, Schmitt (1976) draws attention to the great number of variables which have to be taken into account in research on the selection interview. These include interviewer variables, interaction variables, and situational variables. Interviewer variables include the number of interviewers, their age, race, sex, physical appearance, educational and employment background, psychological characteristics, expectations, verbal and non-verbal behaviour, status, and relationship with other members of the panel.

While analysis of the selection interview reveals its complexity and while it still remains as the cornerstone of many teacher selection procedures (Mitchell,

1985), its weaknesses are well documented.

The Weaknesses of the Selection Interview

Interviewers differ greatly in their capacity to elicit accurate information from those they are questioning (Maguire and Rutter, 1976). Some interviewers may make more accurate judgements about candidates than others (Cook, 1979) and interviewers differ greatly in what they remember about the content of interviews (Schuh, 1978). Keenan (1977) has drawn attention to how lack of preparation, prejudices, and lack of consistency in covering the same topic with different candidates (as reported by candidates in self-report questionnaires) affect the reliability and validity of the decisions taken. The general bias of deciding in favour of those whom the interviewers like or who are like the interviewers, is evidenced in the research on the selection interview by Rand and Wexley (1975). Geiss (1978) points to the body of evidence which shows how our perceptions of persons are coloured by our pre-occupations, previous life history, and emotional state so that we see individuals "down periscope", and hence, often, inaccurately. Impressions formed about candidates from application forms and referees' reports may be further contaminating factors.

In the light of the above contentions, Webster (1982) draws attention to seven research findings that illustrate the complexity of the problem of the selection interview:

- " i] unfavourable information almost always carries more weight than favourable data.
- ii] The effect of unfavourable information about an applicant depends both on when it is perceived and when the interviewer records the impressions.
- iii] Once an interviewer is committed to accept an applicant, additional information

increases confidence in the decision but does not improve its quality.

- iv] The training and experience of interviewers has minimal effects on the quality of judgement.*
- v] Training may reduce interviewer error but there is no evidence that reduction of error improves judgement.*
- vi] If several really promising or very unpromising applicants have been evaluated in succession, one who is "average" will be under- or over-rated.*
- vii] Interviewers develop a stereotype of the good applicant and seek to match applicant to stereotype."*

[Webster, 1982 :14]

Further, Abelson (1976) reports that the effectiveness of the interview may depend on the extent to which the interviewer can challenge the applicant's "script". The script of the applicant includes such things as their view of themselves, their career and personal values which they hold and which they give expression to consistently. One example of a script for candidates for teacher training might be related to the decision to become a teacher. Interviewees' "scripts" are challenged through questioning yet Keenan's research (1980) points out that interviewers tend to use lines of questioning which are unproductive. For example, interviewers tend to focus on speculative matters that the interviewee cannot answer from past experience e.g. "What do you think that you will most like about teaching?"; "Where do you see yourself in ten years time?"; "How do you think you will manage looking after a class of thirty children?". Keenan and Wedderburn (1980) conclude that, although these questioning strategies may help selectors in coming to a decision, they are also likely to alienate applicants.

Hence, while many of the criticisms of the selection interview seem to be influenced mainly by the role of the interviewer, only three pieces of research were found which report on candidate variables which weaken the selection interview as an assessment procedure. Anstey (1977) and Goffman (1959) suggest that there is a willingness on the part of applicants to "play the interviewers' game". That is, applicants seek to present the face that is likely to be most acceptable. Knowing what is acceptable and what is not is interpreted on the basis of cues picked up by the applicant in the process of interaction with the panel members. It is well known that the reliability of the selection interview is weakened by the fact that applicants often arrive at the interview with varying degrees of interview experience (Wilson, 1985).

Despite these criticisms of the selection interview, and those which have been discussed earlier in this section, few researchers would advocate the complete exclusion of the interview as a selection procedure. For example, Anstey (1977) advocates the use of interviews as a means to aid decision making if the emphasis is placed upon building up a descriptive account of aspects of the applicant which are deemed relevant to the selection decision, viz., physical appearance, articulateness in relation to life history and the major decisions taken to date, capacity to state, defend and criticise a point of view and so on. Wilson (1985) also supports this view.

To summarise: In weighing up both the advantages and disadvantages of the selection interview, most teacher education institutions overseas, including those in New Zealand, have chosen to maintain the use of this procedure as an important means of collecting information on candidates' suitability for teaching training. However, recent trends overseas (Wilson, 1985) show that the extent of its importance as the principle means of assessment is decreasing and many institutions are now using it as an aid to

decision-making rather than the focal point.

Conclusion

The Review of Teacher Training (1979) questioned whether Division "A" teacher selection procedures in New Zealand had been successful in ensuring that the most suitable candidates entered teaching. In response to this concern, and after reviewing the literature on which the major Division "A" teacher selection criteria in New Zealand are based, the following conclusions were forthcoming:

First, the best academically qualified candidates for teacher training will not necessarily make the "best" teachers. Secondly, the personality traits and characteristics that candidates bring to the selection interview cannot be interpreted as reliable indicators of success in teaching. Thirdly, the decision to include "experience with children" as a major criterion in present Division "A" selection procedures is based more on common sense than research evidence. The review of the literature concludes with the discussion of two important trends which are emerging overseas in relation to teacher selection procedures. First, "work samples" are being used increasingly as a reliable selection criterion and, secondly, the traditionally dominant role of the selection interview in selection procedures is diminishing.

The review of the literature provides an appropriate backdrop for the following chapter which will discuss in more detail the procedures that are used in New Zealand to select Division "A" (primary) candidates for teacher training.

C H A P T E R T W O

THE PROCEDURES FOR SELECTING DIVISION

"A" PRIMARY TEACHERS IN NEW ZEALAND [1]

This chapter summarises the criteria on which decisions for selecting Division "A" candidates in New Zealand are based. The chapter begins by looking at teacher selection as a series of four stages and concludes at stage one. Stage one is selection prior to entry into teacher training.

INTRODUCTION

Teacher selection as a series of stages

The selection of Division "A" candidates in New Zealand can be seen to occur in four stages. These are:

- i] Selection prior to entry into teacher training
- ii] Selection during teacher training
- iii] Selection during the period of internship
- iv] Selection during a teacher's career

At each of the four stages, formal procedures have been established which allow selectors to assess a candidate's suitability to progress to the next stage. These procedures are now briefly discussed.

Stage One: Selection prior to entry into teacher training

Selection procedures used during this stage include the application form, the referee's report, the school principal's report, and the formal interview. Having demonstrated to the selectors that they possess the

[1] The source of the information in this chapter, unless otherwise stated, is the Education Department Administration Manual, part c, "Teachers".

potential to succeed as teachers, candidates are admitted to the second stage of selection which involves formal teacher training.

Stage Two: Selection during teacher training

Candidates in training at a Teachers' College are evaluated regularly by tests and assignments. For some candidates, evaluation may take the form of university studies but all candidates are assessed on performance in teaching practice. After successfully completing two or three years of training, candidates enter two years of probationary teaching as "beginning teachers." [2]

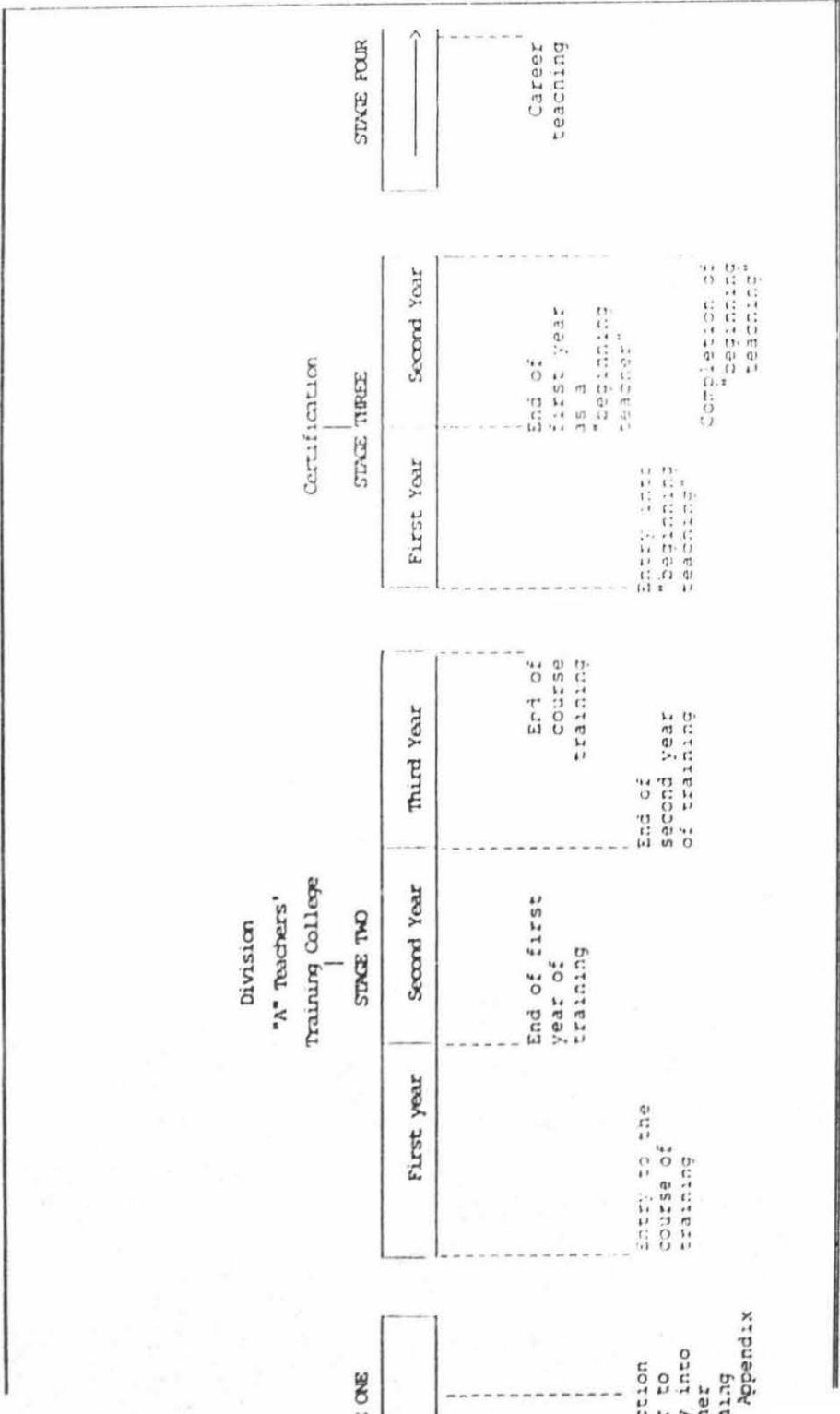
Stage Three and Four: Selection during and beyond the period of certification

Teachers at this stage are formally assessed by a New Zealand inspector of Primary schools. The inspector gathers information on each beginning teacher from a variety of sources including the beginning teachers' school principal. The inspector then recommends whether or not the beginning teacher be "certificated". At stage four, which encompasses the selection of teachers for promotion during their career, the sources of information for assessment at stage three remain applicable.

[2] Some trainee teachers defer entry into "beginning teaching" for one year in order to complete a university degree.

These four stages constitute the selection process which is shown diagrammatically in Figure One below.

FIGURE ONE: Division "A" Training - THE FOUR STAGES OF SELECTION



The possibility of rejection from the process is greatest at stage one. This is due to the fact that there has historically been an excess of applicants over places available in training in Division "A" (see Appendix Two).

During stages two and three, the threat of rejection is only a remote possibility for most candidates. By stage four, the selection process is largely complete in the sense that teachers are "selected" not for rejection from the process but rather for promotion or for movement across schools or positions.

This study is primarily concerned with stage one and, in particular, with the weaknesses of selection procedures for those classified as Division "A" students.

Stage One

For the purposes of this study, stage one begins when applicants fill out an application form and it ends when candidates have been formally notified of their acceptance into a course of teacher training. Selection at stage one is the responsibility of selection committees which are set up under the auspices of Education Boards.

Education Boards

There are ten Education Boards in New Zealand. Each Board administers educational policy for a particular geographic region. Included in each Board's responsibility is the selecting of suitable candidates from the pool of applicants who apply for teacher training. Each year the New Zealand Government determines the number of candidates who will be accepted for training as teachers. This number is termed the "national quota". In turn, the number of students who are to be accepted into teacher training by each training college is issued to Education Boards and this is based on a percentage of the national quota. For the purpose of selecting applicants who apply for teacher training,

each Education Board appoints a selection committee.

Selection Committees

The selection committee decides which candidates will enter teacher training and which will not. The selection committee is represented by four organisations, all of whom have a major interest in teacher education. These are:

- 1] The Education Board.
- 2] The Department of Education.
- 3] The Teachers' College.
- 4] The N.Z.E.I.

Usually, selection committees in each Board consist of four members, one from each of the four organisations. Each member is required to hold a particular post in the organisation which they represent. In more detail, the governing regulations indicate:

Both sexes should be represented on the committee. The representative of the Education Board may be an Education Board member, a practising teacher seconded for the purpose, or a suitable retired person ... There should be a Maori or Pacific Island representative on selection committees and interviewing panels wherever practicable.

[Paragraph c9.14.1]

In addition to the members of the selection committee, each of the four organisations in each Board area has several members who are available to act as selectors if called upon. This often happens in some of the larger Boards such as Auckland and Wellington where teams of selectors process a large number of applicants. These teams are called "selection panels" and they have the same structure and responsibility as selection committees. In this study, the term "interview committee"

is used to describe the group of people who interview candidates, whether that group be a selection committee or a selection panel.

Every applicant for teacher training is formally interviewed by an interview committee. The formal interview is one of several selection procedures at stage one. The remainder of this chapter reports on the four main selection procedures used at stage one to select Division "A" (primary) applicants in New Zealand. These are:

- i] Recruitment
- ii] The application form
- iii] The referees' reports and Secondary School principal's report
- iv] The formal interview

Recruitment

Recruitment has as its objective the need to promote actively teaching as a worthwhile career. [3] Each year the Department of Education issues a circular to every Board making suggestions for recruitment procedures. There are two approaches to recruitment of applicants for teacher training in New Zealand.

National level recruitment

Annually, the Education Department arranges for advertising on a national level, generally through television and newspapers with a national circulation. The purpose of national level recruitment is to complement the regional campaigns carried out by the Education Boards.

Regional recruitment

In addition to national recruitment, over and above the supply of posters, information booklets, and

[3] Department of Education circular, 1986/ 69 :1

leaflets, the Department of Education allocates funds to the ten Education Boards. These funds are used for advertising purposes only. Moreover, each year the Department of Education seconded a number of people from each Board area to act as recruitment officers. Although recruitment is ongoing, recruitment officers are seconded for the recruitment "season", visiting schools, libraries, universities, and maraes during the months of July and August. Recruitment officers are supplied with a variety of teaching materials including a 15 minute video. As part of the recruitment drive, intending applicants are required to complete an application form.

The Application Form

The Application Form requires applicants to give personal details (date of birth, nationality, ethnic identity, medical history and so on - see Appendix 3 for a copy) as well as a full account of their academic and employment records. An applicant's ethnic identity appears to be one important factor in selection and has recently assumed new importance. [4] The importance attached to the selection of Maori and Pacific Island candidates is evident in the official Department of Education policy, which states:

"Maori and Pacific Island targets

Annually reviewable selection targets are set with the following objectives:

- a] to ensure that as many as possible, preferably all, suitable Maori and Pacific Island applicants are offered places in teacher training courses.*

[4] See, for example, "The Curriculum Review, 1986. A Draft Report Prepared for the Committee to Review the Curriculum for schools". Department of Education, Wellington, 1986. The report maintains that there is a shortage of Maori and Pacific Island teachers and that every effort should be made

- b] to achieve nationally, at least, the same level of Maori and Pacific Island selection as achieved the previous year and, if possible, to increase that level.

The procedure provides for offers to be made to lower ranking Maori and Pacific Island applicants in stages following refusals of initial offers from higher ranking applicants so that the achievement of the above aims can be related to the overall quality of the field of applicants presenting themselves in any one year.

[paragraph c9.14.8]

Generally, persons who have attained the age of 16 years are not normally considered for selection and neither are those who do not have the required academic qualifications.

Academic Qualifications

The qualifications required for entry to Division "A" for those applicants who have not attained twenty years of age prior to the commencement of the course of training is a Sixth Form Certificate in one or more subjects, or University Entrance. No formal secondary qualifications are required for applicants who will have attained twenty years of age prior to admission.

It is expected that older applicants will be at least 23 years of age and that they be:

"...recommended by selection committees as mature, intelligent adults with many good personal, intellectual, and cultural qualifications."

[paragraph c9.13.4]

In addition to listing their interests and hobbies, applicants are given the opportunity to support their applications by giving reasons for their desire

to become teachers. All applicants agree to take up a two year teaching position anywhere in New Zealand at the completion of their training. Also included on the application form is a request to supply the names and addresses of two referees. Referees' reports apply only to "older" applicants. The two people named by the applicant are subsequently contacted by the Education Board. They are asked to answer a series of questions relating to the applicant's character.

Referees' Reports for older applicants

A referee's report requires the referee to answer a range of questions about the applicant and includes:

- How long have you known the applicant?
- Would you allow your son or daughter to be taught by the applicant?
- Do you consider that he/she has the academic ability to succeed in the course chosen?

The referee's report concludes by asking the referee to rate the applicant as fitting one of four descriptors. At one extreme the referee recommends the applicant for teaching without reservation while at the other extreme the applicant is rated unsuitable for teaching.

For school leavers, the interview committee uses a school Principal's report and not referees' reports to aid their judgement of the applicant's suitability for teaching.

School Principal's Confidential Report

The Principal's Report is written for applicants who are either still at school or who have recently left school. Secondary schools have the advantage of seeing applicants over a number of years and during important stages of their development. As such, interview committees give careful attention to the

information contained in the Principal's Report. If an interview committee assesses the suitability of an applicant in quite contrary terms to those of the Principal, the Department of Education recommends that the school be contacted for further comment. [5] The Principal's Report asks the Principal to rate applicants as either above average, average, or below average over four areas.

These areas are:

- i] Language
- ii] Mathematics
- iii] Personality
- iv] General suitability for teaching

As well, the school Principal will report on the applicant's involvement with school and community activities, their experience of New Zealand and other societies, their estimation of the applicant's ability to carry out tertiary study, and their assessment of the applicant's self confidence, sense of humour, and manner.

The Principal is also asked to rate the applicant between the extremes of being either very suitable for teaching or very unsuitable. Information from the Application Form, Referees' and/or School Principals' Reports are used by the interview committee to guide their assessment of applicants in the interview.

The Formal Interview

Each candidate is formally interviewed, for approximately 20-30 minutes, by the interview committee at a location

[5] Department of Education circular, 1983/59, paragraph 19.

deemed suitable by the Education Board. The formal interview has two functions:

- 1] To allow the selection committee to assess the candidate's suitability for teaching and for study at a Teachers' College.
- 2] To give the applicant the opportunity to ask the interview committee questions about teaching and study in a Teachers' College.

No one is accepted into teacher training in New Zealand without a formal interview. During the formal interview, the interview committee assesses each applicant according to set criteria.

The Assessment Criteria

The assessment criteria used by the interview committee during the formal interview are detailed and extensive. (See Appendix 4 for a copy of the interview rating sheet).

The four criteria are Overt Personal Qualities which cover the visible aspects of personality such as self-confidence, self-control, sense of humour, commitment, deportment, and dress; Covert Personal Qualities such as initiative, resourcefulness, open-mindedness, integrity, and concern for people; Communication Skills, an assessment of this criterion depending on the school rating and, more important, the selection committee's judgement about powers of expression, fluency, clarity, flexibility, and general quality of speech; Involvement, which is assessed by the applicant's commitment to cultural, sporting, social, and welfare activities. While no direct credit is given to academic attainment, the completion of academic courses is taken as evidence of such qualities as commitment, industry, reliability, and maturity.

Ranking of Suitable Applicants

At the formal interview all suitable applicants are ranked in order of merit on a scale of 1 - 36. Each member of the committee apportions each applicant a score of between one and nine points for each of the four assessment categories, namely, personal qualities (overt), personal qualities (covert), communication skills, and involvement. The final ranking is achieved by totalling the four scores. In the case of unsuitable applicants, the interview committee must record the reason for its judgement.

How the criteria are used in deciding the order of merit of applicants is for each selection committee to decide. Department of Education policy for the ranking of applicants for Division "A" (primary) training in New Zealand is as follows:

"Before a final ranking is determined, the committee should agree on a ranking and the basis for this should be recorded. The final ranking order is used to determine the successful applicants for admission under quota by taking those from the highest ranking down until the quota is filled. In the event that the final few acceptances are to come from a group on the same ranking, the selection committee should agree on the order of merit of those applicants on that ranking."

[paragraph c9.14.6]

The ranking of applicants is finalised by the selection committee in each Board area. Notices to applicants of acceptance into training are not usually issued until quotas have been announced by the Department of Education. However, in some cases, Boards will confirm a place of training to the

most highly rated applicants soon after the interview. As well, most Boards hold a group of applicants on a waiting list until the drop-out rate from applicants who have been offered places but failed to take them is known. (See Appendix 5 for a flow diagram of the procedures from application to entering a course of Division "A" primary training.)

Conclusion

In summary, the procedures used in New Zealand to select Division "A" (primary) applicants appear to reflect two views about the nature of teacher training. The first is that successful teachers can be selected from a pool of applicants with very different and wide-ranging social, intellectual, and cultural backgrounds, and secondly, that any attempt to restrict flexibility of entry into teacher training would necessarily result in a corresponding drop in the quality of applicant admitted.

However, the review of the literature in the previous chapter indicated that there were weaknesses in current Division "A" selection procedures but that no studies had been carried out to identify precisely what these weaknesses were. Accordingly, the objective of this study was:

"To ascertain the weaknesses of Division "A"
(primary) selection procedures."

The following chapter will provide a description of the method used in the present study to achieve this objective.

CHAPTER THREE

METHOD

The research instrument used in this study of the weaknesses of Division "A" (primary) teacher selection procedures was the Delphi technique. The history and development of the Delphi technique are described as well as its advantages and disadvantages as a research tool. Details of how the sample (N=36) in this study was chosen from the population (N=170) of selectors of Division "A" candidates is discussed along with how responses were scrutinised and screened.

The chapter concludes with an explanation of how the statements of weakness offered by the selectors were ranked and how consensus of opinion was gauged.

General Description of the Delphi Technique

The Delphi Technique is a research tool developed for forecasting, policy-planning, and decision-making. The technique works on the parallel principles of "pooled opinions" (Dalkey, 1969, p415) and the fact that "two heads are better than one" (McGaw, et.al., 1976, p.59). It is a method of gathering opinions or judgements on a particular issue or problem. Opinions are elicited from experts, chosen because they are considered to be in the best position to make judgements about the issue or problem. The experts remain anonymous to each other. The opinions of the experts are combined and are subject to a process of refinement. Refinement is achieved through the use of a series of questionnaires and controlled opinion feedbacks. The experts are given the opportunity to revise their earlier views. Although termination criteria for an investigation can vary, most Delphi

studies are concluded when agreement or consensus of opinion has been reached.

Pioneers of the Delphi, Dalkey and Helmer, claim that the technique with its features of response anonymity and controlled feedback of information has several advantages over conventional means of collecting the opinions of experts such as round-table discussion and face-to-face meetings (Dalkey and Helmer, 1963).

The History and Development of Delphi

The Delphi technique was developed for forecasting and predicting events. The first known Delphi experiment was carried out by the RAND Corporation in California in 1948 when it was used to improve the prediction of horse-race outcomes. However, there were defects in the experiment and the criticisms the Delphi received overshadowed the promise it showed (Quade, 1967).

In the early 1950's, the RAND Corporation explored the effectiveness of using group information for short-term prediction of technological events. They set the prediction time-span for less than one year so as to enable them to check the resulting accuracy and reliability. Moreover, predictions were limited to very specific and narrow events. This experiment resulted in some interesting conclusions, the more important being that more accurate projection results could be obtained from combining individual responses. This quasi-Delphi experiment also demonstrated that preventions (e.g. keeping respondents anonymous) could be taken against dominant individuals influencing the opinions of a group.

Since the 1950's the RAND Corporation has carried out a number of research projects using the Delphi, including the top secret defence project known as "Project Delphi" (1953). "Project Delphi" was carried

out in conjunction with the United States Air Force, its aim being to forecast the international military situation between the years 1966 - 2015. Having refined the technique as a result of this experiment, the Corporation published a number of papers which detailed its work (See Quade, 1967).

By the 1960's the technique had become a popular research tool. Its use was extended to various scientific and technological fields as well as to diverse social, economic, and political endeavours.

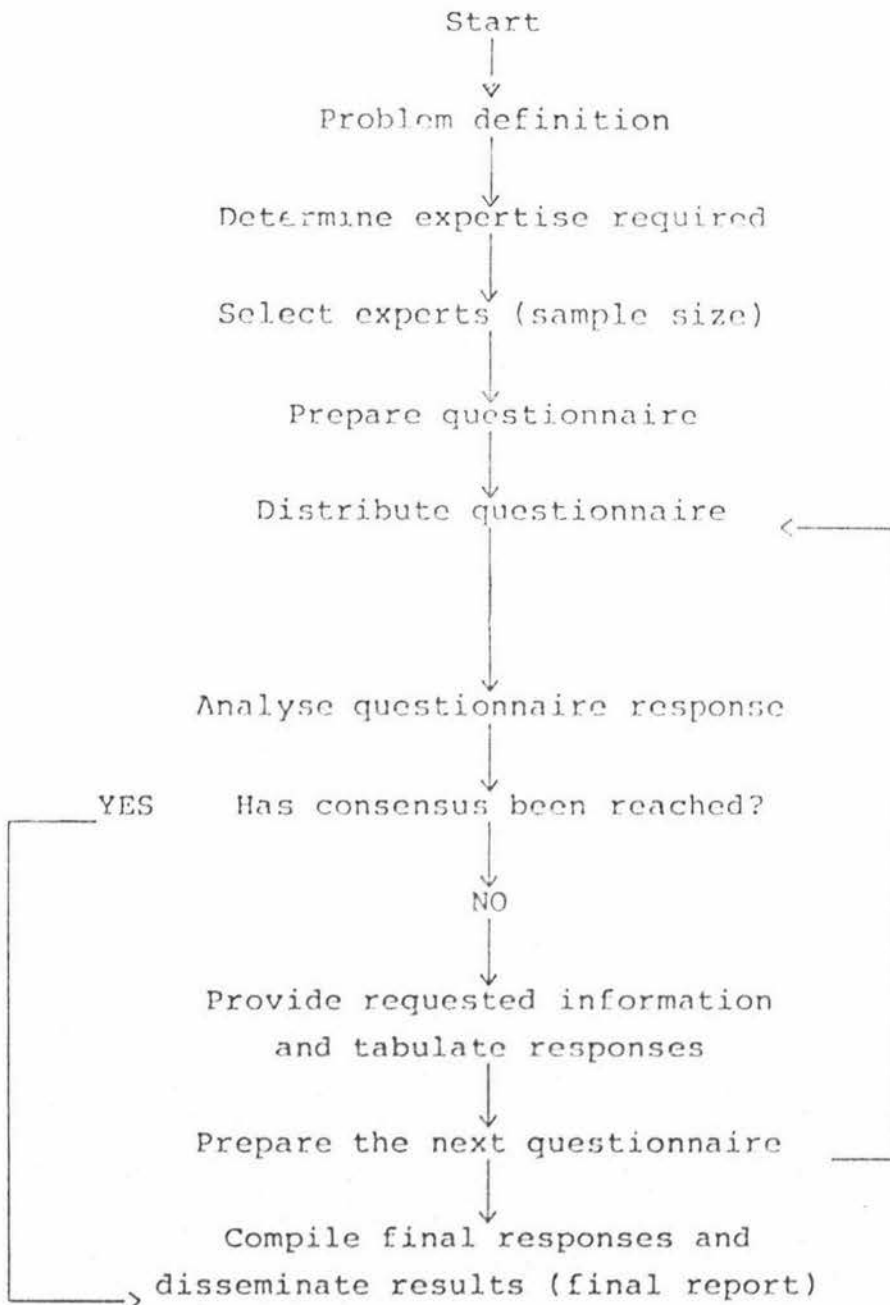
The Process and Characteristics of the Delphi Technique

In its application, the procedures of Delphi can vary. However, the flowchart (Figure 2) shows the typical Delphi process. This process begins with the assumption that to gather information for forecasting, policy-planning, or decision-making, the issue or problem must first be clearly defined. According to the requirements of the study, the expertise necessary to provide a solution to the problem is then ascertained. The experts are selected and the sample size is determined. Then a questionnaire is designed to elicit the opinions or views of the panel of experts. The questionnaire is then administered to the experts on an individual basis. When this questionnaire is returned, responses are analysed and summarised. If a consensus has not been reached, a further questionnaire is prepared on the basis of the previous responses, analysis, and summary. The new questionnaire, together with the analysis and summary, is then distributed to the respondents. This part of the Delphi process is repeated, as shown in Figure 2, until a final or satisfactory consensus is reached.

Most applications of the Delphi are characterised by three features:

FIGURE 2:

A FLOWCHART OF THE TYPICAL
DELPHI PROCESS



Source: W.E. Riggs, "The Delphi Technique, An Experimental Evaluation". Technological Forecasting & Social Change, Vol. 23. p.90, 1983.

- i] Response anonymity.
- ii] "Rounds" and controlled feedback.
- iii] Statistical group response.

i] Response Anonymity

The experts are asked to make independent judgments in response to a particular issue under study. In most studies the participants are required to keep their identity anonymous. This provides a way of reducing the effect of dominant individuals.

ii] "Rounds" and Controlled Feedback

Until consensus had been reached, a sequence of "rounds", each focussing the central research question, is administered to the experts. Generally three or four rounds are sufficient to arrive at consensus. However, further rounds can be added according to the complexities of the issue under investigation and the degree of clarification required. The general features of the different rounds are:

Round One

In this round a questionnaire is sent to each expert. The questionnaire outlines the problem of the study. The experts are asked to respond to this problem. (See Appendix 6 for a copy of a Round One questionnaire).

Round Two

The responses from the previous round are screened and summarised. Here some editing of the responses may be required. On the basis of the summary, a second questionnaire is drawn up. The questionnaire is sent to the experts, together with the summary list and their Round One responses. (See Appendix

7 for a copy of a Round Two questionnaire). In light of this feedback, the experts are asked to reconsider their previous opinions. Participants whose opinions deviated from the majority judgement may be asked to supply a brief rationale for their previous answers and their new replies.

Round Three

As before, the responses from Round Two are summarised and fed back to the experts in a new questionnaire. Once again the experts are asked to reconsider the content of the summary. A rating scale may be employed in this round so that they can indicate the relative importance of an issue or the desirability of the event if it occurs. (See Appendix 8 for an example of a Round Three questionnaire and the rating scale).

Round Four

This round or additional rounds may be administered according to the complexities of the investigation and the degree of clarification required. For this round the procedures described above are applied.

iii] Statistical Group Response

A statistical analysis in the form of median and standard deviation may be undertaken at the end of the second and/or third rounds.

Advantages and Disadvantages of Delphi

Dalkey and Helmer, pioneers of the technique, claim that the Delphi type of controlled interaction can avoid many of the disadvantages common to more conventional round-table discussions and other forms of meeting. They argue that confrontation in these face-to-face encounters often leads people to formulate preconceived

notions hastily, to close minds to novel ideas, and to be swayed by the persuasive opinions of others. (Dalkey and Helmer, 1963).

In summary, the main advantages of the Delphi Technique can be listed as follows:

- i] Its approach is non-technical and thus appropriate for use with a population not familiar with research techniques (Nash, 1978).
- ii] Although it is not always the aim of Delphi studies to be predictive, Delphi has proved to be a convenient vehicle for this type of research. (Nash, 1978).
- iii] It is comparatively inexpensive, quick, and involves much less effort than a conference. A well-designed, mailed questionnaire can elicit information from a relatively large number of participants who may be unable to meet together in one geographic place at the same time. (Helmer, 1966a; Pill, 1971; Rabiaga, 1982; Riggs, 1983.)
- iv] Empirical evidence has shown that the group consensus in Delphi has increased accuracy as compared with other kinds of group opinion. That is, results can be interpreted as being authentic rather than specious. (Dalkey, 1968).
- v] On issues that are uncertain and intangible, Delphi has been able to generate a consensus so that forecasting and planning can proceed. (Pill, 1971.)
- vi] When managed properly, Delphi exercises can have a highly motivating effect on respondents. They also tend to produce a high degree of panel commitment to the output. (Pill, 1971).

- vii] Delphi features of responses, namely anonymity, controlled information feedback, and statistical group response allow an equal opportunity for respondents to affect decision-making. This in turn reduces any group pressure for conformity or "band-wagon" effect and plays down the influence of dominant, highly articulate or high-status committee members. (Helmer, 1966b; Pill, 1971; Stenberg, 1979; Riggs, 1983).
- viii] Delphi exercises often accommodate novel and interesting feedback to respondents, thus minimising the possibility of overlooking some divergent viewpoints. (Pill, 1971; Battersby, 1977; Riggs, 1983).
- ix] Modifications to Delphi have meant that "expert" respondents are no longer limited to the "highly educated and experienced specialist" but rather they can include people who may contribute to the relevant information required. This creates in Delphi a more socially representative tool. (Cyphert and Gant, 1970).

The main disadvantages of Delphi are reported to be:

- i] Delphi exercises can be administratively complex and often take weeks or even months to complete (Preble, 1983).
- ii] The panel selection method can lead to a loss of a sampling technique which is a reliability requirement in any research work. This may cause doubts concerning the efficacy and representativeness of a group of "experts". Moreover, in some cases it may be problematic as some expert respondents may be known to each other and, therefore, their responses may not be strictly independent (Rabiega, 1982; Preble, 1983).

- iii] If the questionnaires are poorly designed and vague, communication misunderstanding may occur and responses may be of little value for analysis (Preble, 1983).
- iv] Delphi has reasonable forecast accuracy but the long-term accuracy of the technique is difficult to determine (Preble, 1983).

Application of Delphi in Education

Delphi studies in education date from the mid-1960's. One of the earlier studies was conducted by Helmer (1966a) as part of the 1965 Kettering Project. In this study, the Delphi was designed to produce a list of goals or innovative futures for education based on the consensus of various groups of experts. A chart of proposed educational innovations was produced as a final product. Since Helmer's investigation, a number of Delphi studies in education have been completed. Table 1 shows an updated list of these studies.

TABLE ONE

DELPHI STUDIES IN EDUCATION

Investigator	Year	Country	Topic	Year	Country	Topic	Investigator
T. J. Gordon R. Sore	1968	U.S.A.	To collect conjectures about productive environments which might have an impact on educational administration their probable dates of occurrence, & the desirability of such environments, should they occur.	1972	U.S.A.	To look into University needs.	D. P. Nacion
M. J. Byck G. J. Enery	1970	Canada	To prepare a series of forecasts on social conditions which tend to be important in educational planning.	1972	U.S.A.	To examine the relationship between education & society within next thirty years.	D. F. Bergnafer
J. Jacobson	1970	U.S.A.	Designing Education for the Future—A One State Study (Utah).	1971	U.S.A.	To refine the institutional inventory developed by N.P. Dahl.	R. C. Peterson
A. M. Fox M. C. Froehner	1971	U.S.A.	To link the legimants of effective college teaching.	1977	New Zealand	To arrive at some consensus views on what seems a beginning teacher successful during his first year of teaching.	D. Battarby
S. C. F. Clare M. F. Gault	1971	Canada	To formulate statements about the future of teacher education.	1982	Canada	To gain some feeling of what various groups believed to be the most desirable future for Carleton University.	P. Gross
M. C. Sore R. M. Sore	1973	Australia	To determine the reaction among secondary school teachers to proposed changes in high school examinations and the effects of these changes on school assessment procedures.	1979	U.S.A.	To stimulate speculation about desirable goals for a secondary school district in Ohio.	D. P. Anderson
V. Feherly	1979	U.S.A.	To achieve a level of consensus relative to theories, methodologies & content areas of continuing social work education & to project a functional model of continuing model work education useful for intermediate & long-range program planning.	1973	U.S.A.	To study the perceived needs of vocational educational in New York State.	D. Hudgastin
A. Starr-Cooney	1982	New Zealand	To obtain a consensus on the most important tasks that needed to be undertaken for education in Developing Countries.	1973	U.S.A.	To clarify and assess the wishes, aspirations & opinions of clientele reacting obja those for the school of Education at the University of Virginia.	F. M. Gopert M. L. Gault
M. A. Rylance	1982	U.S.A.	To describe another alternative teaching tool the classroom Delphi which is modified to organize & generate classroom discussion.	1972	U.S.A.	To probe the effectiveness of student participation in junior college administration.	M. Moore
T. Sotwell	1983	U.S.A.	To attempt to forecast the long-range general environment for higher education in the State of Michigan.	1972	U.S.A.	To investigate (in a small number of institutions) what one campus & off-campus groups perceive the goals of their institution to be, as well as what they believe the goals to be.	M. P. Del
D. Welver	1986	U.S.A.	To produce a list of goals & innovative future for education.	1971	U.S.A.	To determine the school & community attitude to year-round school operation in Nebraska.	F. Barlett, J. Rye, J. Weyss, A. Brown, J. Gault, M. Sore, M. Sore
S. Cochran M. C. Crowley B. A. Garry R. C. Jurek	1970	U.S.A.	To arrive a list of teacher characteristics.	1972	U.S.A.	To generate a number of targets for the future of teacher education.	M. F. Gault
	1970	U.S.A.	To arrive a variety of attitudes within a liberal Arts College towards an experimental curriculum	1973	U.S.A.	To determine whether secondary, students, community teachers, collectively & individually, differ in their perception of the importance of secondary educational goals.	S. J. Gault M. L. Gault

TABLE ONE

DELPHI STUDIES IN EDUCATION

Researcher(s)	Year	Title/Subject of Study	Country	Limit	Year	Researcher(s)	Year	Title/Subject of Study	Country	Limit
R.C. Judd	1970	To sample a variety of attitudes within a liberal arts college towards an experimental curriculum.	U.S.A.	Normative	1970	R.C. Judd	1970	To sample a variety of attitudes within a liberal arts college towards an experimental curriculum.	U.S.A.	Normative
D.P. Norton	1972	To learn into university needs.	U.S.A.	Normative	1972	D.P. Norton	1972	To learn into university needs.	U.S.A.	Normative
D.F. Jacques/er	1972	To examine the relationship between education & society within next thirty years.	U.S.A.	Normative	1972	D.F. Jacques/er	1972	To examine the relationship between education & society within next thirty years.	U.S.A.	Normative
R.L. Peterson	1971	To refine the institutional inventory developed by M.P. Uhl.	U.S.A.	Normative	1971	R.L. Peterson	1971	To refine the institutional inventory developed by M.P. Uhl.	U.S.A.	Normative
D. Battersby	1977	To arrive at some consensus view on what makes a beginning teacher successful during his first year of teaching.	New Zealand	Normative	1977	D. Battersby	1977	To arrive at some consensus view on what makes a beginning teacher successful during his first year of teaching.	New Zealand	Normative
P. Evans	1983	To gain some feeling of what various groups believed to be the most desirable future for Carleton University.	Canada	Normative	1983	P. Evans	1983	To gain some feeling of what various groups believed to be the most desirable future for Carleton University.	Canada	Normative
Several groups of expert respondents										
D.P. Anderson	1970	To stimulate speculations about desirable goals for a country school district in Ohio.	U.S.A.	Normative	1970	D.P. Anderson	1970	To stimulate speculations about desirable goals for a country school district in Ohio.	U.S.A.	Normative
D. Madson	1972	To study the perceived needs of educational administrators in New York State.	U.S.A.	Normative	1972	D. Madson	1972	To study the perceived needs of educational administrators in New York State.	U.S.A.	Normative
F.R. Cypert W.L. Gant	1973	To clarify and assess the wishes, aspirations & opinions of clients respecting objectives for the school of Education at the University of Virginia.	U.S.A.	Normative	1973	F.R. Cypert W.L. Gant	1973	To clarify and assess the wishes, aspirations & opinions of clients respecting objectives for the school of Education at the University of Virginia.	U.S.A.	Normative
M. Wesson	1973	To assess the effectiveness of student participation in junior college administration.	U.S.A.	Normative	1973	M. Wesson	1973	To assess the effectiveness of student participation in junior college administration.	U.S.A.	Normative
M.P. Uhl	1973	To investigate in a small number of institutional what campus & off-campus grounds perceive the goals of their institution to be, as well as what they believe the goals "a be."	U.S.A.	Normative	1973	M.P. Uhl	1973	To investigate in a small number of institutional what campus & off-campus grounds perceive the goals of their institution to be, as well as what they believe the goals "a be."	U.S.A.	Normative
J. Barrett, J. Bae, J. Hayes, B. Brown, J. French, W. Watson, W. Swanson, W. L. Gant	1971	To determine the school & community attitude to year-round school operation in Nebraska.	U.S.A.	Normative	1971	J. Barrett, J. Bae, J. Hayes, B. Brown, J. French, W. Watson, W. Swanson, W. L. Gant	1971	To determine the school & community attitude to year-round school operation in Nebraska.	U.S.A.	Normative
S. J. Deaton W. L. Gant	1972	To generate a number of targets for the future of teacher education.	U.S.A.	Normative	1972	S. J. Deaton W. L. Gant	1972	To generate a number of targets for the future of teacher education.	U.S.A.	Normative
S. J. Deaton W. L. Gant	1973	To determine whether educators, students, community teachers, collectively & individually, differ in their opinion of the importance of secondary educational tests.	U.S.A.	Normative	1973	S. J. Deaton W. L. Gant	1973	To determine whether educators, students, community teachers, collectively & individually, differ in their opinion of the importance of secondary educational tests.	U.S.A.	Normative

It can be seen from this Table that, while in some studies the exploratory Delphi has been used for forecasting educational futures, virtually all Delphi applications are normative [1] in nature. Moreover, the applications of Delphi shown in Table 1 demonstrate that the Delphi Technique is capable of satisfying a wide range of educational research needs. These studies also show some of the different modifications of the Delphi, such as, for example, in the selection of the panel where some studies have used only a single group of expert respondents while others have used either several groups or a range of interest groups as their respondents. Generally, then, studies in education which have used the Delphi technique can be grouped in one of four ways.

- i] For educational planning.
- ii] For developing desired educational events.
- iii] For designing educational evaluation.
- iv] For searching out educational and curricular objectives.

In terms of the aim of the present research which is to ascertain the weaknesses of Division "A" teacher selection procedures, the application of the Delphi technique is particularly appropriate.

Rationale for the Use of Delphi in the Present Study

Since the development of the Delphi Technique in 1948, it has been used widely in many fields to elicit expert consensus on certain issues so as to facilitate forecasting, policy-planning, and decision-making. As Table 1 shows, a number of successful studies have

[1] The term "normative" is used to describe research which has been undertaken to ascertain the normal or typical condition of the subject in question. This study employed a normative research design to investigate the typical weaknesses of Division "A" selection procedures in New Zealand.

had similar research designs to the present study. (Fox and Brookshire, 1971; Hudspeth, 1970; Deutsch and Hamm, 1975; Battersby, 1977; Cochran, Crumley, and Overby, 1970). Battersby (1977) is quick to point out that whenever the Delphi Technique is used, a number of methodological criticisms invariably arise. However, most of these relate to the use of the technique as a technological forecasting tool, (that is, can it accurately predict the future), and not as an instrument to generate consensus of opinion. There were three main reasons why the Delphi Technique was used in the present study. First, the aim of this study presented a typical Delphi problem in that it sought to arrive at consensus of opinion about the weaknesses of Division "A" teacher selection procedures. Secondly, most exponents of Delphi agree that, as a method for establishing group opinion, it may eliminate some of the disastrous elements of face-to-face group activity such as "specious persuasion, the unwillingness of people to abandon positions to which they have publicly committed themselves, and the coercion towards the opinion of the majority" (McGaw et.al., 1976, p.60). In light of the sensitive nature of the topic under investigation in the present study and in view of the fact that with Delphi respondents remain anonymous to each other, this characteristic seemed particularly significant. And thirdly, low attrition rates appear to be another favourable characteristic of the Delphi technique (Battersby, 1977). Because of the feature of controlled feedback, respondent interest in the study is kept high, and this was considered to be particularly important in the present study. The Delphi Technique, then, was adjudged to be appropriate for achieving the aims of this study. The Delphi design chosen was classified as normative. Weaver (1972) distinguishes between exploratory and normative applications of the technique. He maintains that exploratory Delphis seek to develop a picture of the future as it is expected to be whereas normative Delphi studies are designed to facilitate the formulation

of goals and objectives, to evaluate certain criteria, and to establish the shape of the future that is required.

Such a design consists of three or four rounds of questionnaires. The aim of the questionnaires, was to arrive at a general consensus about the weaknesses of Division "A" teacher selection procedure from a sample of experts.

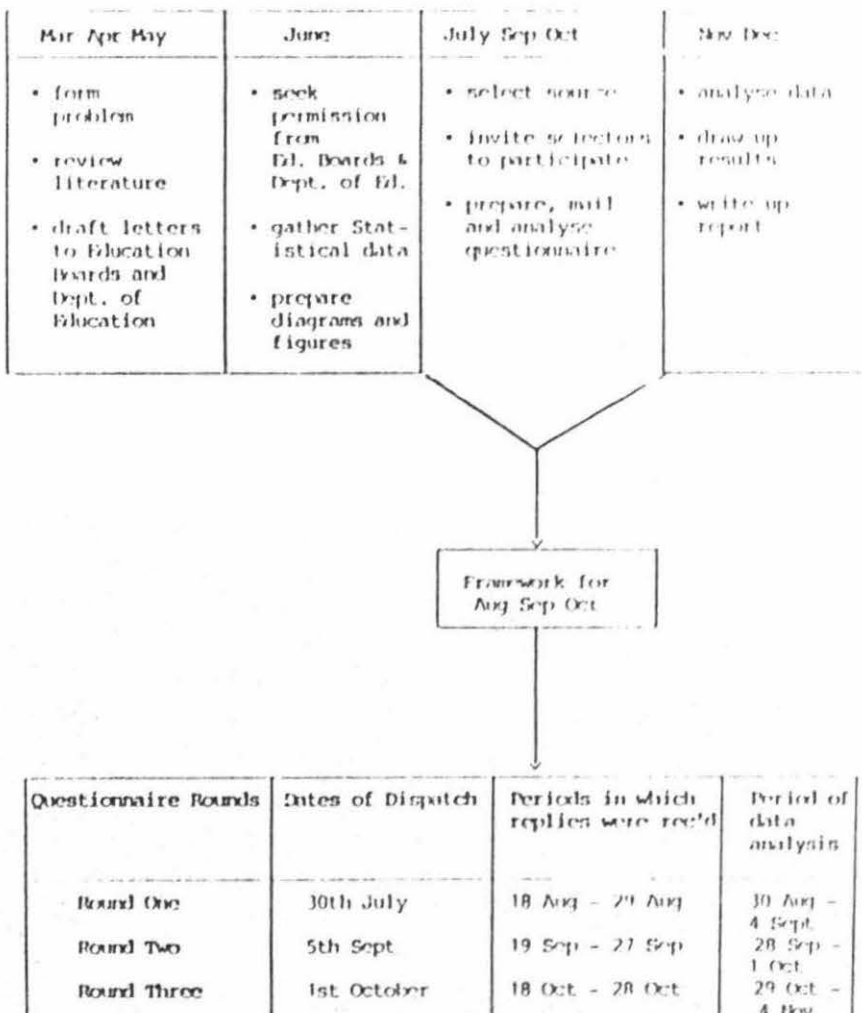
The remainder of this chapter will present information on the framework adopted in this study and the selection of the sample.

The Framework of the Study

Figure 3 shows the overall framework of this Delphi project.

FIGURE 3

THE DESIGN AND TIMETABLE OF THE STUDY (1986)



The study was divided into four phases, a summary of each phase being given below:

Phase One:

In March and April 1986, the investigator formulated the problem and reviewed the relevant literature.

Phase Two:

During the period May to July, the research design was planned and the first letter and questionnaire for the Delphi were drafted and prepared.

Phase Three:

August and September were spent administering the rounds of questionnaires which included screening, editing and summarising the responses as well as preparing new questionnaires.

Phase Four:

During the period October to December, the data were analysed, results were drawn up, and the final report was written.

Phase One

An important part of phase one, formulating the research problem and reviewing the relevant literature, also involved seeking the permission of the Department of Education and the Education Boards to carry out the study.

Permission

In March 1986, the Department of Education was notified of the project and subsequently gave its approval for the study to proceed. In May, a request for permission to contact selection committee members was posted to the Managers of the Education Boards. (See Appendix 9 for a copy of this letter). Letters of consent were received from nine out of the ten boards.

The boards who accepted the invitation were:

1. Auckland
2. Hamilton
3. Hawkes Bay
4. Wanganui
5. Wellington
6. Nelson
7. Canterbury
8. Otago
9. Southland

The tenth board, Taranaki, declined to participate because it was in the process of reorganising its selection committee and suggested that, at this point in time, it was not appropriate to be involved in the study. Having received permission from the Department of Education and from Education Boards, the next task was to invite a sample of selectors from the available pool of selectors to participate in the study (See Appendix 10 for a copy of the letter of invitation sent to the selectors).

The Selection of the Sample

The size of the pool of selectors within each Education Board varies. Wellington, for example, has a pool of selectors which numbers 45 while a small Board, such as Nelson, has only four selectors. In choosing the number of selectors for the sample from each Board, several factors were taken into account. These were:

- i] The objectives of this study. These dictated the selection of a sample comprising persons of experience with, and knowledge of, Division "A" selection procedures in New Zealand. It was important for the sample to be large enough to represent the population of selectors accurately (Sowell and Casey, 1982). This means that a summary of the opinions of the sample selectors would be a reasonably accurate assessment of the

opinions of all the selectors of Division "A" candidates in New Zealand. Gay (1982) maintains that the validity of the sample (i.e. the degree to which the views of the sample of selectors represent those of all the selectors of Division "A" teacher candidates in New Zealand) is influenced by both the composition or balance of the sample and its size. For survey/questionnaire type research, a sample of ten percent of the population is considered a minimum. In the present study, the sample (N=36) was 21 percent of the total population (N=170) of Division "A" teacher selectors in New Zealand. To ensure that the sample was evenly balanced, a stratified random sampling method was implemented. [2]

ii] To give consideration to the fact that particular Education Boards may have had selection weaknesses that were peculiar to their Boards. To avoid the problem of the opinions of a large group of selectors from one Board "skewing" (Downie and Heath, 1970) the opinions of the whole sample population, it was important to select an equal number of selectors from each of the nine Education Boards.

iii] Literature on Delphi reveals that although selection of a large sample (usually hundreds of participants) has its advantages, it also has its hazards. Some Delphi investigations have selected panels up to 1000 respondents in order to avoid what Judd (1972) refers to as the hazard of creating "inbreeding", i.e. selecting people who would reflect a singular set of judgements on a particular issue or problem. However, Cyphert

[2] In this kind of sample, the population is divided into classes. In the present study, there were four classes of selectors, each selector representing one of the following organisations: a] The N.Z.E.I. b] The Teachers' College c] The Education Board and d] The Department of Education.

Gant (1970) reported that associated with the selection of a large number of participants for a Delphi study is the attendant problem of attrition and, in turn, the remaining active participants not being broadly representative of the larger sample that was sought.

- iv] McGaw, et al. (1976) also point out the problem of excessive administrative work involved with Delphi studies utilising extremely large samples of respondents.

Keeping in mind the considerations outlined above, the sample in the present study was selected the following way: Each of the nine Education Boards who agreed to participate in the study sent in the names of their selectors which were further sub-grouped according to the organisation that each selector represented, viz., the N.Z.E.I., the Teachers' College, the Education Department, and the Education Board. Selection of a stratified random sample of selectors from each Board was achieved by selecting the first name at the top of each sub-group of selectors.

In summary, this meant that a sample of four selectors had been chosen from each of the nine participating Education Boards (N=36) and that each of the four teacher education organisations (the N.Z.E.I., the Teachers' College, the Department, and the Board) were evenly represented in the sample. The sample members were:

- i] both male (n=28) and female (N=8)
- ii] had an average of 5.8 years selecting Division "A" primary teachers (range 1 - 18 years)
- iii] held a wide variety of positions within the organisations mentioned:

Senior Teachers in primary schools	(N=3)
School Principals	(N=5)
District Senior inspector	(N=1)
Primary School inspectors	(N=8)
Teachers' College lecturers	(N=6)
Teachers' College Vice-Principals	(N=2)
Teachers' College Deans	(N=2)
Education Board members	(N=9)
(one of whom was an Education Board Chairperson).	

The sample members were on average 52 years of age (range 29 - 72) and included three selection committee chairpersons, two of whom were women [See Appendix 10 for details of how this information was ascertained).

Once the sample (N=36) of names was obtained, letters of invitation were posted to each selector (See Appendix 11 for a copy of the letter of invitation). This letter stressed that responses would be treated as strictly confidential by the researcher and that participants were not to discuss their views with colleagues until the Delphi had been completed.

Of the 36 who were sent invitations all replied by indicating that they wished to participate. Having finalised the sample, the next task in the study was to design and implement the questionnaire rounds.

Questionnaire Rounds

In the Delphi process, it is commonly accepted that three or four "rounds" of questionnaires are necessary for the identification of an acceptable response consensus. Cyphert and Gant (1970), in their exhaustive analysis of the Delphi investigations, concluded that 99% of respondents' changes in opinions had taken place by the third round of the Delphi procedure. The findings of Weatherman and Swenson (1974) also confirm that, for most Delphis, three rounds are usually adequate. Dajani, Sincoff and Talley (1979), in their discussion of this issue, suggested that it is important

for Delphi investigators to look into the consistency of responses between successive rounds and the stability of an individual's responses to the given questions before terminating a Delphi investigation.

In light of these assertions, it was decided that a three round Delphi format would be employed and that additional rounds would be added if a consensus was not reached by the third round. The three rounds of questionnaires used in this study are described below:

Round One

The issue involving the character of Round One focusses on whether to use closed-ended statements or an open-ended approach in asking the panel to respond to the problem under investigation. In the closed-ended approach, participants usually choose their responses from a list of prepared statements or they complete partly structured phrases. Uhl (1971) and Peterson (1971) found that the closed-ended approach has the advantage of saving time since Round One responses do not have to be collated or edited. Nevertheless, a disadvantage of the closed-ended approach is the likelihood of omitting important statements and limiting the participants' freedom in responding to the problem.

Accordingly, to avoid these weaknesses, an open-ended approach was used in Round One of this Delphi study because it -

- 1] provided participants with the freedom to respond to the problem and
- 2] avoided any bias towards a structured consensus.

On this basis, respondents were sent a letter which thanked them for responding to the invitation and welcomed them to the study (See Appendix 12 for a copy). Attached to this letter was a response form detailing

their name and address and the central research question which was:

"Please list what you consider are the weaknesses of Division "A" (primary) selection procedures."

Respondents were given three weeks to reply and each was supplied with a stamped, addressed envelope for the return of their replies.

All of the 36 participants replied to Round One. In Round One a total of 203 statements of weaknesses were listed by the 36 participants. The number of statements per participant ranged from 0-13 with most listing five or six weaknesses. Through a process of scrutinising and screening, the 203 statements were reduced to a summary of 41 weaknesses. This elimination process was achieved in three stages.

Stage One : Categorising

When each response was received, it was carefully read by the researcher. Generally, weaknesses listed by the respondents focussed on one particular aspect of the selection procedures. Accordingly, a clear pattern for categorising responses soon emerged. Responses were categorised using key words as headings. (Table 2 below). Beside each heading is a percentage which indicates the proportion of the 203 statements which were categorised under each heading.

The category headings which emerged and which were used to group the 203 responses in Round One were:

TABLE 2:

ROUND ONE Responses (By Category) as percentage of the Total Number of Statements of Weakness (N=203).

A	General	24.63
B	The panel	22.66
C	The Interview	17.24
D	"Academic" as a Criterion	11.82

Table 2 continued:

E	Secondary School Principal's Report	6.89
F	Quotas	4.92
G	"Involvement" as a Criterion	3.94
H	Referees' Reports	3.94
I	"English" as a Criterion	1.97
J	Recruitment	1.97

Responses were received from participants over a period of four weeks. This enabled the researcher gradually to build up a series of statement in each category against which later responses could be compared. In this way, duplications were quickly detected and eliminated. Only exact duplications were eliminated, for example, the three statements below, each concerned the "academic" criterion as one aspect of the selection process and so were scrutinised as duplicates:

- 1] Abandoning the academic criterion has weakened the selection procedures.
- 2] Removing the academic criterion has made the selection procedures less effective.
- 3] Deleting the academic criterion has weakened selection procedures.

Statements with similar, but not identical, meaning were retained. For example:

The academic criterion as it now stands fails to give selectors any idea about whether a candidate is suitable for tertiary study.

The 203 statements in Table 2 were first screened and scrutinised to eliminate duplications. Accordingly, the original list of 203 statements of weakness was reduced to 108 statements. Within the list of 108 statements were clusters of responses with similar, but not identical, meanings. Grouping these statements into clusters constituted stage two of the screening process.

Stage Two: Clustering and Summarising

Statements with similar meanings or themes were clustered together. Subsequently, each group of related statements was scrutinised and summarised into a single concise statement. An example of how a group of six related responses in Round One was reduced to a concise statement is detailed below. In this instance, the theme is selection procedures as a measure of teaching effectiveness.

Statement One:

At interview time, many candidates have not had the opportunity to demonstrate commitment to teaching or their ability to relate to a group of children. Accordingly, present selection decisions are made too early.

Statement Two:

Present selection procedures are not conducive to the collection of sufficient information on candidates' commitment to teaching or their ability to relate to a group of children.

Statement Three:

There is no opportunity to observe interviewees in a practical teaching situation.

Statement Four:

Selection decisions are made too early. Teachers' College staff should be given the opportunity to see applicants working with a group of children.

Statement Five:

It is virtually impossible with current selection procedures to select the best candidates. Each candidate should be given the opportunity to demonstrate their teaching ability.

Statement Six:

Present selection procedures do not provide sufficient time to explore the range of skills required to teach effectively.

These six statements were clustered and then summarised. The summary statement was:

"Current selection procedures fail to provide sufficient information on each candidate's ability to teach effectively."

Often, one or two sub-themes emerged within a cluster of statements. In statements one and two above, for example, where commitment to teaching is considered an issue, it was important to preserve the original meaning intended by the participants. In these cases, the researcher ensured that the sub-theme (commitment) was covered by a summary statement from another cluster. The process of extracting sub-themes from clusters of statements and of ensuring that they are "covered" by other summary statements is called "sub-theme extracting". The summary statement from the cluster of statements on the theme of commitment read:

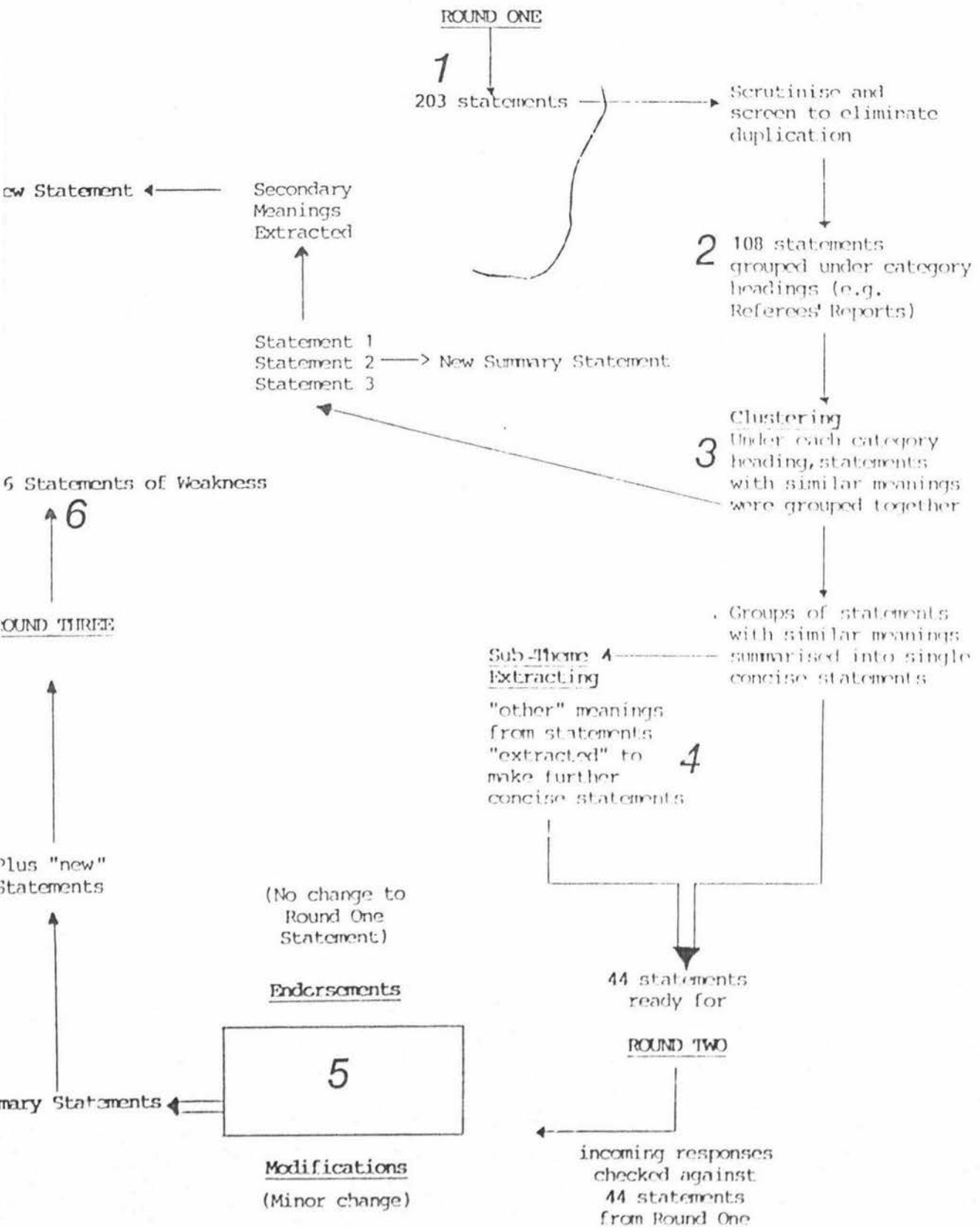
"As a criterion, commitment is too difficult to assess."

Using this process of clustering by theme, sub-theme extracting, and summarising, the researcher arrived at a final list of 44 statements of weakness in the current Division A selection procedures.

Figure four below illustrates how the original list of 203 responses was reduced to 44 summary statements.

The final list of 44 items was mailed to the participants as feedback information for Round Two.

THE PROCESS OF ARRIVING AT THE 46 STATEMENTS
OF WEAKNESS OF DIVISION "A" TEACHER
SELECTION PROCEDURES



Round Two

Each of the 36 participants who replied to Round One were sent a covering letter with instructions. Accompanying the letter was a summary list of the 44 statements of weakness of Division "A" selection procedures collected from Round One and also the Round Two questionnaire. (See Appendix 13 for a copy of the Round Two instructions).

The second questionnaire outlined the problem statement again. The participants were asked to:

- a] Consider their own Round One comments and the comments of their colleagues, as summarised by the 44 statements of weakness.
- b] Compile a short list of concise statements which they considered that best expressed the weaknesses of Division "A" selection procedures.

Although they were not sent a copy of their Round One responses participants could respond to the Round One summary of weaknesses by:

- 1] retaining their original Round One responses or
- 2] choosing summary statements and modifying them or
- 3] adding new statements of weakness to the summary list or
- 4] choosing statements from the summary list of Round One responses without modifying them or
- 5] a combination of the above

All 36 participants replied to this round. The completed questionnaires were examined and coded as follows:

Responses received from Round Two were checked against the summary list of 44 statements of weakness compiled in Round One. Where participants had chosen a statement from the summary list without altering it, the code "exact" was marked against the statement. This was termed an "endorsement". In cases where participants

nature of the change was noted. This was termed a "modification".

Below is an example of the endorsements and modifications which statement ten received from participants.

10] Referees' Reports are not a reliable source of Information about applicants:

exact

exact

...are usually quite useless as a reliable ...

Some referees' ...

... applicants and as such do not warrant the importance given to them.

In the main, referees ...

exact

exact

... particularly reliable.

Nine participants responded to statement ten. Four of the ten felt that the statement did not need modification while the remaining five made minor alterations to the statement.

Taking into account the endorsements and modifications made to each statement, a new summary statement was compiled. The new summary statement for weakness ten was:

Generally, referees' reports are not a reliable source of information about applicants

This summary negates the inclusion of the modification "...applicants and as such do not warrant the importance given to them." in the sense that selectors would not accord a referee's report importance if it was not seen as a reliable source of information about the applicant.

Using this process of endorsement, modification, and summary, a list of 46 statements was prepared for Round Three. Included in this list were 4 new weaknesses [3] which had not been recorded in the Round One summary but which participants thought should be included as weaknesses of Division "A" selection procedures. The four new statements of weakness were:

- i] "The criteria for selection are not reviewed regularly".
- ii] "Pre-interview tests (e.g. for testing mathematics and English skills) are not held before interviews".
- iii] "Quotas are imposed."
- iv] "Applicants with extreme views on race and religion can be rated highly on other grounds and gain entry."

In addition, when all responses had been scrutinised, it was found that three statements from Round One had not been mentioned in Round Two and so these were subsequently removed from Round Three. They were:

Statement 22:

There is too much emphasis on attempting to judge the applicant's commitment to teaching.

Statement 24:

Being legally bound to teach anywhere in New Zealand at the completion of training may act as a deterrent for some candidates.

Statement 41:

Applicants are not given a choice of which college to attend.

These three deleted statements (statements 22, 24 and 41) were replaced by "new" statements (i), (ii) and (iii) respectively for the Round Three questionnaire. Finally as a result of the screening process, it was decided to make two statements out of Round One Statement 12

[3] Four different respondents each contributed one new weakness.

which was:

"The membership of some interview committees changes too frequently while some long-serving members lose motivation, awareness, and acuity."

The two new statements for Round Two which were derived from statement 12 in Round One were:

Statement 12:

The membership of interview committees changes too frequently.

Statement 13:

Some long-serving members of interview committees lose motivation, awareness, and acuity.

So as not to disrupt the order of the Round Two statements, the new statement 13 above was renumbered as statement 44 for the Round Three questionnaire.

When old items had been summarised, new items included, and unmentioned items deleted from Round Two responses, the new list of 46 statements of weakness of Division "A" selection procedures was compiled for the Round Three questionnaire and the feedback information.

Round Three

In this Round, each of the 36 participants was sent a package including a covering letter, the new summary list of weaknesses, and the Round Three questionnaire (See Appendix 14 for the Round Three covering letter). The instructions directed the respondents first to consider the panel's summary list of weaknesses. Then, they were asked to express their opinions by indicating with the help of a 5-point Likert-type scale [4] provided

[4] The Likert type scale was used because of its simplicity and suitability for the Delphi investigation. (See Cochran et al., 1970; Fox and Brookshire, 1971; Judd, 1972; Deutsch and Hamm, 1975).

whether they considered each statement to be an expression of a major or a minor weakness of current Division "A" selection procedures. The participants were to record their opinion by circling a number on the scale between the two extremes of "Major" and "Minor" weakness which were marked as a 5 and a 1 respectively. The scores which were attributed to each statement by the selectors were then collated so that four measures of variability could be calculated. The four measures of variability which were calculated for Round Three results were:

- i] Maximum and Minimum scores. These indicated the highest and lowest scores that were attributed to each statement of weakness by the selectors [5].
- ii] The Mean and Standard Deviation. Calculation of the Mean and Standard Deviation of each statement was carried out in order to establish the relative importance of each item and also to assess the degree of consensus reached in this Round.

Ranking of Statements and Assessment of Consensus

Using the mean values, the statement with the highest mean was ranked the highest. When there was a tie in the Mean values of two or more items, the item with the smallest Standard Deviation (i.e. the highest consensus) would be ranked highest amongst the tied items. Below is an extract taken from Table 7, page 84. This extract provides an example maximum and minimum scores as well as showing how statements in Round Three were ranked according to Standard Deviation and Mean.

[5] It was interesting to note, for example, that in the final analysis one statement had been ranked in the "top ten" category of weaknesses yet had not been scored as a "5" by any of the selectors. (See Table 4 for further examples).

Rank	Statement	Mean	ST.D	Min	Max
1	As a criterion, commitment is too difficult to assess	3.636	.962	2	5
2	Selectors cannot be confident that the applicant's qualities that they are assessing can actually be assessed within the time available and with the instruments now being used for selection.	3.606	1.197	1	5
3	Referees' Reports are not always a reliable source of information about applicants.	3.515	1.228	1	5
4	The procedures fail to provide sufficient information on each candidate's ability to teach effectively.	3.485	1.503	1	5
5	The Government times its announcement of quotas too late after the interview.	3.485	1.523	1	5
6	Not enough emphasis is given to teacher recruitment, especially recruitment of males, adults and Maori applicants.	3.455	1.481	1	5

In this extract, the statement ranked 1 had the highest Mean compared to all the other statements. The Statement ranked 2 had the second highest Mean and so on. Because statements 4 and 5 had equal Mean values, the statement with the smallest Standard Deviation (i.e. the highest consensus) was ranked the highest amongst them.

A complete list of the Round Three responses was compiled using Rank, Mean, Standard Deviation, and values Maximum and Minimum.

At this stage in the research, a further analysis was carried out on the results of Round Three to ascertain the degree of consensus on the weaknesses of Division "A" (primary) selection procedures.

Cyphert and Gant (1970), as well as Weatherman and Swenson (1974), have concluded that the opinions given in three rounds of Delphi investigations are usually adequate for general consensus. To confirm this, the Coefficient of Variation (V) was used. The use of this procedure in Delphi investigations was developed by English and Kernan (1976).

English and Kernan, in their Delphi study of the future of air travel and aircraft technology, used the Coefficient of Variation in conjunction with a decision rule as the stopping criterion. The Coefficient of Variation was calculated by dividing the Standard Deviation by the Mean of the responses. They selected ranges for the Coefficient of Variation and associated these ranges with decision rules that defined consensus and, hence, a strategy for continuing or terminating Delphi rounds. Table 3 below gives details of the Coefficient of Variation and stopping rules that were established by English and Kernan.

Table 3:

Coefficient of Variation as a Stopping Criterion:

<u>Coefficient of Variation</u>	<u>Decision Rule</u>
$0 < V \leq 0.5$	Good degree of consensus; no need for an additional round.
$0.5 < V \leq 0.8$	Less than a satisfactory degree of consensus; possible need for an additional round.
$V \geq 0.8$	Poor degree of consensus; definite need for an additional round.

Source: G.M. English and G.L. Kernan, "The Prediction of Air Travel and Aircraft Technology to the year 2000 using the Delphi Method.", Transport Research., Vol.10, pp.1-8, 1976.

They recommended the use of the Coefficient of Variation as a measure of stability of Delphi studies. This can be achieved by checking for changes in the Coefficient of Variation within each round and between successive rounds and terminating the inquiry when such changes assume a predetermined small value (See Appendix 15 for Round Three results and details of how consensus was calculated).

As the ranges chosen by English and Kernan were based on the decision rules that defined consensus and their application had proved to be useful as a strategy for termination of the Delphi rounds, it was decided to use the same ranges in this study.

CONCLUSION

The research design adopted in the present study has been outlined in this chapter. Along with its history and development, the rationale for the use of the Delphi Technique as a research tool to determine the weaknesses of Division "A" (primary) selection procedures was outlined. Raised in the discussion were a number of issues including the technique's validity when used as a research tool for generating consensus of opinion, its recent successful use in studies with similar research designs, and its suitability as a research tool for investigating potentially sensitive issues.

It was also pointed out that the present study employed a stratified random sample representing 21 percent of the population of Division "A" selectors in New Zealand. The chapter concluded with a detailed discussion of how each round of responses was edited and screened, including an explanation of how statements were ranked and how consensus was determined. The following chapter will discuss the results obtained for the three Rounds of questionnaires.

CHAPTER FOUR

RESULTS AND DISCUSSION

In response to the three Round Delphi employed in this study, a total of 46 weaknesses of Division "A" teacher selection procedures was reported by the sample. After statistical analysis, 11 of the 46 weaknesses were found to be major and significant. On this basis questions are raised about the overall effectiveness of teacher selection procedures in New Zealand.

Round One Results

In response to the request to write down their opinions of the weaknesses of Division "A" (primary) selection procedures (see Appendix 6 for a copy of the Round One questionnaire), participant returns contributed a total of 203 response statements. An example of the types of weakness stated by participants is shown below and further examples are given in Appendix 13.

An example of a Round One response to the question regarding the weaknesses of Division "A" selection procedures was as follows:

- 1] They reflect white middle class values and, as such, disadvantage minority groups.
- 2] All candidates are interviewed.
- 3] The academic criterion is too low.
- 4] They fail to accurately predict success in teaching.

After editing the 203 statements to eliminate duplications, a new list of 108 responses was compiled. Through a process of further screening, clustering, sub-theme extracting, and summarising which was outlined in the previous chapter, a summary of 44 concise statements was compiled. (See Table 4).

TABLE 4:A Summary List of Respondents' Round One Responses

The weaknesses of Division "A" (primary) selection procedures are:

- 1] They fail to provide sufficient information on each applicant's ability to teach effectively.
- 2] Low ranking Maori and Pacific Island applicants receive preference to satisfy "target" requirements for Maori and Pacific Island applicants.
- 3] The minimum academic requirement is too narrow a criterion for selection.
- 4] They reflect white middle class values and, as such, disadvantage minority groups.
- 5] The practice of some Secondary Schools coaching some applicants in interviewing skills questions the validity of assessments made in the interview.
- 6] The Secondary School Principal's Report cannot be interpreted as a reliable source of information about the applicant.
- 7] Abandoning the academic criteria has made it difficult for selectors to assess an applicant's suitability for teaching.
- 8] Selectors cannot be confident that the applicant's qualities which they are assessing can actually be assessed with the time available and with the instruments now being used in selection.
- 9] Not enough emphasis is given to recruitment, especially recruitment of males, adults, and Maori and Pacific Island applicants.
- 10] Referees' Reports are not a reliable source of information about applicants.
- 11] There are too many assessment inconsistencies of rating among committee members, between committees, and between Education Boards.
- 12] The membership of some interview committees changes too frequently, while some long-serving members lose motivation, awareness, and acuity.

- 13] Interviewers lack training in interviewing skills.
- 14] Members of each Educational group (the N.Z.E.I., the Teachers' College, the Board and the Department) are not always represented on the interview committees.
- 15] Variations in the venue of the interviews disadvantage some applicants.
- 16] Applicants who are divergent thinkers are deterred from expressing their views before the interview committee.
- 17] The effectiveness of selection procedures.
- 18] Interview committee members do not know how accurate their assessment of each applicant is.
- 19] The criterion of "involvement" disadvantages some applicants and is difficult to interpret.
- 20] As a criterion, "commitment" is too difficult to assess.
- 21] Applicants are not given feedback on their interview before they leave the interview.
- 22] There is too much emphasis on attempting to judge the applicant's commitment to teaching.
- 23] Some claims made by applicants during interview (e.g. regarding hobbies, interests, and involvement) are not able to be verified in the time available.
- 24] Being legally bound to teach anywhere in New Zealand at the completion of training may act as a deterrent for some candidates.
- 25] Education Board members on interview committees are inadequately paid.
- 26] Ascertaining an applicant's attitude towards multi-cultural issues is difficult to do without offending them.
- 27] The late timing of the announcement of Government quotas and the length of time between interview and offer of a position of training.
- 28] It is condescending to Maori and Pacific Island applicants to select them for Teachers' College with rankings below the cut-off point.

- 29] Graduates or those with more than half a degree who apply to go to Teachers' College are disadvantaged.
- 30] Interviewing all applicants.
- 31] Lack of funding hinders Teachers' Colleges and the Department of Education replacing staff involved with interviewing.
- 32] Some applicants who do not meet the minimum entry requirement are being interviewed.
- 33] There is no age limit for applicants.
- 34] The structure of the interview may be stressful for applicants and may influence their ability to give an accurate picture of suitability for teaching.
- 35] The presence of a Maori interviewer who is perceived by the Maori applicant as a Kaumatua may have an effect opposite to the one intended by the inclusion of a Maori on the committee.
- 36] Selection is the responsibility of the Education Board and not the Teachers' College.
- 37] The Secondary School Principal's Report is too influential compared to other selection criteria.
- 38] There is insufficient time to gather Referees' Reports and the Principal's Report between August 20 and the beginning of school examinations.
- 39] There is difficulty in ranking those applicants immediately below the cut-off point.
- 40] It is difficult to separate the large number of "middling" candidates.
- 41] Applicants are not given a choice of which college they wish to attend.
- 42] There is often wide disagreement between committee members as to what constitutes a good teacher.
- 43] Maori applicants are not given the opportunity of being interviewed on a marae.
- 44] Current selection procedures may no longer be appropriate in the light of changing conditions in schools and the different demands which are likely to be placed on the teachers of the future.

Within this list of statements, ten general areas of weakness of Division "A" selection procedures seemed to emerge. These areas of weakness related to recruitment, referees' reports, the interview, the interview panel, "involvement" as a criterion, "English" as a criterion, quotas, and a category of "general weaknesses" which contained weaknesses which did not readily identify with any of the other nine areas.

As was indicated in the previous chapter, the three areas of weakness which were mentioned most frequently by participants in Round One were those which related to the "interview", the "interview panel", and the "general weaknesses" of selection procedures.

After the collation of responses from the first Round, the resultant summary list provided the basis for the Round Two questionnaire and the feedback information.

Round Two Results

In this Round the respondents were asked to review their previous opinions in the light of the views of their colleagues as summarised by the 44 statements of weakness. They were then requested to compile a short list of concise statements to express what they considered were the weaknesses of Division "A" selection procedures. In compiling this list, they were told that they could re-instate their original Round One responses, summarise their comments, or choose key statements from the summary list which they might wish to add to or modify. (See Appendix 7 for a copy of the Round Two questionnaire).

When Round Two responses were returned, screening was done to remove any duplicate weaknesses and a number of statements were further edited (statement numbers 1,2,6,7,8,9,10,12,16,17,23,27,29,30,31, and 42). Responses showed that three developments had

taken place. First, four participants had rejected one of their original standpoints. Accordingly, these four statements were removed from the list of 44 weaknesses. Secondly, four new statements of weakness (statements 22, 24, 41, and 45 in Table 5 below) were added to the list. Thirdly, it was decided to split one of the 44 statements into separate statements ready for Round Three. The deleted items, the four new statements of weakness, and details of how one of the statements was divided into two were mentioned in chapter three. (See Page 62).

From the replies to Round Two, the fact that three statements of weakness had been dropped from the initial summary list indicated that members of the panel were probably nearing consensus on the weaknesses of Division "A" selection procedures. The four new items added to the list showed that some participants expressed new standpoints as their perspectives on the weaknesses of selection procedures were widened, possibly by the feedback of information and, most certainly, by their involvement in the study. Furthermore, even after only two Rounds of questionnaires, the advantages of the use of Delphi over the one-shot approach was strengthened by the fact that many respondents appeared to reconsider and refine their responses as a result of the feedback in Round One.

Referring to Table 5, the statements listed as the weaknesses of Division "A" (primary) teacher selection procedures could be broadly divided into nine categories. These categories represented a further refinement of the ten categories derived during the Round One analysis.

TABLE 5

The Nine Categories of Weaknesses of Division "A"
(Primary) Selection Procedures from Round Two Results:

<u>Categories</u>	<u>Statement No.</u>	<u>Weaknesses</u>
GENERAL	8	Selectors cannot be confident that the applicant's qualities which they are assessing can actually be assessed within the time available and with the instruments now being used in selection.
	17	Selection procedures are not effective.
	21	Applicants are not given feedback on their interview before they leave the interview.
	34	The structure of the interview may be stressful for applicants and may influence their ability to give an accurate picture of suitability for teaching.
	41	Quotas are imposed.
	44	Current selection procedures may no longer be appropriate in the light of changing conditions in schools and the different demands which are likely to be placed on the teachers of the future.
	45	Applicants with extreme views on race and religion can be rated highly on other grounds and gain entry.
ACADEMIC CRITERION	3	The minimum academic requirement is too narrow a criterion for selection.
	7	Abandoning the academic criterion has made it difficult for selectors to assess each applicant's suitability for tertiary study.
	24	Pre-interview tests (e.g. for testing Mathematics skills) are not held before interviews.
	30	Interviewing all applicants.
	32	Some applicants are being interviewed who do not meet the minimum entry requirements.
MULTI-CULTURAL ISSUES	2	Low ranking Maori and Pacific Island applicants receive preference to satisfy "target" requirements.
	4	They reflect white middle class values and, as such, disadvantage minority groups.

- 9 Not enough emphasis is given to recruitment (especially the recruitment of males, adults, and Maori and Pacific Island applicants.)
- 26 Ascertaining an applicant's attitude towards multi-cultural issues is difficult to do without offending them.
- 28 It is condescending to Maori and Pacific Island applicants to select them for Teachers' College with rankings below the cut-off point.
- 35 The presence of a Maori interviewer who is perceived by the Maori applicant as a Kaumatua may have an effect opposite to the one intended by the inclusion of a Maori on the committee.
- 43 Maori applicants are not given the opportunity of being interviewed on a marae.
- ADMINISTRATION AND ORGANISATION**
- 15 Variations in the venue of the interviews disadvantage some applicants.
- 25 Education Board members on interview committees are inadequately paid.
- 27 The Government times its announcement of quotas too long after the interview.
- 29 Graduates or those with more than half a degree who apply to go to Teachers' College are disadvantaged because administrative and organisational circumstances limit the number of this group able to be accepted.
- 31 There is a lack of funding and this hinders Teachers' Colleges and the Department of Education replacing staff involved with interviewing.
- 36 Selection is the responsibility of the Education Board and not the Teachers' College.
- 38 There is insufficient time to gather the Principal's Report between August 20 and the beginning of school examinations.
- RANKING**
- 5 The practice of some Secondary Schools coaching some applicants in interviewing skills questions the validity of assessments made in the interview.
- 11 There are too many assessment inconsistencies of rating among committee members, between committees, and between Education Boards.
- 18 Interview committee members do not know how accurate their assessment of each applicant is.
- 39 There is difficulty in ranking those applicants immediately below the cut-off point.

	40	It is difficult to separate the large number of "middling" applicants.
	42	There is often disagreement between committee members as to what constitutes a good teacher.
SELECTION CRITERIA	1	The procedures fail to provide sufficient information on each applicant's ability to teach effectively.
	16	Some applicants are deterred from expressing their views before the interview committee.
	19	The criterion of "involvement" disadvantages some applicants and is difficult to interpret.
	20	As a criterion, commitment is too difficult to assess.
	22	The criteria for selection are not reviewed regularly.
	23	Some claims made by applicants during interviews (e.g. regarding hobbies and interests) are not able to be verified in the time available.
	33	There is no age limit for applicants.
MEMBERSHIP OF THE INTERVIEW COMMITTEE	12	The membership of some interview committees changes too frequently.
	13	Interviewers lack training in interviewing skills.
	14	Members of each Educational group (the N.Z.E.I., the Teachers' College, the Board, and the Department) are not always represented on interview committees.
	46	Some long-serving members lose motivation, awareness, and acuity.
SECONDARY SCHOOL PRINCIPAL'S REPORT	6	The Secondary School Principal's Report cannot always be interpreted as a reliable source of information about the applicant.
	37	The Secondary School Principal's Report is too influential compared with other selection criteria.
REFEREES' REPORTS	10	Referees' Reports are not always a reliable source of information about applicants.

The category of **GENERAL** weaknesses drew attention to numerous issues, the most salient being the participants expressing a lack of confidence in the selection procedures.

In particular, selectors were critical of the validity of the instruments currently used in selection and, in their view, this weakness was being compounded by the structure of the selection interview and the changing conditions in schools.

The selectors raising the issue of the problem created by the changing conditions in schools concurs with criticisms made by Ramsay (1979):

"The selection of students for teaching is an exceedingly hazardous task. A selection panel must select people for a job which is changing so rapidly that it is becoming increasingly difficult to predict its future directions. To illustrate: New Zealand students who commenced training in 1979 were probably unaware (as were their selectors) that by the time they became certificated they would have a 1 in 5 chance of being placed in an open-plan situation, teaching with a syndicate of people on a team basis (Department of Education, 1977); in other words, the characteristics of teachers deemed desirable by a 1976 panel may well have been outmoded by the time their selected students entered teaching."

[Ramsay, 1979 : 3-4]

There is every likelihood that, in the seven years since Ramsay made his remarks, the rate of change in schools has further increased. Alarming, however, as has already been discussed, few changes have been made to selection procedures since 1979.

Weaknesses which related to the **ACADEMIC CRITERION** formed the second category. The participants were generally in favour of re-introducing the academic criterion to the applicant's selection profile but a number of selectors

intimated that such a move would not ameliorate many of the weaknesses to selection procedures caused by its absence. For this reason, some of the selectors advocated the introduction of pre-interview tests in Mathematics and English. Such views are supported by Tocco and Elligett (1980) who report on efforts to test the reading comprehension and arithmetical competency of teacher applicants. They argue that minimal competency in the skills tested is essential if other necessary competencies are to reach acceptability. However, and as if wanting to exacerbate the weakness, the minimum qualification for entry into teacher training was lowered this year to one sixth form certificate subject.

Other participants held the view that applicants should not be considered for selection without first having attained the minimum academic criterion. In the opinion of the selectors who shared this view, too much valuable selection time was spent on candidates who could eventually be disqualified because of inadequate examination results. By not interviewing candidates who did not meet the minimum entry requirements, more time would be available to assess qualified applicants which, in turn, may help to improve the quality of the selection decision.

The third category of weaknesses was concerned with **MULTI-CULTURAL ISSUES**. Here the views of the participants were divided. On the one hand, some participants saw current selection procedures as disadvantaging Maori and Pacific Island applicants (Statements 4, 9, and 43); on the other, selectors were concerned that these ethnic groups were being given an unfair advantage over other applicants (Statement 2). Other issues raised for consideration in this category related to the effects of a Maori interviewer on the selection panel (Statement 35) and the difficulties involved in the interview of asking applicants about multi-cultural issues (Statement 26).

ADMINISTRATION AND ORGANISATIONAL weaknesses formed the fourth category and covered a wide range of issues including recruitment, the venues of interviews, the late timing of the announcement of quotas, the payment of interviewers, and the lack of funding available to help Teachers' Colleges and the Department of Education replace staff involved with interviewing. In this category were items 15,25,27,29,31,36 and 38.

The weaknesses alluded to in the fifth category highlighted the difficulty for selectors of RANKING candidates accurately. A number of influences contribute to this weakness. Of note, and already mentioned in the literature review (Anstey, 1977; Goffman, 1959), is the issue of applicants feigning their interviews. Ramsay's (1979) research provided ample evidence to demonstrate that students lie successfully at their interview. According to Ramsay, there is a well-established communication network between students in training and applicants. Interviewees are well briefed before the actual interview as to the type of questions asked. In this respect Ramsay corroborates the opinions of the selectors in the present study that some schools run mock interviews to train candidates in "appropriate behaviour". The problem of countering "impression management" will likely remain as a serious concern for selectors although one suggestion (Keenan, 1980; Roger, 1952) has been for selectors to use new lines of questioning when interviewing candidates. Rather than leaving answers to "Why do you want to be a teacher?" unchallenged when responses such as "Well, I like children" are given, some follow up (e.g. How do you know you like children?) should be made. At least one Board area has adopted procedures similar to these and now requires evidence of successful interactions with children.

Another weakness mentioned in this category concerned the inconsistencies of ranking of applicants between committee

members, between panels, and between Education Boards (Statement 11). Unfortunately, the interview panel is not composed of the same people for every interview. As Ramsay points out, in one Education Board some selection panelists can attend as few as three interview sessions and as many as four deputies are used.

Seven statements (1,16,19,20,22,23, and 33) centred on weaknesses of the **SELECTION CRITERIA**. Here various issues such as age limits, the instruments used for assessment of candidates, and specific criteria such as "involvement" are noted. Broadly speaking, the weaknesses in this category lend support to those already mentioned as being **GENERAL** to the selection procedures. For instance, that current procedures provide insufficient information of a candidate's ability to teach effectively and that other key criteria such as "involvement", "commitment", and "hobbies and interests" are not always able to be assessed accurately reiterates the overall concern of the participants in the present study that the validity of the instruments now used in selection is unacceptable.

Statements 12,13,14, and 46 concerning **MEMBERSHIP OF THE INTERVIEW COMMITTEE** were categorised accordingly. While the question of the membership of the interview changing too frequently has already been discussed, another significant item in this category was the participant's desire to see panel members trained in interviewing skills. A similar concern was noted in the Review of Teacher Training (1979:

"There is a need for careful selection and training of the interview members of interviewing committees or panels."

[ibid., p.17]

A review of Department of Education policy and other

literature revealed that this recommendation of the Review has not been realised. The reason for this is unclear. One possible explanation is that research on the effects of interviewer training is not encouraging. The findings of Webster (1982) indicates:

"Training and experience have minimal effects on the quality of judgement made by interviewers ...[and]... training may reduce interviewer error but there is no evidence that reduction of error improves judgement."

[Webster, 1982 :14]

SECONDARY SCHOOL PRINCIPAL'S REPORT (Statement 6 and 37) and REFEREES' REPORTS (Statement 10) formed the last two categories. In support of the general trend of opinion of the sample in the present study which was that teacher selectors in New Zealand are not confident of the validity of the instruments now used in Division "A" selection, referees' and principals' reports were viewed by many selectors as exacerbating the problem. Unfortunately, surprisingly little evidence was found in the literature on the validity of these documents.

In summary, the selectors' opinions of the weaknesses of Division "A" (primary) teacher selection procedures in Round Two were clustered into nine categories. The nine categories of weaknesses derived from the Round Two analysis related to : The Academic Criterion, Multi-Cultural Issues, Administration and Organisation, the Ranking of Applicants, Selection Criteria, Membership of the Interview Committee, the Secondary School Principal's Report, the Referees' Reports, General Weaknesses.

Four of the nine categories, namely, General, Multi-cultural Issues, Administration and Organisation, and Selection Criteria were dominant, each with seven statements of weakness. Weaknesses relating to the Academic Criteria and Ranking represented the next two largest categories with 5 and 6 statements of weakness, respectively.

Considering that no single category of weakness was significantly large or small probably indicates that the selectors in the present study consider that the weaknesses of Division "A" selection procedures are widespread, affecting every area of the selection process. To rectify such a situation, a comprehensive overhaul of selection procedures seems desirable.

As well as categorising the items in the way described above, a frequency count was taken of the number of respondents who mentioned each item in Round Two. The ten most frequently mentioned statements of weakness are shown in Table 6.

TABLE 6

The Frequency of Mention for Round Two Results:

<u>Statement No.</u>	<u>Frequency</u>	<u>Percentage</u>	<u>Weakness</u>	<u>Rank</u>
8	15	7.21	Selectors cannot be confident that the applicant's qualities which they are assessing can actually be assessed with the time available and with the instruments now being used for selection.	1
27	14	6.7	The late timing of the announcement of Government quotas and the length of time between interview and offer of a position of training.	2
9	12	5.7	Not enough emphasis is given to recruitment, especially recruitment of males, adults, and Maori and Pacific Islanders.	3
7	11	5.2	Abandoning the academic criteria has made it difficult for selectors to assess an applicant's suitability for teaching and tertiary study.	4
19	10	4.8	The criterion of "involvement" disadvantages some applicants and is difficult to interpret.	5
1	9	4.3	They fail to provide sufficient information on each applicant's ability to teach effectively.	6=
10	9	4.3	Referees' Reports are not a reliable source of information about applicants.	6=
11	9	4.3	There are too many assessment inconsistencies of rating among Committee members, between Committees and between Education Boards.	6=

<u>Statement</u>	<u>Frequency</u>	<u>Percentage</u>	<u>Weakness</u>	<u>Rank</u>
13	9	4.3	Interviewers lack training in interviewing skills.	6=
2	8	3.8	Low ranking Maori and Pacific Island applicants receive preference to satisfy "target" requirements for Maori and Pacific Island applicants.	10=
20	8	3.8	As a criterion, "commitment" is too difficult to assess.	10=

It is interesting to note that, in the case of the first five items, ten or more selectors mentioned each item in their Round Two replies. A further breakdown of the results shown in Table 6 indicated that the first ten statements (i.e. the ten weaknesses most frequently mentioned by the sample of selectors) were each drawn from one of the nine categories of weakness outlined in Table 5 while two statements were from "Multi-cultural Issues".

Overall, then, the analysis of Round Two results indicated that:

- i] In the opinion of the participants, the most prominent weakness of Division "A" selection procedures was that selectors could not be confident that the applicant's qualities which they were assessing could actually be assessed with the time available and with the instruments now being used in selection (15 selectors mentioned this weakness).
- ii] The late timing of the announcement of Government quotas and the length of time between the interview and the offer of a position of training (mentioned by 14 selectors) attracted the second highest number of responses from participants.
- iii] When the first 22 most frequently mentioned statements were analysed by category, statements relating to **Multi-Cultural Issues** (five statements), **Selection Committee**, and **Ranking** (four statements each) received the highest number of responses.

- iv] No single weakness or category of weaknesses dominated Round Two responses.

Round Three Results

In this Round, the new summary list of the respondents' Round Two comments with a total of 46 items were fed back to the sample. The respondents were asked to consider the new summary list and then to reconsider and express their opinions about the weaknesses of Division "A" (primary) teacher selection procedures. Respondents were to indicate the relative importance of each statement of weakness by scoring it on a 5-point Likert-type scale between the two extremes of major weakness (a score of 5) and minor weakness (a score of 1) provided. (See Appendix 8 for a copy of the Round Three questionnaire and rating scale.)

Following the return of the responses, the Mean and Standard Deviation [1] were computed. When this was completed, the statements were ranked by Mean from the highest to the lowest Mean, and, if items had the same Mean, the one with the lowest Standard Deviation (i.e. the highest consensus) was ranked the highest (See Chapter three, page 63, for details of how each statement was ranked). Table 7 shows the ranking of the Round Three results according to computation of their Means, Standard Deviations, Maximum and Minimum Values, and Coefficient of Variance.

[1] These were computed using "SPSSX" condscriptive procedure.

TABLE 7Summary List of Round Three Responses

<u>Statement No.</u>	<u>Category</u>	<u>Rank</u>	<u>Statement</u>	<u>Mean</u>	<u>SD</u>	<u>MIN</u>	<u>MAX</u>	<u>CO VAR</u>
20	S.C.	1	As a criterion, "commitment" is too difficult to assess.	3.636	.962	2	5	0.264
8	GEN	2	Selectors cannot be confident that the applicant's qualities which they are assessing can actually be assessed within the time available and with the instruments now being used for selection.	3.606	1.197	1	5	0.331
10	RR's	3	Referees' Reports are not always a reliable source of information about applicants.	3.515	1.228	1	5	0.349
1	S.C.	4=	The procedures fail to provide sufficient information on each candidate's ability to teach effectively.	3.485	1.503	1	5	0.431
27	A D. & O	4=	The Government times its announcement of quotas too long after the interview.	3.485	1.523	1	5	0.437
9	M.C.I.	6	Not enough emphasis is given to teacher recruitment (especially recruitment of males, adults and Maori and Pacific Island applicants).	3.455	1.481	1	5	0.428
19	S.C.	7=	The criterion of "involvement" disadvantages some applicants and is difficult to interpret.	3.303	1.334	1	5	0.403
7	S.C.	7=	Abandoning the academic criteria has made it difficult for selectors to assess an applicant's suitability for tertiary study.	3.303	1.380	1	5	0.417

40	R.A.	9	It is difficult to separate the large number of "middling" applicants.	3.152	1.202	1	5	0.381
6	P.R.	10=	The Secondary School Principal's Report cannot be interpreted as a reliable source of information about the applicant.	3.000	.935	1	4	0.311
2	M.C.I.	10=	Low ranking Maori and Pacific Island applicants receive preference to satisfy "target" requirements.	3.000	1.500	1	5	0.500
3	A.C.	12	The minimum academic requirement is too narrow a criterion for selection.	2.818	1.550	1	5	0.550
28	M.C.I.	13	It is condescending to Maori and Pacific Island applicants to select them for Teachers' College with rankings below the cut-off point.	2.788	1.495	1	5	0.536
45	GEN	14	Applicants with extreme views on race and religion can be rated highly on other grounds and gain entry.	2.758	1.415	1	5	0.513
18	R.A.	15=	Interview committee members do not know how accurate their assessments of each applicant are.	2.697	1.357	1	5	0.503
22	S.C.	15=	The criteria for selection are not reviewed regularly.	2.697	1.380	1	5	0.511
11	R.A.	17=	There are too many assessment inconsistencies of rating applicants among committee members, between committees, and between Education Boards.	2.667	1.051	1	5	0.394
12	I.C.	17=	The membership of some interview committees changes too frequently.	2.667	1.362	1	5	0.510
4	M.C.I.	19=	They reflect white middle class values and, as such, disadvantage minority groups.	2.636	1.245	1	5	0.472
44	GEN	19=	Current selection procedures may no longer be appropriate in the light of changing conditions in schools and the different demands which are likely to be placed on the teachers of the future.	2.636	1.454	1	5	0.551

23	S.C.	21	Some claims made by applicants during the interview, (e.g. regarding hobbies, and interests) are not able to be verified in the time available.	2.606	1.171	1	5	0.449
34	GEN	22=	The structure of the interview may be stressful for applicants and may influence their ability to give an accurate picture of suitability for teaching.	2.576	1.200	1	4	0.465
13	I.C.	22=	Interviewers lack training in interviewing skills	2.576	1.324	1	5	0.388
29	A D. & O	24=	Graduates or those with more than half a degree who apply to go to Teachers' College are disadvantaged because administrative and organisational circumstances limit the numbers of this group able to be accepted.	2.545	1.277	1	5	0.501
31	A D. & O	24=	There is a lack of funding to help Teachers' Colleges and the Department of Education replace staff involved with interviewing.	2.545	1.543	1	5	0.606
39	R.A.	26	There is difficulty in ranking those applicants immediately below the cut-off point.	2.515	1.460	1	5	0.580
35	M.C.I	28	The presence of a Maori interviewer who is perceived by a Maori applicant as a Kaumatua may have an effect opposite to the one intended by the inclusion of a Maori on the committee.	2.455	1.202	1	5	0.489
30	A.C.	27	Interviewing all applicants.	2.485	1.603	1	5	0.645
41	GEN	29=	Quotas are imposed.	2.424	1.458	1	5	0.601
24	A.C.	29=	Pre-interview tests (e.g. for testing Mathematics and English skills) are not held before interviews.	2.424	1.480	1	5	0.610

42	R.A.	31	There is often disagreement between committee members as to what constitutes a good teacher.	2.303	1.262	1	5	0.547
26	M.C.I.	32	Ascertaining an applicant's attitudes towards multi-cultural issues is difficult to do without offending them.	2.152	1.202	1	5	0.558
46	I.C.	33=	Some long-serving members of interview committees lose motivation, awareness, and acuity.	2.121	1.053	1	4	0.496
36	A D. & O.	33=	Selection is the responsibility of the Education Board and not the Teachers' College.	2.121	1.431	1	5	0.674
25	A D. & O.	33=	Education Board members on interview committees are inadequately paid.	2.121	1.635	1	5	0.739
37	P.R.	36=	The Secondary School Principal's Report is too influential compared with other selection criteria.	2.091	1.182	1	5	0.565
17	GEN	36=	Selection procedures are not effective.	2.091	1.208	1	4	0.577
32	A.C.	38	Some applicants are being interviewed who do not meet the minimum academic requirement.	2.061	1.456	1	5	0.706
5	R.A.	39	The practice of some Secondary Schools coaching some applicants in interviewing skills questions the validity of assessments made about the applicant.	2.000	1.173	1	4	0.586
33	S.C.	40	There is no age limit for applicants.	1.970	1.313	1	5	0.666
21	GEN	41	Applicants are not given feedback on their interview before they leave the interview.	1.909	1.355	1	5	0.709
16	S.C.	42	Some applicants are deterred from expressing their views before the interview committee.	1.818	1.044	1	4	0.574

38	A D. & O.	43	There is insufficient time to gather Principal's Report between August 20 and the beginning of the school examinations.	1.788	.992	1	5	0.554
14	I.C.	44	Members of each Educational group (the N.Z.E.I., the Teachers' College, the Board, and the Department) are not always represented on interview committees.	1.758	1.251	1	5	0.711
43	M.C.I.	45	Maori applicants are not given the the opportunity of being interviewed on a marae.	1.727	1.098	1	5	0.630
15	A D. & O.	46	Variations in the venue of the interviews disadvantage some applicants.	1.606	.966	1	5	0.622

Key
 Gen
 A.C.
 M.C.I.
 AD. & O.
 R.
 S.C.
 I.C.
 P.R.
 R.R.
 Min & Max

General Weakness
 Academic Criterion
 Multi-Cultural Issues
 Administration and Organisation
 Ranking
 Selection Criteria
 Interview Committee
 Principal's Report
 Referees' Reports
 These indicate the maximum and minimum scores on each item which were recorded by the selectors (e.g. for statement 16 which was ranked forty second in Table 7, a score of 4 in the MAX. column indicates that the highest score given to this item on the 5 point scale by any of the selectors was a 4).

The first step in the analysis of Round Three results was to determine the degree of consensus that had been reached for each of the 46 statements of weakness. By applying the Coefficient of Variation as a stopping criterion (as outlined in Chapter 3, page 65) analysis of the results in Table 7 revealed that consensus had not been reached on all the statements of weakness. The statements on which the selectors had reached agreement were statements 1 - 10=, 17= (statement 11) [2], 19= (statement 4), 21, 22, 28, 33= (statement 46).

Two further statistical tests were used to analyse Round Three results. The first statistical test established confidence intervals for the means of the 46 statements of weakness.

Confidence Intervals for the Means [3]

The confidence intervals for the means of the statements in Table 7 were computed to ascertain the extent to which each of the 46 weaknesses could be interpreted as being a reliable assessment of the corresponding population mean (A 95% confidence interval for the true item mean was computed). Accordingly, each line of the supplementary table in Appendix 16 gives a range within which it can be inferred, with 95% confidence, that the true mean lies. In general, these findings show that the mean values given to the statements in Table 7 represent reliable estimates of the 'true' attitude values of the selectors of Division "A" primary teacher candidates in New Zealand (Agresti and Agresti, 1979).

- [2] Consensus had been reached on statements with a Coefficient of variation of $>.500$. This explains why two statements of equal rank could be rated differently on their consensus rating (See Table 3 in Chapter 3 of the present study for further details).
- [3] See Appendix 17 for details of how the confidence intervals for the means were computed.

The second test of statistical analysis established category boundaries for the 46 statements of weakness in Table 7.

Category Boundaries [4]

By applying the same technique outlined above to the grand mean and standard deviations, confidence limits were used as "category boundaries", providing cut-off points between statements of differing strengths (Agresti and Agresti, 1979). From the calculation of category boundaries, the extent to which each of the statements of weakness could be classified as major weaknesses, moderate weaknesses, or minor weaknesses was ascertained. The grand mean of the means of the items was found to be 2.567, with a standard deviation between item means of 0.553. Then each item mean was tested for significant departure from the grand mean. This was done by computing the 95% confidence interval for an item mean at the grand mean, viz., (2.406, 2.728) [See Appendix 17]. Item means that fell below this range (i.e. mean < 2.406) were then judged to be weaknesses of little importance to Division "A" primary teacher selection procedures; items that were within this range (i.e. $2.406 \leq \text{mean} \leq 2.728$) were considered by the selectors to be moderate weaknesses; item means above this range (i.e. statements with means ≥ 2.728) were considered by the selectors to be weaknesses of significant importance for selection procedures. It is worth noting that the range of significant weaknesses extends beyond the mid-point of the 5-point scale (in statistical terms, the mid-point of the 5-point scale is 3). Thus, not all significant weaknesses, in the judgement of this sample, are "major" weaknesses as measured by the scale.

[4] See Appendix 17 for details of how these Category Boundaries were computed.

To summarise, it can be inferred from the three statistical tests (viz., Co-efficient of Variation, Confidence Intervals and Category Boundaries) which were applied to the Round Three results that:

- i] The means of the statements in Table 7 which reflect the opinions of the sample (N=36) can be assumed to be reliable estimates of the means of the population of selectors (N=146) of Division "A" primary teacher candidates in New Zealand.
- ii] There are 14 significant weaknesses of Division "A" primary teacher selection procedures in New Zealand which are considered to be of major importance to the selectors in the sample. These are, in rank order, statements 20, 8, 10, 1, 27, 9, 19, 7, 40, 6, 2, 3, 28, and 45.
- iii] In the opinion of the sample of selectors in this study, there are 16 statements which can be classified as moderate weaknesses of Division "A" primary teacher selection procedures. In Table 7, these are numbered in rank order as statements 18, 22, 11, 12, 4, 44, 23, 34, 13, 29, 31, 39, 30, 35, 41, and 24.
- iv] There are 16 significant minor weaknesses of Division "A" primary teacher selection procedures in New Zealand (Statements 42, 26, 46, 36, 25, 37, 17, 32, 5, 33, 21, 16, 38, 14, 43, and 15).

However, of the 14 statements categorised as significant, major weaknesses in Table 7, consensus had only been reached on statements ranked from 1-10=. These statements are set out in Table 8 below [5]

[5] Refer to Table 3, page 65, for details of how consensus was measured.

TABLE 8

The 14 Major and Significant Statements of Weakness
from Round Three Results on which the selectors had
Reached Agreement

<u>Statement No.</u>	<u>Rank</u>	<u>Statement of Weakness</u>
20	1	As a criterion, "commitment" is too difficult to assess.
8	2	Selectors cannot be confident that the applicant's qualities which they are assessing can actually be assessed within the time available and with the instruments now being used in selection.
10	3	Referees' Reports are not always a reliable source of information about applicants.
1	4=	The procedures fail to provide sufficient information on each candidate's ability to teach effectively.
27	4=	The Government times its announcement of quotas too long after the interview.
9	6	Not enough emphasis is given to teacher recruitment, especially recruitment of males, adults, and Maori and Pacific Island applicants).
19	7=	The criterion of "involvement" disadvantages some applicants and is difficult to interpret.
7	7=	Abandoning the academic criteria has made it difficult for selectors to assess an applicant's suitability for tertiary study.
40	9	It is difficult to separate the large number of "middling" applicants.
6	10=	The Secondary School Principal's Report cannot be interpreted as a reliable source of information about the applicant.
2	10=	Low ranking Maori and Pacific Island applicants receive preference to satisfy "target" requirements.

Accordingly, the remainder of this chapter will focus on a discussion of these 11 weaknesses.

Major and Significant Weaknesses of Division "A" (Primary) Teacher Selection Procedures

Discussion

Taken as a whole, it is obvious from these statements that there is very serious concern about the nature, form, and quality of teacher selection procedures in New Zealand.

Commitment

The greatest concern for selectors was that the criterion of "commitment" was too difficult to assess. The mean (3.636), S.D. (.962), and Coefficient of Variance (0.264) indicate that the selectors were in very tight agreement on this weakness.

Attrition from teaching is a well-known phenomenon (Wilson, 1985a) and a quick solution to the difficulty of assessing levels of commitment at initial selection seems unlikely. Key research by Ramsay (1978b) confirms that, on entry to teacher training, students have a wide range of commitment to teaching as a career. As such, his findings discredit three particular myths about the vocational commitment of student teachers: first, that the majority of students entering college are committed to a career in teaching; secondly, that those who complete the training programme become more committed as the result of this experience; and, thirdly, that those who fail to complete the course do so because of lack of commitment. In this respect, ten percent of the sample of Ramsay's 523 students stated that they had not formed a definite desire to teach as yet and a further sixty percent commented that they had decided on teaching as a career relatively recently (that is, during the last twelve months of secondary schooling.)

In addition, only forty percent of the sample planned to teach for more than five years. Eleven percent claimed to be deliberately using teaching as a stepping-stone to another career such as missionary work or air hostessing and five percent commented that they would remain at college only until another job opportunity arose. Yet another smallish number (1.5 percent) commented with some frankness that they wanted to remain students - a finding consonant with the propositions of Rolls and Goble (1971) and Eisner (1961). As Ramsay puts it:

"[It would seem from these results that]... most candidates for teacher training are still exploring the potentiality and liking for the career at the very time when selection panels are seeking to commit them [for a four or five year period, three years of training and one or two years as a beginning teacher.] It seems fair to conclude, therefore, that it is extremely risky to recruit from an age group who are still formulating ideas about the possibility of teaching as a career."

[Ramsay, 1979: 7]

That current Division "A" selection procedures are inadequate for assessing the commitment levels of candidates on entry is further complicated by the problem of applicants feigning their interviews (Ramsay, 1979) and "playing the interviewers' game". (Anstey, 1977; Goffman, 1959).

Yet in Scotland, rather than asking candidates certain questions in the interview in the hope of being able to ascertain how committed they are, education authorities have recently been highly successful with a different approach to judging the level of commitment of

candidates (Wilson and Mitchell, 1985) [6]. Based on the rationale that uncommitted candidates will "Self select out" when presented with vigorous selection procedures, the researchers piloted a number of innovative strategies. First, candidates had to return a completed application form including a passport photograph, three topics for discussion in group or interview, a detailed account of one interest, and a listing of all their forms of contact with children of primary school age during the last few years. Secondly, candidates were informed that, if their initial application was accepted, they would be required to attend a full day of intensive selection procedures. Information regarding what would be required of them was given, including details of their participation in a leaderless discussion, their involvement in a simulated teaching task, and the requirement to take part in a number of activities designed to test their written language skills. These procedures were intended to eliminate the casual inquirer since they demanded sufficient motivation on the part of each candidate to spend a full day in selection activities.

Interestingly, these procedures are consistent with recommendations of the Review of Teaching Training (1979):

"As much background information as possible concerning applicants should be obtained and processed before the interview or other selection procedures".

Department of Education, 1979 :18]

- [6] Called C.A.T.S. (The Criteria of Teacher Selection), the project was funded by the Scottish Education Department to review by observation, interview, and survey how candidates for pre-service training in Scotland's seven Colleges of Education were selected and to suggest alternative procedures. In the present study, these procedures are termed "developed" in the sense that they were developed by a team of researchers from Moray House College of Education who were seconded for the project.

The lack of evidence of changes to Division "A" selection procedures in this respect would indicate that Scotland, rather than New Zealand, had adopted the recommendation.

However, until more comprehensive longitudinal research is undertaken to follow up the commitment of teachers who were selected using the developed procedures, any conclusions regarding the validity of the Scottish studies will remain tentative.

In addition to pin-pointing the period when most students drop out, Ramsay has evidence that some highly committed students, predominantly from lower socio-economic and/or Maori backgrounds, are forced out by their poor first-year performance and/or their failure to adjust to an unfamiliar large formal organisation. [7]

Considering this, Freyberg (1980) suggested that there should be a greater flexibility in the lengths of time students are allowed to complete their training and, to counter the high drop-out rate in the first year, a relatively open access to the first year of training. The latter would not only relieve the selectors of the virtually impossible task of having to assess commitment at entry but, having a large first year pool, would improve the chance of selecting, on the basis of performance, those who will do well both in their training programme and as classroom teachers. [8]

[7] In Norman's study (1978), thirty one percent of students failed to complete the three year course in the minimum time. Of this number, twenty percent dropped out. The high drop-out rate among Division "A" trainees is, presumably, one of the major reasons why the selectors rated "the difficulty of assessing commitment" as the most serious weakness.

[8] Freyberg, 1980 :1 .

In summary, Division "A" teacher selectors are extremely concerned that they cannot assess a candidate's level of commitment. The high drop-out [9] rate gives ground for their concern. Research shows that only a proportion of the candidates entering teaching are committed. While many lie about their commitment, an even larger proportion are genuinely undecided. Although not fully researched for the validity, the developed selection procedures piloted in Scotland seem to be able to differentiate the commitment levels of candidates.

Other alternatives suggested include open entry into the first year of training and greater flexibility in the length of time available to complete training.

Validity of Selection Procedures

The second most serious concern of selectors in the current study was their expressed lack of confidence in current Division "A" selection instruments (Statement 8). Incidentally, this item was also the most frequently mentioned statement of weakness in Round Two. There are two parts to this concern. First, the selectors questioned the validity of procedures, that is, they were not confident that the instruments currently used in selection could accurately measure what they were supposed to measure. As an example, "commitment" has already been discussed. Secondly, there was insufficient time to assess accurately each applicant. The question then arises: Would the validity of the instruments now used improve if the selectors had more time in which to make their assessment? It is doubtful. In both respects, the opinions of the selectors in the present study are generally in agreement with the findings of the review of the literature in Chapter One which showed

[9] Latest statistics show that for any Division "A" teacher intake, there is a loss of about twenty-five percent over the three-year training period. Cited in "Report on protection and promotion of professional standards." New Zealand Educational Institute publication, 1986, p.5.

how ineffective the present criteria are for predicting success in first year teaching.

Given that one of the recommendations of the Review of Teacher Training (1979) was that

"initial selection should be for teaching, the aim being to select for training those having the most potential to become competent teachers ..."

[Department of Education, 1979: 16]

it is surprising that nothing has been done over the last few years to improve this essential element of Division "A" selection procedures. This is especially surprising considering the large body of research which suggests that the best way to predict applicants' success in teaching is to place them in a teaching situation (Durcharme, 1970; Greaves, 1972; Crocker, 1974; Norman, 1978). In rating the failure of Division "A" selection procedures to provide sufficient information on a candidate's ability to teach effectively as the fourth equal major significant weakness, it is very likely that the selectors were aware of this.

In this respect, and in light of the literature review in the present study, it was pointed out that "work samples" were beginning to assume new importance overseas as a selection criterion. In accordance with these findings, all applicants who took part in the developed selection procedures piloted in Scotland were evaluated on their performance on a practical teaching task (See Appendix 18 for a resume of this task). In a review of the effectiveness of the task [10], most assessors felt that the task indicated important evidence of potential for teaching.

[10] Following the selection days, and under the auspices of the Psychology Department, University of Glasgow, the 51 assessors who took part in the exercise were asked by questionnaire and interview to evaluate critically the "CATS" project.

For instance, Wilson (1985d) states:

"The general feeling was that the practical teaching task proved illuminating and provided plenty of evidence which would otherwise have been missed."

[Wilson, 1985d: 8]

The majority of selectors agreed that successful teaching of the practical task is probably a significant indicator of some kind of "natural teaching ability" and that it was an essential element of the selection procedures. However, it was also noted that unsuccessful teaching of the practical task was not necessarily a significant indicator of limited potential teaching ability.

To summarise: the selectors in the present study are not confident that the applicant's qualities which they are assessing can actually be assessed within the time available and with the instruments now being used for selection. The review of the literature in the present study showed that many of the criteria currently used for Division "A" selection appear ineffective as predictors of success in teaching. Whatever candidate qualities selectors might be assessing, teaching ability is paramount. Research has shown that the best predictor of success in teaching is teaching ability. As part of the selection process, a number of teacher training institutions overseas have successfully used a practical teaching task to assess a candidate's potential in this area. If New Zealand is to improve its teacher selection procedures it will have to follow suit.

The Reports of Referees and School Principals

The issue of the reliability of referees' and school principals' reports was rated respectively as the third and tenth equal most significant major weakness of current Division "A" teacher selection procedures. As

was mentioned in the discussion of Round Two results, there is surprisingly little research on the reliability of these reports. Norman's (1978) study provides some insight into the principal's report:

"The school principal's rating on suitability for teaching showed a strong relationship with the drop-out rate - 13 percent of those rated as outstanding, 21 percent of those rated very suitable and 29 percent of those rated suitable failed to complete the three-year course in the minimum time."

[Norman, 1978 :12]

In Round One, a number of enlightening comments which help to explain the poor reliability of the principal's report were forthcoming but, because of the editing and screening process, they were not recorded in the results. These were:

- The Principal's report has to be written at a very busy time in the school year and as such is either often rushed and flattering or, more occasionally, rushed and under-estimating. Either way the report is inaccurate.
- Some secondary schools (especially boys' schools) deliberately dissuade students from applying for teaching. This is sometimes detectable in the report.

A similar case may rest with referees' reports. For instance even though referees' reports are confidential, the fact that referees are aware that applicants have chosen them carefully (that is, because they are likely to give a favourable report) may put pressure on referees to respond accordingly.

Another reason why the selectors in the sample are concerned that these reports are not a reliable source of information about candidates may have to do with the

general lack of depth in current selection procedures in New Zealand. For example, in Scotland, information about applicants is collected from a number of sources including the application form, group discussions, a practical teaching task, written language tests, the reports of referees and school principals, and the formal interview. Moreover, pairs of selectors "cross-matched" their assessments of candidates over each of the selection activities. The combined result of such comprehensive procedures is that selectors are able to make judgements about candidates from a solid body of evidence. The variety and quality of the teacher selection procedures used in Scotland meant that the assessments made using each instrument could be checked against others for verification or comparison. By contrast, selectors in New Zealand are limited to three sources of information about candidates: the application form, the interview, and the report of referees or the school principal. This places selectors in a potentially precarious position. Presumably, selectors question the reliability of the opinion of the referees or principal when there is a marked mismatch between the character of the applicant that is reported and the character of the applicant being interviewed. In such instances, they must trust wholly in the combined judgement of the panel in the 20 to 30 minute interview and ignore the report as being inaccurate - or vice versa. Considering this, as well as the uncertainties created by "impression management" and the vocational instability of candidates, it is little wonder that the participants in the present study expressed a serious lack of confidence in Division "A" teacher selection procedures.

In summary: the participants in the present study did not consider the reports of referees and secondary school principals to be reliable sources of information about candidates. Possible reasons for this include the timing of the writing of the report and the vocational persuasions of the staff in schools, particularly boys' schools. In relation to referees' reports, no research

evidence was found to substantiate these claims but it is contended that other influences, such as friendship and loyalty between candidate and referee, may be contaminating factors. Finally, lack of depth in Division "A" teacher selection procedures may have influenced the participants in the present study to rate the unreliability of referees' and principals' reports as major weaknesses.

Quotas

The late timing of the announcement of Government quotas, long after the interview, was another major weakness of Division "A" selection procedures. Ramsay (1978b) presents solid evidence which corroborates the views of the sample in the present study. He argues that while the vocational commitment of applicants is unstable, many candidates apply for several jobs in addition to teaching. Thus, applicants are often faced with the dilemma of either having to turn down other job offers on the expectation of being successful in their application for teacher training or are less daring and opt for the safety of accepting the first job offered to them. It is with the latter group that the selectors are seriously concerned. In 1986, at least one Education Board was countering this weakness by notifying high scoring candidates of their success within one or two days of the interview. In setting a precedent, other Boards are likely to follow suit. There is no reason [11] why each Board could not have its quota confirmed before interviewing begins so that most applicants can be notified immediately of their success.

Alternatively, as has already been discussed in the section on "commitment", Freyberg (1980) suggested the removal of quotas on entry to Teachers' Colleges (which in effect would mean open entry) and instead institute a selection at the end of year two if necessary.

[11] Each year, the Ministers of Education and Finance determine the number of applicants to be admitted to each division of teacher training. In reaching this decision, the Ministers are guided by information on teacher supply & demand as provided by the Dept. of

The reason:

"The larger the first year pool, the better the chances of selecting on the basis of their performance those students who, as my study showed, will do well both in their training programme and as classroom teachers."

[Freyberg, 1980 :1]

Recruitment Procedures

In recent months Teachers' Associations have drawn attention to the weakness rated as the sixth most significant and major by the participants in the present study : recruitment procedures are inadequate, particularly regarding the recruitment of males, adults, and Maori and Pacific Island applicants (Statement 9). This weakness was recognised at the recent Annual General Meeting of the New Zealand Educational Institute where a recommendation was passed urging:

"the Government to approve the appointment of full-time Recruitment Officers, and that the positions be advertised annually in the Education Gazette".

[N.Z.E.I., 1986: 108]

Support for this view is found in The Curriculum Review : A Draft Report Prepared by the Committee to Review the Curriculum for Schools, 1986).

In the Review, and under the heading "Recruitment and Selection of Teachers", the Committee proposed that:

"...Maori teachers be used to recruit Maori adults to teacher training, as well as school students ... positive steps be taken to recruit Pacific Island students and adults into teacher training courses ... [and] ... positive steps be taken to recruit Maori and Pacific Island

women into all levels of the teaching service where at present their numbers are few ... more men be encouraged to work in pre-school and in primary schools".

[Department of Education, 1986: 134]

Furthermore, in a report entitled "The Protection and Promotion of Professional Standards", the New Zealand Educational Institute recommended that:

"...interview panels include, at least in an advisory capacity, a person who can fully appreciate the cultural background and language abilities of Maori and Pacific Island applicants."

[N.Z.E.I., 1986 :6]

7

These recommendations reiterate the findings of the Review of Teacher Training (1979) (See the literature review in the present study, page 4) and, despite policy changes made by the Department of Education [12] demonstrate that little has been achieved since the Review to alleviate its concerns. Interestingly, while the selectors were concerned that not enough emphasis was given to the recruitment of Maori and Pacific Island applicants, they also considered that it was a serious weakness of Division "A" teacher selection procedures that Maori and Pacific Island candidates were given preference over other candidates (Statement 2 in Table 8). (See Chapter three, page 30, for details of this policy).

[12] Refer to Chapter One in the present study, page 5, for a summary of changes which have been made by the Department of Education for the recruitment of male, Maori and Pacific Island applicants and to Chapter three, page 30, for fuller details of official Government policy.

On recruitment of adults, one of the major points to emerge from research discussed in the present study (Norman, 1978; Whalley, 1978; Freyberg, 1977; Crocker, 1974) was that older, more mature students had several advantages over the younger students, not the least of which was a more realistic notion of career patterns and what their future entailed. Freyberg (1977) also found that older students were more successful in curriculum studies, educational theory, selected studies, and teaching practice [13], while Norman's study (1978) ascertained that those aged 25 and over tended to receive the highest ratings as year one teachers [14].

In summary: the findings of the present study regarding recruitment endorse the recommendations of the Curriculum Review (1986) and the New Zealand Educational Institute. However, while the selectors in this study considered it a serious weakness that not enough emphasis was given to the recruitment of males, adults, and Maori and Pacific Island applicants, the participants felt strongly that it was unfair to give Maori and Pacific Island applicants preference at the expense of other candidates. The research shows that adult candidates, on entry to training, are more likely to perform highly both in college and first year teaching.

Academic Criterion

It is questionable that, when the academic criterion was abandoned in 1983, [15] the ability of the selectors to assess an applicant's suitability for tertiary study was severely undermined (see Statement 7, rated as seventh equal significant major weakness by the sample.) Given that the research reviewed in the present study

[13] Freyberg, 1977: 6-7.

[14] Norman, 1978: 26.

[15] Up until 1983 the minimum entry qualification for admission into Division "A" teacher training was either sixth form certificate or University Entrance. For sixth form certificate, the sum of the grades in four subjects must have been equal to or less than 20, with English being a five or better. Only one grade was permitted to be as low as a six or seven, and a seven or eight in any subject was unacceptable. For University Entrance, a candidate needed to pass four subjects, including English.

showed that there is not a positive and significant correlation between academic qualifications at entry and later success at tertiary study, this concern of the selectors does not seem well founded. For example, although Norman (1978) pointed out that academic ratings at selection tended to correlate more highly than other variables with college academic course marks, her final analysis revealed that correlations were too weak or inconsistent to be of use to selectors. In fact:

"We cannot expect to be able to find a means of predicting Teachers' College progress (both academic courses and teaching practice) nationally from the data currently collected at the time of selection."

[Norman, 1978: 25]

It would seem then, from these conclusions at least, that in relating the academic qualifications required at entry prior to 1983 to success at tertiary study, Division "A" selectors have been misinformed. However, in this respect, and as has already been mentioned in the discussion, the results of a number of studies, on one count at least, (Crocker, 1974; Purdie, 1977; Whalley, 1978) conflict Norman's findings. Each of the researchers found that older, more mature candidates performed better at college than their younger colleagues. This reinforces Freyberg's conclusions that older students were more successful in curriculum studies, educational theory, and selected studies.

In summary: the research findings reviewed in this study show that secondary school examination results are not sound predictors of success at tertiary study. A number of other researchers have found that the age and maturity of the applicant rather than their qualifications improves the strength of the prediction.

Ranking

The difficulty of separating the large number of "middling" applicants was seen by the sample in the present study as another major and significant weakness of Division "A" teacher selection procedures (Statement 40 in Table 8). Solutions to this weakness are not obvious. However, even though most of the selectors who took part in the teacher selection procedures piloted in Scotland were confident that the most deserving and the least deserving candidates had been identified, they also expressed concern regarding the borders of groups (for example, between "bottom" of "accepts" and the "holds", and between "holds" and "rejects"). Of note and of significance to the results of this study, most of the selectors stated that they had been able to identify the most deserving candidates not because of their own ability but because of the quality and sophistication of the procedures [16]. In contrast to Scotland, however, it would seem that the procedures used in New Zealand to select Division "A" teacher candidates only exacerbate the difficulty of separating the large number of "middling" candidates.

Involvement

Statement 19, that the criterion of "involvement" disadvantages some applicants and is difficult to interpret constituted the seventh equal major weakness of Division "A" primary teacher selection procedures. The fact that the wording of the Department of Education's policy regarding "involvement" is vague and inexplicit may help to explain why the sample in this study found the criterion difficult to interpret:

[16] Wilson, et.al., 1985 :9

"[involvement is] ... an assessment of the involvement in and the extent to which the applicant is committed to cultural, including Maori and Pacific Island culture, sporting, social and welfare activities. Both depth and breadth of experience in these activities should be carefully considered. It should be borne in mind that dedication to a single interest may be of more value than superficial commitment to a number, but could also indicate a narrowness of outlook inconsistent with the requirements for effective teaching. Similarly an applicant completing academic study or who has been living in a sparsely populated district may well be restricted in the time given to or the opportunity to engage in this kind of activity."

[Paragraph c9.14.4d]

While the overall criterion is well explained here, it is virtually impossible for selectors not be inconsistent when assigning numerical values to, and differentiating between, the "involvement" activities of candidates. The issue of rating "involvement" becomes extremely complex when one considers the range of variables with which selectors are likely to be presented (for example, the type of activity, the range of "involvements" of the candidate, the level of attainment, the length of the involvement, the opportunities available, and the level of commitment). The issue of the interpretation of the "involvement" is further complicated by the fact that interviewers' perceptions of candidates are often coloured by their pre-occupations, life history, and emotional state (Wexley et.al., 1973; Geiss, 1978). What these points seem to lead to is a further argument for the introduction of a more explicit and, thus, a fairer system for analysing the "involvement" of Division "A" teacher candidates.

Conclusion

In this chapter, the results from each of the three rounds of this Delphi study have been outlined and discussed. The eleven major and significant weaknesses of Division. "A" (primary) teacher selection procedures as well as their implications, have been the focus of attention. Overall, weaknesses relating to the poor validity of the selection criteria were dominant although other issues relating to quotas and the unfairness of the selection procedures were also raised.

The final chapter of this thesis is devoted to conclusions and recommendations.

CONCLUSIONS AND RECOMMENDATIONS

By means of the Delphi technique, this study has sought to ascertain the weaknesses of Division "A" (primary) teacher selection procedures in New Zealand. The review of the literature in Chapter One sought to establish the foundations from research on which these procedures were based. The findings of this review, combined with the results of the three Round Delphi, confirm that present Division "A" teacher selection procedures in New Zealand may well be ineffective, outdated, and counterproductive.

Briefly, the criticisms derived from the review reflected the following points: First, the procedures do not attempt to collect evidence on the skills actually employed in a teaching situation, viz., organising skills, explaining, questioning, relating to a learner. Secondly, a great deal of the time of highly paid academic staff is expended on procedures which are confusing and whose validity is questionable. In this respect, the continued use of some of the major criteria used in these procedures, viz., intelligence and academic ability, experience with children, personality traits and characteristics, cannot be justified from research. Thirdly, candidates are not guaranteed fair and equal treatment in the way their applications are handled. In this context, the present study concludes by making eight recommendations for change.

Recommendations

What, in summary, are the implications of the foregoing assessment of Division "A" teacher selection procedures? It appears that a radical reassessment of current procedures is in order and may include:

- 1] The appointment of full-time recruitment officers.
- 2] Recruitment from an older age group, preferably after work experience other than teaching. This could be achieved by raising the minimum age of entry, perhaps to 18.

- 3] The introduction of "developed" selection, particularly the inclusion of modified application procedures, a practical teaching task, a group discussion, tests to ascertain Mathematics and written English skills, and a formal interview to "pull" the selection information together.
- 4] Greater emphasis should be given to selecting males and Maori and Pacific Island candidates, but not at the expense of being unfair to other applicants.
- 5] Interview panels should include, at least in an advisory capacity, a person who can fully appreciate the cultural abilities and language background of Maori and Pacific Island applicants.
- 6] Education Boards would be notified of their intake quota well in advance of the commencement of selection, or, alternatively, the abolition of quotas which would mean open entry into the first year of teacher training.
- 6] The criterion of "involvement" is to be retained but a set of explicit guidelines must be developed so that selectors can make fairer assessments of each candidate in this area.
- 7] To counter the unreliability of the reports of referees and secondary school principals is a difficult task. Part of the problem is that, in New Zealand, selectors are reliant on these reports. An obvious solution would be to increase the range and quality of selection instruments as has been done in Scotland.
- 8] The introduction of a more flexible programme of study with greater provision for repeats if necessary.

These recommendations are not all new. Some have already been mentioned by various Teachers' Associations, chief among them being the N.Z.E.I. as well as a number of

leading educationalists in New Zealand. The present study has shown that support for change is now very strong even among the selectors themselves. In light of this, the concerns and recommendations expressed by the Review of Teacher Training (1979) are now too cautious and, even if fully implemented, would not be sufficient to ameliorate what appears to be serious weaknesses in New Zealand's Division "A" teacher selection procedures.

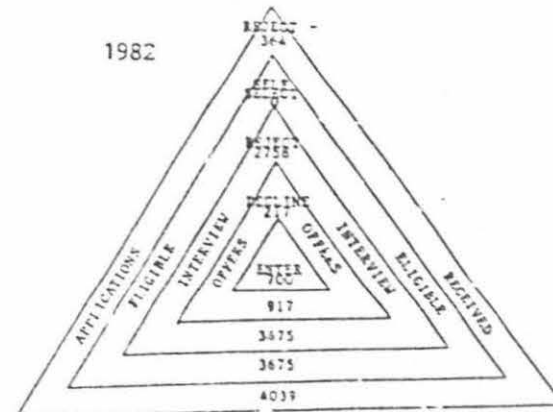
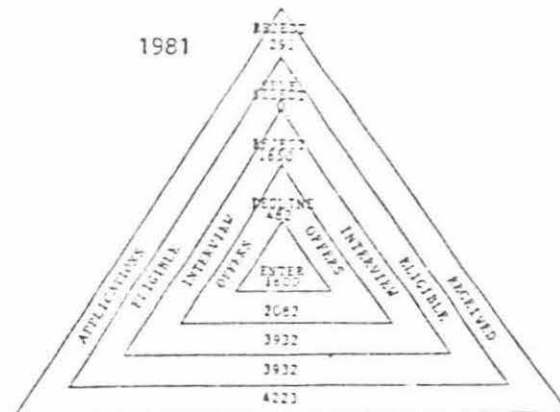
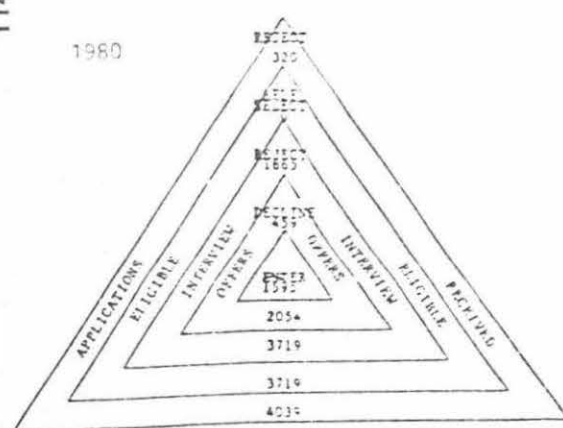
APPENDIX I

OFFERS OF A PLACE OF TRAINING.
MAORI AND PACIFIC ISLAND APPLICANTS
AS A % OF THE TOTAL NUMBER OF APPLICANTS

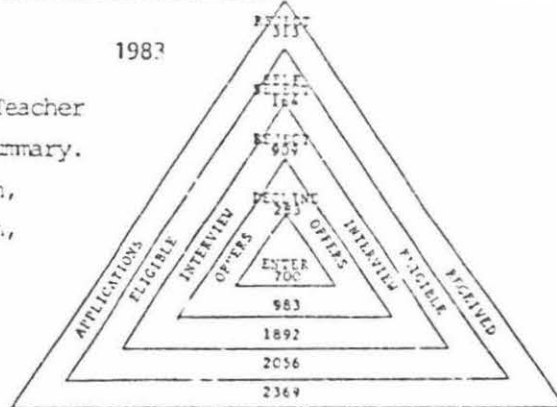
<u>Intake</u> <u>Period</u>	<u>Male</u> <u>Maori</u>	<u>Male</u> <u>Pacific</u> <u>Island</u>	<u>Female</u> <u>Maori</u>	<u>Female</u> <u>Pacific</u> <u>Island</u>	<u>Total</u> <u>Maori</u> <u>& P.I.</u>	<u>Grand</u> <u>Total</u>	<u>Total</u> <u>of</u> <u>Maori &</u> <u>P.I. as</u> <u>% of</u> <u>Grand</u> <u>Total</u>
1979/80	27	15	96	44	182	2054	8.86
1980/81	50	15	186	83	334	4223	7.90
1981/82	24	8	49	19	100	917	10.90
1982/83	16	2	45	14	77	983	7.83
1983/84	11	9	61	32	113	853	13.24
1984/85	36	12	93	36	177	978	18.09
1985/86	36	16	92	39	183	1458	12.55

Source:

Division A summary recruitment returns, Department of Education,
 Head Office, Wellington. (1986).



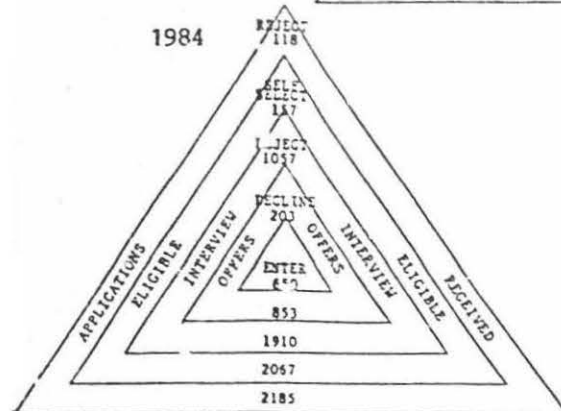
1983



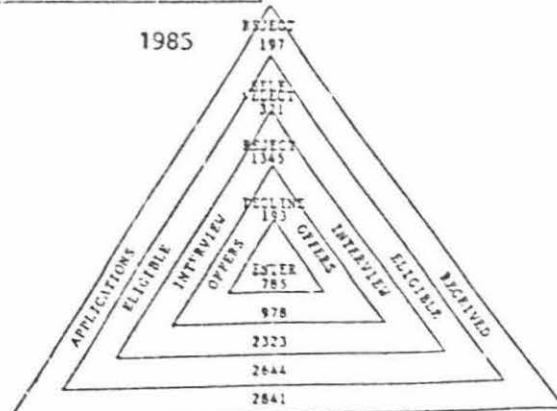
APPENDIX II:

The Procedures from
Application to entering
a course of Division A
primary teacher training:
Statistics, 1980 - 1986.

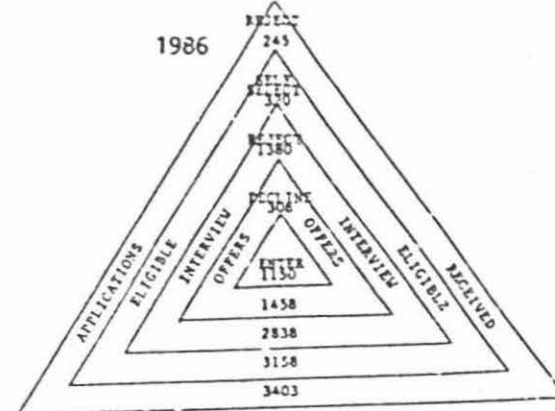
1984



1985



1986



Source: Primary Teacher
Training: Final Summary.
Dept. of Education,
Personnel Division,
Wellington.

APPLICATION FOR KINDERGARTEN/PRIMARY TEACHER TRAINING (NON GRADUATE)

Please print clearly and complete all sections. Complete a separate form for each course you apply for.

1. (a) Refer to recruitment booklet and tick course you are applying forKindergarten (Division E) 2 year course ☐Primary (Division A) shortened to 2 years for applicants with more than half of a degree ☐Primary (Division A) 3 year course ☐Primary (Division A) 2 years supplementary course for Pacific Island Trained Teachers ☐

(b) Which teachers college do you wish to attend (you may apply for only one for each course)

**2. (a) Mr/Mrs
Miss/Ms**

Surname

First Names

(b) Name by which previously known (if applicable)

(c) Usual Address:

Holiday Address (if different) Give appropriate dates:

Telephone Number

Exchange

Telephone Number

Exchange

from / / to / /

(d) Date of Birth:

(e) Age:

(f) Country of Birth

(g) Marital Status

(h) Number of dependent children/relatives with ages

(i) Are you a New Zealand Citizen?

☐ Yes ☐ No

(Evidence of citizenship or residential status may be required)

(j) If you are not a New Zealand Citizen:

(i) Give date of arrival in New Zealand / /

(ii) Are you entitled to reside permanently in New Zealand?

☐ Yes ☐ No(k) Which is your ethnic group?
Tick box or boxes to describe it☐ EUROPEAN☐ MAORI☐ PACIFIC
ISLANDS☐ ASIAN☐ OTHER**3. (a) State name of secondary school(s) attended and dates**

From 19 to /19

From 19 to /19

(b) Total secondary education as at the end of this year years months

(c) Education qualifications completed Give subjects, marks/grades, year(s) passed and school attended

SCHOOL CERTIFICATE

SIXTH FORM CERTIFICATE

UNIVERSITY ENTRANCE

OTHER EXAMINATIONS

Year and School:

(d) State examinations or certificates with subjects for which you are currently studying. Specify subjects

4. Interests and hobbies (e.g., music, drama, art, sport, youth clubs, community activities etc.). Give details and any qualifications/awards and experience in coaching, teaching or leadership. Continue on separate A4 sheet if necessary.

5. (a) Do you speak a language other than English? <input type="checkbox"/> YES <input type="checkbox"/> NO		If "YES", state which language	
(b) Do you have an interest in or knowledge of a culture other than English? <input type="checkbox"/> YES <input type="checkbox"/> NO		If "YES", state which culture	
6. (a) Have you ever held any university grant or bursary? <input type="checkbox"/> YES <input type="checkbox"/> NO		(b) Have you ever entered into a bond with the Government? <input type="checkbox"/> YES <input type="checkbox"/> NO	
(c) Have you previously applied for a course of teacher training? <input type="checkbox"/> YES <input type="checkbox"/> NO		If so, state course and date	
(d) Have you previously enrolled in any course of teacher training? <input type="checkbox"/> YES <input type="checkbox"/> NO		If so, state university/teachers college	
(e) Have you applied for any other teacher training course this year? <input type="checkbox"/> YES <input type="checkbox"/> NO		If so, state course(s)	
		Dates	
		Reason for withdrawing	
		Education Board or Regional Office you applied to	

7. Names and addresses of two reputable persons (NOT an immediate family member or your principal or class teacher) to whom reference as to your character can be made

8. Previous and present employment record (include casual, vacation or short term employment if relevant to teaching)

EMPLOYER	TYPE OF WORK	LOCATION	DATES EMPLOYED

9. Are you prepared and able to take the oath of allegiance or make the affirmation of allegiance?

☐ YES ☐ NO

10. Have you been convicted of any offence against the law, apart from traffic infringement offences?

☐ YES ☐ NO

Date of offence: Please supply details in a sealed envelope.

NOTE: If you are convicted of a criminal offence after submitting this application you are required to notify the office to which you sent this application.

11. Other Information in support of this application; give reasons for wishing to enter teaching. Continue on separate A4 sheet if necessary.

12. Documents to accompany this application (original documents will be returned, photograph will be retained)

- ☐ Birth certificate
 ☐ Small recent passport-type photograph
☐ Secondary school qualifications
 ☐ Other relevant papers (please specify)
☐ Other qualifications
☐ Official university transcript

MEDICAL HISTORY

13. (a) Do you or have you suffered from any of the following (Please tick either "YES" or "NO" box)

YES	NO		YES	NO	
		Eye or visual defect			Epilepsy
		Chronic ear problems or deafness			Fits or fainting attacks
		Chronic nose or throat problems (incl hayfever, catarrh, tonsillitis)			Periods of depression
		Chest trouble			Nervous or mental ill-health
		Tuberculosis in any form			Recurrent headaches (incl. migraine)
		Heart trouble (incl. palpitation, chest pain and shortness of breath)			Rheumatic fever or rheumatism
		Anaemia or other blood disorders			Diabetes
		Indigestion, gastric or duodenal ulcers or bowel disorders			Skin disease
		Back trouble, sciatica or arthritis			Asthma
		Allergy or sensitivity			Operations or injuries, state
		Liver or gall bladder disease or jaundice/ hepatitis			Tropical diseases, state
		Kidney or bladder trouble			Any illness not mentioned, state

(b) If your answer to any of the above is "yes" please indicate the frequency of attacks and the date of the last one

NOTE: You may be asked to provide a medical certificate stating that you are now free from or are under treatment for the condition and that the condition or its presence will not interfere with training or fitness to be a teacher. Any medical examination will be at your own expense.

(c) Do you wear glasses or contact lenses?		<input type="checkbox"/> YES	<input type="checkbox"/> NO
(d) Have there been any recent marked changes in your weight?		State approximate amount	
<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> LOSS	<input type="checkbox"/> GAIN
(e) Are you on any permanent medication?		If yes, state illness/condition:	
<input type="checkbox"/> YES	<input type="checkbox"/> NO		
(f) Have you been absent from work, school or university on account of illness or injury during the past two years?		If so, state reasons and period of absence	
<input type="checkbox"/> YES	<input type="checkbox"/> NO		
(g) Have you ever been rejected from employment or military service on medical grounds, been declined life insurance or accepted only on special terms because of medical grounds?			
<input type="checkbox"/> YES	<input type="checkbox"/> NO		
(h) Have you any physical condition or disability which might affect your training or teaching service in any way?			
<input type="checkbox"/> YES	<input type="checkbox"/> NO	If so, give details:	
(i) Family history. Has any near relative suffered from tuberculosis, diabetes, epilepsy, nervous or mental illness?			
<input type="checkbox"/> YES	<input type="checkbox"/> NO	If so, give relationship and state if person is alive and well.	

14. DECLARATION

I, _____ (Full name of applicant) _____ solemnly and sincerely
declare that to the best of my knowledge and belief the information given in this application is entirely true
and correct.

Signature of applicant: _____

Date: ____ / ____ / ____

I solemnly declare that to the best of my knowledge the information given by
the applicant is entirely true and correct.

Signature of witness: _____
(The witness should be a parent or legal guardian or person who knows applicant well)

15. NOTICE FOR APPLICANTS

Trainees who successfully complete a course of primary teacher training will be appointed to positions, called certificating positions, for two years. Where teachers in certificating positions meet the requirements for certification after two years in a certificating position, the appointment is confirmed and becomes permanent. Wherever possible teachers will be posted to a school in the education board district of their choice.

Trainees who successfully complete a kindergarten teacher training course are responsible for obtaining a teaching position on completion of their training. Experience has shown that to obtain a position, teachers will need to apply widely throughout New Zealand for all vacancies for which their qualifications and training make them a suitable applicant.

I have read the conditions outlined in this section.

Signature of applicant: _____

Please check the completed application and documents and forward by 20 August to the Education Board which admits trainees to the teachers college you wish to attend.

APPENDIX IV:

SELECTION COMMITTEE'S REPORT ON
SUITABILITY FOR ADMISSION TO TEACHERS' COLLEGE

District H.B. ☐ Ta ☐ Wa ☐ Div A ☐ Pre-school ☐
(Tick boxes)

Name _____ Age 1st March 1985 _____ yrs _____ mths

Home address _____

Secondary schools _____

1 Use of English

Fluency in expression, command of words, voice, speech, etc.

Personal (Overt Qualities)

2 Confidence, vitality, dress, deportment, sense of humour, presence, etc.

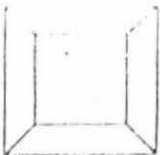
Personal (Covert Qualities)

3 Industry, self discipline, initiative, concern for people, sensitivity, tolerance, etc.

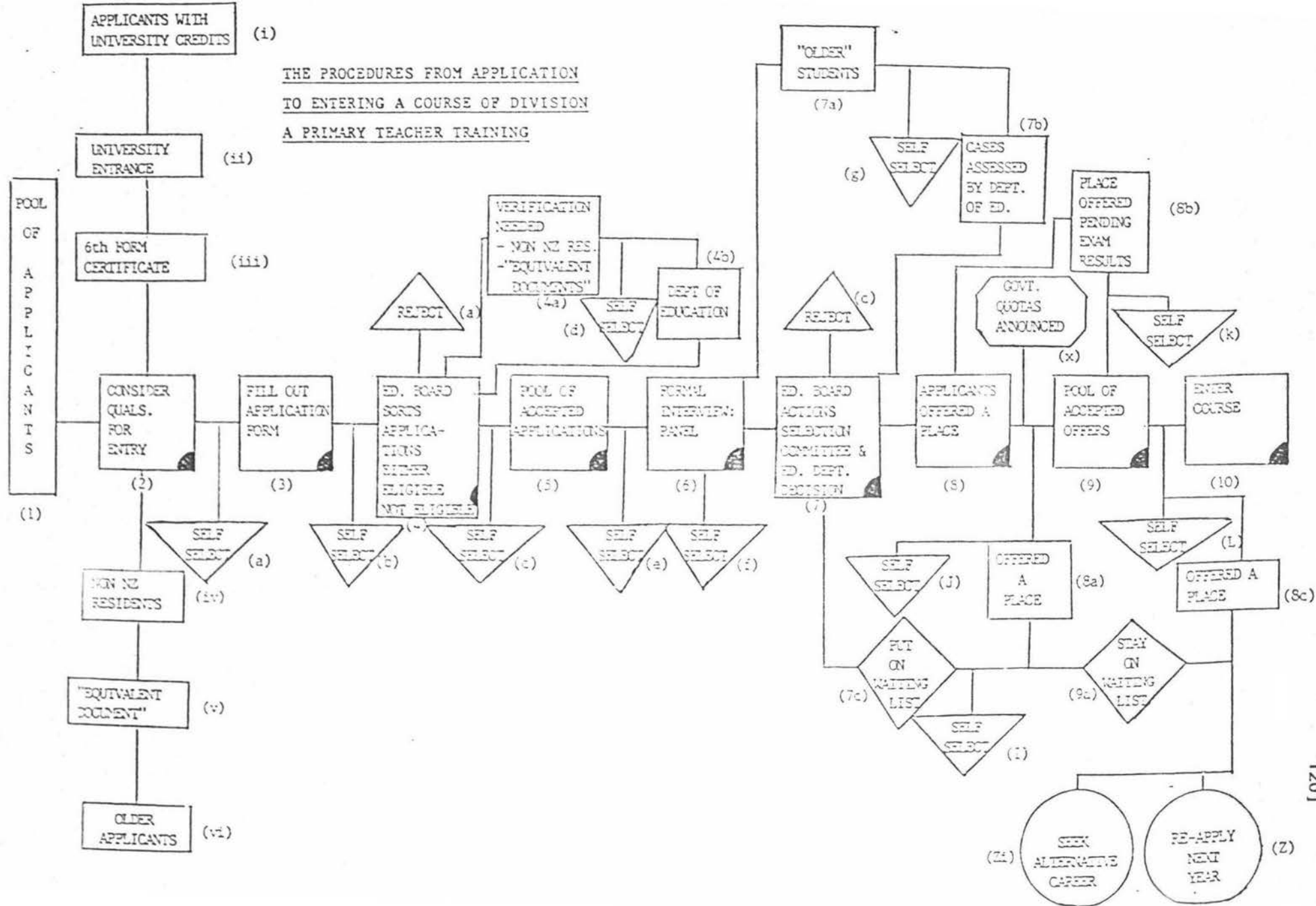
Involvement in School and Community

4 Range and depth, degree of commitment, balance of interests, etc

Selection Profile

	LowHigh									Selection Ranking
	1	2	3	4	5	6	7	8	9	
1. English										
2. Personal (O) ..										
3. Personal (C) ..										
4. Involvement ..										


Specific comments related to given ranking



PROCEDURES* FROM APPLICATION TO ENROLMENT

There are four possible outcomes to the lodging of an application for a place in Division "A" primary training: "Enter course", "Withdraw-Self select", "Reject" and "Re-apply next year". Both the selectors and applicants can influence final categorisation. Each of these is defined below.

Enter Course After going through the selection procedures 1-6, applicants may "arrive" at the place of officially being offered a position (9) by one of four routes:

- a] An applicant may reach (6) and move through to (10) without taking an alternative route. This route is distinguished by the symbols  and are numbered 1 through 10. Such an applicant will likely have scored highly at the interview (6) on rating, will have been ranked accordingly, and will not have self selected.
- b] The recommendations of the selection committee (6) regarding "older applicants" (7a) are required to be assessed by the Department (7b), the outcome of which is actioned by Education Boards (7).
- c] A third group of candidates (7c), having reached (7), being deemed as suitable, but not having a sufficiently high ranking to guarantee an immediate offer of a place, are placed on a waiting list. A place may later be offered to them:
 - i] in the event of high priority candidates self selecting (self select H or L) or
 - ii] where Government quota (X) announcements allow more candidates to be admitted or

* "Procedures" and "process" are not used interchangeably but are related terms. The selection procedures are the component parts of the selection process. Put another way, the procedures are the
 the process is the whole.

- iii] where, between selection procedures (8) and (9), some applicants self select (J) and equivalent number offers are made (8c)
 - iv] or where applicants fail examinations (8b).
- d] The fourth route concerns applicants who have been offered a place on the condition that they are successful with examinations, (8b), in most cases University Entrance.

Self select ↓ (A) through (L). Self selection is defined as "a voluntary withdrawal". Applicants may self select for a number of reasons including:

- i] realising, through the interview or contact with other teacher personnel, that they may not be suited to teaching.
- ii] opting to take up an alternative employment offer which emerged after they entered the teacher selection process.

Reject ↑ "Reject" may be defined as a "Government initiated involuntary withdrawal" from the selection process. There are two steps in the process where rejection is possible.

- a] At (4) where an officer from the Education board sorts applications as either eligible or ineligible. An applicant may be ineligible for a number of reasons including:
- i] a 16 or 17 year old with no formal qualifications
 - ii] a person over the age of 45 with qualifications which would deem them as suitable
 - iii] an applicant who fails to provide evidence of New Zealand citizenship
 - iv] an applicant whose "equivalent qualifications are unsuitable".

In the case of non New-Zealand residents and applicants with "equivalent documents" (4a), the Department of

Education uses its discretion in assessing individual cases. If they are deemed "eligible", they then go on to a formal interview (6).

- b] at (7), reject (c), where the Education Boards are actioning
 - i] recommendations made by the selection committee regarding the suitability of candidates or
 - ii] decisions made by the Department of Education concerning applicants in component (7a).

It should be noted that rejections could be categorised in two ways, namely rejections decided and rejection actioned. For example, at (7) a number of applicants will be rejected on the basis of decisions made at (6), although these decisions are officially actioned at (7). The same distinction should be made between (7b) and (7).

Apply Next Year Where applicants have been placed on the waiting list (9a) and have not been offered a place (8c), there are two options open to them. The first is to re-apply the following year (z) and the second is to seek an alternative career (zi). The difference between (z) and a "self select" is that in the former, applicants have delayed self selecting while there was still an opportunity to enter the course (10).

Summary This is a simplified flow chart. It is an attempt to represent only key procedures in the selection process. The total picture would be extremely complex.

In terms of the goal of the research, which was to evaluate Division "A" (primary) teacher selection procedures, there are important considerations:

There appears to be considerable flexibility within the process for discretion among those making decisions about candidate suitability. For example, a selection committee with Departmental approval could admit, if it saw fit, candidates with one or all of the following characteristics:

- those with a criminal record.
- who are over age 45.
- who have no formal qualifications.
- who are non-New Zealand residents.

Departmental policy, it would seem, reflects the notion that successful teachers can be selected from a pool of applicants with very different and wide ranging social, intellectual and cultural backgrounds and that any attempt to restrict flexibility of entry into teaching training would necessarily result in a corresponding drop in the quality of applicant admitted.

APPENDIX VI:ROUND ONE

.....

Please list what you consider are the weaknesses of current teacher selection procedures for Division A (Primary).

Please return by 18 August. Thank you.

APPENDIX VIIROUND TWO

.....

THE PROBLEM

In Round One, you were asked to list what you considered were the weaknesses of Division A (Primary) selection procedures. Your responses and those of your colleagues have been scrutinised to eliminate duplication and a summary list has been compiled. (attached)

Keeping in mind your own views of the weaknesses of present selection procedures and the views of your colleagues, as summarised, please compile a short list of concise statements which best express what you consider to be the weaknesses of Division A selection procedures. You may wish to choose key statements from the summary list. If you do choose statements from this list which do not accurately reflect your own views, you may modify them.

Please return by September 19. Thank you.

APPENDIX VIIIROUND THREE

.....

THE PROBLEM

In round two of this study you were asked to reconsider your round one responses in the light of those of your colleagues. You were then asked to compile a short list of concise statements of what you regarded were the weaknesses of Division A Teacher Selection Procedures. Below is a summary list of participants' round two responses.

In this round you are asked to consider this list of statements and to express your opinion by indicating whether you consider each statement to be an expression of a major or minor weakness of current Division A (primary) selection procedures.

Please express your opinion of each of these statements by circling a number on the scale provided

Please return by October 18. Thank you.

ROUND THREE QUESTIONNAIRE

		Major Weakness			Minor Weakness		
1]	The procedures fail to provide sufficient information on each applicant's ability to teach effectively.	5	4	3	2	1	
2]	Low ranking Maori and Pacific Island applicants receive preference to satisfy "target" requirements	5	4	3	2	1	
3]	The minimum academic requirement is too narrow a criterion for selection.	5	4	3	2	1	
4]	They reflect white middle class values and, as such, disadvantage minority groups.	5	4	3	2	1	
5]	The practice of some secondary schools coaching some applicants in interviewing skills questions the validity of assessment made about the applicant.	5	4	3	2	1	
6]	The secondary school principal's report cannot always be interpreted as a reliable source of information about the applicant.	5	4	3	2	1	
7]	Abandoning the academic criteria has made it difficult for selectors to assess an applicant's suitability for tertiary study.	5	4	3	2	1	
8]	Selectors cannot be confident that the applicant's qualities which they are assessing can actually be assessed within the time available and with the instruments now being used for selection.	5	4	3	2	1	
9]	Not enough emphasis is given to teacher recruitment. (Especially recruitment of males, adults, and Maori and Pacific Island applicants.)	5	4	3	2	1	
10]	Referees' reports are not always a reliable source of information about applicants	5	4	3	2	1	
11]	There are too many assessment inconsistencies of rating applicants among committee members, between committees and between Education Boards.	5	4	3	2	1	

Major
weaknessMinor
weakness

12]	The membership of some interview committees changes too frequently.	5	4	3	2	1
13]	Interviewers lack training in interviewing skills.	5	4	3	2	1
14]	Members of each educational group (the NZEI, and Teachers' College, the Board, and the Department) are not always represented on interview committees.	5	4	3	2	1
15]	Variations in the venue of the interviews disadvantage some applicants.	5	4	3	2	1
16]	Some applicants are deterred from expressing their views before the interview committee.					
17]	Selection procedures are not effective.	5	4	3	2	1
18]	Interview committee members do not know how accurate their assessments of each applicant are.	5	4	3	2	1
19]	The criterion of "involvement" disadvantages some applicants and is difficult to interpret.	5	4	3	2	1
20]	As a criterion, commitment is difficult to assess.	5	4	3	2	1
21]	Applicants are not given feedback on their interview before they leave the interview.	5	4	3	2	1
23]	Some claims made by applicants during the interview (e.g. regarding hobbies and interests) are not able to be verified in the time available.	5	4	3	2	1
25]	Education Board members on interview committees are inadequately paid.	5	4	3	2	1
26]	Ascertaining an applicant's attitudes towards multicultural issues is difficult to do without offending them.	5	4	3	2	1
27]	The Government times its announcement of quotas too late after the interview.	5	4	3	2	1
28]	It is condescending to Maori and Pacific Island applicants to select them for Teachers' College with rankings below the cut-off point.	5	4	3	2	1

Major
weaknessMinor
weakness

29]	Graduates of those with more than half a degree who apply to go to Teachers' College are disadvantaged because administrative and organisational circumstances limit the numbers of this group able to be accepted.	5	4	3	2	1
30]	Interviewing all applicants.	5	4	3	2	1
31]	There is a lack of funding to help Teachers' College and the Department of Education replace staff involved with interviewing.	5	4	3	2	1
32]	Some applicants are being interviewed who do not meet the minimum entry requirements.	5	4	3	2	1
33]	There are no age limits for applicants.	5	4	3	2	1
34]	The structure of the interview may be stressful for applicants and may influence their ability to give an accurate picture of suitability for teaching.	5	4	3	2	1
35]	The presence of a Maori interviewer who is perceived by a Maori applicant as a Kaumatua may have an effect opposite to the one intended by the inclusion of a Maori on the committee.	5	4	3	2	1
36]	Selection is the responsibility of the Education Board and not the Teachers' College.	5	4	3	2	1
37]	The secondary school principal's report is too influential compared with other selection criteria.	5	4	3	2	1
38]	There is insufficient time to gather principals' reports between August 20 and the beginning of school examinations.	5	4	3	2	1
39]	There is difficulty in ranking those applicants immediately below the cut-off point.	5	4	3	2	1
40]	It is difficult to separate the large number of "middling" applicants.	5	4	3	2	1
42]	There is often disagreement between committee members as to what constitutes a good teacher.	5	4	3	2	1

Massey University

APPENDIX IX

PALMERSTON NORTH, NEW ZEALAND

TELEPHONES: 69-079, 69-089, 69-099

DATEX: NZ 30974, Mas Uni

In reply please quote:

15 July, 1986

Dear

Re: Your participation in research on Teacher Selection Procedures.

I am a masterate student working under the supervision of Dr. David Battersby. The purpose of this letter is to seek your participation in a study which I am carrying out on Teacher Selection. Indeed, as a recent member of a selection committee, your participation in the project would be most valued.

The research will employ the Delphi Technique* to ascertain the weaknesses of the current Teacher Selection Procedures for Division "A" Primary.

One of the advantages of the Delphi Technique is its simplicity. In the first round you will be simply asked to list, as you perceive them, the weaknesses of the Teacher Selection Procedures. In subsequent rounds you will be asked to respond to a summary of all participants' responses. Respondents will remain anonymous to each other throughout the study. You will be given approximately ten days to reply to each round. This means that rounds one and two will be completed by the August school holidays. Rounds three and four will be posted in the first weeks of the third term.

A random sample (N=36) of selection committee members from nine out of the ten Education Boards have been approached. This includes a representative sample of Education Board, Education Department, Teachers' College, and N.Z.E.I. members. Naturally, all those who participate in the study will be issued with a report at its conclusion.

This research has the support of the Department of Education and your own Education Board.

I look forward to hearing from you soon.

Julian Batchelor

Yes, I would like to participate NAME _____

Sorry, I cannot participate ADDRESS _____

(Please delete one) _____

On the selection committee, I represent _____

(N.Z.E.I., the Dept., the Board, etc.) _____

THE DELPHI TECHNIQUE

A brief description

The Delphi Technique is a research tool which has been developed for forecasting, policy-planning, and decision-making. In essence, it is a method of eliciting opinions or judgements on a particular issue or problem from a group of individual experts who remain anonymous to each other. In this study, the experts are personnel directly involved in the selection of Division A primary teachers and the problem is the teacher selection procedures. The assumption underlying the use of the Delphi Technique is that those personnel directly involved in selection are in a sound position to judge its weaknesses. Once the experts are selected and a sample size determined the central research question is administered.

"As you perceive them, what are the weaknesses of current teacher selection procedures?" (Division A primary). This question is administered to the sample on an individual basis. Responses are analysed for summary. If a consensus has not been reached a further questionnaire is prepared on the basis of previous responses and summary. The new questionnaire, together with an analysis and summary, is then distributed to respondents. This part of the Delphi process is repeated until consensus is reached.

At the completion of this Delphi, all participants will be informed of the outcome and given the opportunity for comment.

APPENDIX X[1] Experience with Selection:

I have been selecting teachers for
Division "A" (Primary) training
for

(years)

(Discount any years when you did
not participate as a Teacher
Selector).

[2] Date of Birth[3] Present Position:

At the moment I am

(Please specify the position you hold
in your current employment e.g.
Senior Lecturer in Education, S.T.J.C.,
School Inspector).

Please return immediately if it is at all possible.

PALMERSTON NORTH, NEW ZEALAND

TELEPHONES: 69-079, 69-089, 69-099

DATEX: NZ 30974, Mas Uni

In reply please quote:

Dear Sir,

Re: Research concerning teacher selection, Division A Primary.

Dr. David Battersby and I are conducting a research project which is investigating procedures relating to the selection of Division A Primary teacher candidates.

In order to proceed, the assistance of personnel directly involved on the selection panels is necessary. It is hoped that you would like to participate in this study by granting us permission to solicit the opinions of members of selection panels who have most recently been involved in selection, and, if you feel the desire, to make comments yourself on any aspect of the study.

The project will employ the Delphi Technique* to elicit opinions concerning the central research question:

"What are the weaknesses of the current
teacher selection procedures?"

Should you require any further information on any aspect of the project, please feel free to ask.

Anticipating your reply,

Julian Batchelor.

*Please refer to the attached sheet for further explanation.

THE DELPHI TECHNIQUE

A brief description

The Delphi Technique is a research tool which has been developed for forecasting, policy-planning, and decision-making. In essence, it is a method of eliciting opinions of judgements on a particular issue or problem from a group of individual experts who remain anonymous to each other. In this study, the experts are personnel directly involved in the selection of Division A primary teachers and the problem is the teacher selection procedures. The assumption underlying the use of the Delphi Technique is that those personnel directly involved in selection are in a sound position to judge its weaknesses. Once the experts are selected and a sample size determined the central research question is administered.

"As you perceive them, what are the weaknesses of current teacher selection procedures?" (Division A primary). This question is administered to the sample on an individual basis. Responses are analysed for summary. If a consensus has not been reached a further questionnaire is prepared on the basis of previous responses and summary. The new questionnaire, together with an analysis and summary, is then distributed to respondents. This part of the Delphi process is repeated until consensus is reached.

At the completion of this Delphi, all participants will be informed of the outcome and given the opportunity for comment.

Massey University

APPENDIX XII

PALMERSTON NORTH, NEW ZEALAND

TELEPHONES: 69-079, 69-089, 69-099

DATEX: NZ 30974, Mas Uni

C/o Education Department.

In reply please quote:

30 July, 1986

Dear

Welcome to the Teacher Selection Study and thank you for responding so quickly to my invitation.

Please find Round one enclosed and a stamped, addressed envelope.

The return date of the 18 August allows approximately three weeks to reply. I hope this takes some of the pressure off you at this busy time of year.

Thanking you in advance.

Yours sincerely,

Julian Batchelor.

Massey University

PALMERSTON NORTH, NEW ZEALAND

TELEPHONES: 69-079, 69-089, 69-099

DATEX: NZ 30974, Mas Uni

Education Department.

In reply please quote:

5 September, 1986

Dear

Re: Study of Teacher Selection Procedures, Division A (Primary).

Thank you for the time you spent on round one and for returning your responses so promptly. Your views on the weaknesses of selection procedures were very interesting and much appreciated.

Enclosed is round two of this study, including a stamped, addressed envelope. I would be grateful if you could return your response to round two by the 19th of September. This means that you have approximately two weeks to reply.

You are reminded again that your responses are treated as strictly confidential. As well, the success of Delphi depends on participants remaining anonymous to each other.

Do feel free to contact me if there are any queries. Thank you again for your co-operation and participation in this study.

Yours sincerely,

Julian Batchelor.

Enclosed: Round two questionnaire and Round one summary list.

Massey University

APPENDIX XIV

PALMERSTON NORTH, NEW ZEALAND
Education Department

TELEPHONES: 69-079, 69-089, 69-099
DATEX: NZ 30974, Mas Uni

In reply please quote:

October 1, 1986

Dear

Re: Study of Teacher Selection Procedures

Thank you for returning Round two of the study so promptly.

Enclosed is the final Round, together with a stamped, addressed envelope. I would be grateful if you would return your responses to this Round by October 18.

When the results of Round three have been collated and analysed, a copy of the findings of the study will be forwarded to you for your information.

Once again, if you have any queries about this Round, please feel free to contact me here at Massey 69-099, ext. 8480.

Thanking you in advance.

Yours sincerely,

Julian Batchelor.

APPENDIX XVSome Examples of the Original 203 Responses from Round One Returns:Example One:

The weaknesses are:

- 1] Stability of personnel on interview panel, due to Teachers' College not being able to appoint a reliever to replace the representative of the Teachers' College during the five or six weeks interview selection period. The Teachers' College representative on the panel is the lecturer who has no lecture on a certain day or can organise his/her own "fill-in".
- 2] A developing departmental policy demanding a specific target of Maori entrants to college, irrespective of candidates' ability to meet criteria. In many cases such applicants prevent the selection of more suitable and capable European applicants.
- 3] The additional privilege extended to Maori applicants by being interviewed in a situation of ease on a marae. European applicants, however, may be interviewed in a variety of odd offices or classrooms.
- 4] The Principal's report sometimes lacks credibility due to the report being prepared by a careers teacher or senior teacher, with the Principal having no knowledge of the candidate's suitability for teaching, and having no input other than signing the report.
- 5] The lateness of notification of quotas, resulting in many suitable applicants taking up other employment.
- 6] The lack of time for seconded recruitment officers to visit secondary schools, especially in the rural areas where they can meet with students and give them up-to-date, accurate information concerning conditions of service, finance, and

college courses. Recruitment officers must present a good role model.

Example Two:

The weaknesses are:

- 1] Essentially amateur interview panels. While some attempt is made to indicate to panelists how (and how not) to conduct an interview and assess characteristics, the bulk of panelists have little real experience of interviewing.
- 2] Too brief contact time with candidate. In Wellington, panelists are expected to complete 8 times 40 minute interviews per day. The 40 minutes being 10 minutes' assessment of written material, 20 minutes' interview, 10 minutes' summarising and recording. The high and low rankers are easy but doing justice to the bulk in the middle can be difficult. I would prefer some further written material prepared by candidates under controlled conditions to augment information as well as the opportunity to lengthen the contact period, if required.
- 3] No real feedback. Having marked candidates on a point scale for 4 attributes, panelists never (or very rarely) hear how successful the applicant's performance is at College or 5 years later in the classroom. I know of no research ever undertaken to assess whether ranking at interview bears any relation to ultimate quality as a teacher. Are we selecting on the right criteria? or does the impact of 3 years at Teachers' College mask or so modify that selection is a farce?
- 4] Because of 1 & 3 above, what is the variability between panels? Is justice really being done? and how many potentially good teachers do we lose?

Example Three:

The weaknesses are:

- 1] Interviewing people before they have met the minimum entry qualification.
- 2] The length of interview. The time, in my opinion, is too short to probe in a range of important and related areas.
- 3] The too heavy reliance on Principals' reports for school leavers. There seems to be a great variance in the reliability of the reports. One almost has to know the Principal's school to determine how much reliance can be placed on the objectivity of the content.
- 4] A ranking system that seems to half-strangle itself by the prohibitions placed on the use of certain data, e.g. academic performance.
- 5] A system that purports to be a national system (i.e. a particular individual should have the same chance of selection whether he/she is interviewed in Southland or North Auckland) but obviously it varies in action considerably from Board to Board.

Example Four:

The weaknesses are:

- 1] The racial element which allows people who nominate affiliations with Maori to receive acceptance ahead of better qualified and/or more suitable non-Maoris.
- 2] The minimum qualifications this year - one sixth form certificate of an unspecified grade - is much too low especially when the aim is for a degree profession.

- 3] Some non-Maori candidates are made to feel wanting because they have not studied Maori at secondary schools is a complaint that has been put to me.
- 4] Interview times need extending to half an hour for all applicants.
- 5] Late applications should not be accepted.
- 6] Quotas need to be known before interviews begin.
- 7] Applicants' files need to be with panel members at least a week before interviews begin.

APPENDIX XVI

The 95% Confidence Intervals for the Means of the 46 Statements of Weakness of Division "A" (primary) teacher selection procedures as summarised in Table 4 were computed as follows:

- 1] The means M_1 to M_{46} for each statement were computed.
- 2] The standard deviations, SD_1 to SD_{46} , for each statement, about the corresponding mean, were computed.
- 3] A 95% confidence interval was computed for each statement, using the formula:

$$M_1 \pm 1.96 \times SE_{\bar{x}} \quad (\text{where } SE_{\bar{x}} = SD/\sqrt{n})$$

APPENDIX XVI Supplementary Table

95% Confidence Interval for the Means of the Statements of Weakness in Round Three results: *

<u>Statement No.</u>	<u>Rank</u>	<u>Upper Limit</u>	<u>Mean</u>	<u>Lower Limit</u>	<u>Range</u>
20	1	4.0	3.6	3.3	0.6
8	2	4.0	3.6	3.2	0.8
10	3	4.0	3.5	3.1	0.9
1	4=	4.0	3.4	3.0	1.0
27	4=	4.0	3.4	3.0	1.0
9	6	3.0	3.4	3.0	1.0
19	7=	3.8	3.3	2.9	0.9
7	7=	3.8	3.1	2.8	1.0
40	9	3.6	3.0	2.7	0.9
6	10=	3.3	3.0	2.6	0.7
2	10=	3.5	2.8	2.5	1.0
3	12	3.3	2.7	2.3	1.0
28	13	3.3	2.7	2.3	1.0
45	14	3.2	2.7	2.3	0.9
18	15=	3.2	2.7	2.2	1.0
22	15=	3.1	2.6	2.2	0.9
11	17=	3.0	2.6	2.3	0.7
12	17=	3.1	2.6	2.2	0.9
4	19=	3.0	2.6	2.2	0.8
44	19=	3.1	2.6	2.1	1.0
23	21	3.0	2.5	2.2	0.8
34	22=	3.0	2.5	2.2	0.8
13	22=	3.0	2.5	2.1	0.9
29	24=	3.0	2.5	2.1	0.9
31	24=	3.0	2.5	2.0	1.0
39	26	3.0	2.4	2.0	1.0
30	27	3.0	2.4	2.0	1.0
35	28	3.0	2.4	2.0	1.0
41	29=	3.0	2.4	2.0	1.0
24	29=	3.0	2.3	2.0	1.0
42	31	2.8	2.1	1.9	0.9
26	32	2.5	2.1	1.7	0.8
46	33=	2.5	2.1	1.7	0.8
36	33=	2.6	2.1	1.6	1.0

<u>Statement No.</u>	<u>Rank</u>	<u>Upper Limit</u>	<u>Mean</u>	<u>Lower Limit</u>	<u>Range</u>
25	33=	2.7	2.1	1.5	1.2
37	36=	2.5	2.1	1.7	0.8
17	36=	2.5	2.1	1.7	0.8
32	38	2.5	2.0	1.5	1.0
5	39	2.4	2.0	1.6	0.8
33	40	2.4	1.9	1.5	0.9
21	41	2.3	1.9	1.5	0.8
16	42	2.1	1.8	1.5	0.6
38	43	2.1	1.7	1.5	0.6
14	44	2.1	1.7	1.3	0.8
43	45	2.1	1.7	1.3	0.8
15	46	1.9	1.6	1.3	0.6

* Each of the four computations (i.e. the mean, upper and lower limits, and the range) have been rounded to 2 significant figures.

APPENDIX XVII

The 95% Confidence Interval for a Mean at the Grand Mean over all statements, for Division "A" (primary) teacher selection procedures as summarised in Table 4 was computed as follows:

- 1] The means M_1 to M_{46} for each statement were computed.
- 2] The grand mean GM of M_1 to M_{46} was computed, giving 2.567.
- 3] The standard deviation, $SD(M)$, of M_1 to M_{46} about the GM was computed, giving 0.553.
- 4] The 95% confidence interval for a statement mean at the GM was computed as:

$$GM \pm 1.96 \times [S.D (M)/\text{sqrt} (46)]$$

$$2.567 \pm 1.96 \times [0.553/\text{sqrt} (46)]$$

giving [2.406, 2.728].

- 5] Thus the three categories of weakness were defined to be:

Major Weakness : mean greater than 2.728

Moderate Weakness: mean greater than 2.406 and less than 2.728

Minor Weakness : mean less than 2.406

APPENDIX XVIII

The Practical Teaching Task

The most novel feature of the CATS project was the practical teaching task. This was included to provide evidence of the candidate's potential as a teacher in terms of ability to organize materials, to explain what was to be learned, and to relate to a learner (a fellow candidate).

The task was developed from practice in Lothian Region's Adult Basic Education Unit where volunteer tutors were put in the position of an illiterate in that they were taught a number of words in a code which was based on unfamiliar shapes. Half the candidates were asked to learn such a code (christened Bobo) and to teach it to a fellow candidate. A parallel code of similar level of difficulty (Mido) was also developed so that evidence of the teaching potential of both sets of candidates could be obtained.

The task was introduced to six candidates by means of a set of written instructions which all studied for five minutes. One candidate was then asked to explain to the rest of the group what they had to do. Once the task was clear, candidates were divided into two groups of three under the surveillance of a selector. Each candidate in the group was given a sheet with a list of the eight code words (Bobo or Mido) and their English equivalents, a set of flash cards in the code, and pencils and paper. Each knew they had to develop ideas about teaching the code to a candidate in the other sub-group. Each also knew that they could confer with their fellow candidates if they wished. After ten minutes the selector intervened by asking the candidates what

Appendix XVIII continued:

plan they wished to develop. Candidates were then left for a further few minutes to make final preparations before being paired to teach their fellow candidate. The six candidates were grouped in three pairs, each being assessed by the selector who would have the main responsibility for interviewing them and reporting on their performance over the day. Selectors noted the role candidates played in discussions, how far they seemed able to devise a strategy for teaching, what degree of assistance they required, how they managed the teaching (for example - how they handled the teaching materials, the order in which they presented the words, the rapport they established with the learner, and so on), and how they followed up their student's performance after the test.

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