CHAPTER IV

DESIGN OF THE STUDY

Predictor Variables
The Criterion Measure
Sample for Study and Administration of Tests
Analysis
Limitations
The present study is essentially an attempt to predict teaching potential and develop a suitable selection procedure for screening candidates who are seeking admission to teacher education institutions. The variables which may prognose future teaching success can obviously be found only among measures of such attributes as are available for assessment "before" training. The study is, therefore, designed to aim at:

(a) selection of suitable predictor variables;
(b) developing an adequate criterion measure of teaching efficiency; and
(c) setting up an appropriate technique of selection.

The logic of the design will be based on these objectives and will be presented in the same sequence.

PREDICTOR VARIABLES

The review of related research studies presented in the previous chapters has shown that out of the many variables which have been employed for predicting teaching success the following may be considered to be more significant.

1. Intelligence.
2. Personality traits, adjustment, attitudes and interests.
4. Academic achievement.
5. Voice and speech.
6. Success in co-curricular activities.
7. Pre-training teaching experience.

Out of these, the last three are either not practically possible or not applicable to the pre-admission selection situation. Some others such as measurement of voice and speech are beyond the means of the author. This leaves a choice of only the first four and these have been employed in the present study.

The choice of the instruments has been restricted by availability of tests, language considerations and the difficulties inherent in the use of instruments of foreign origin. Thus, in spite of our best efforts the "Gulford-Zimmerman Temperament Survey" (a personality inventory) could not be obtained; the Minnesota Multiphasic Personality Inventory though available is an instrument which can be used only individually and most of the better known tests of intelligence are in English. Washburne Social Adjustment Inventory used in this study had to be adapted to Indian situations by eliminating as far as possible certain elements peculiar to American culture and substituting these by corresponding Indian situations.

Instruments used for the assessment of the predictor variables are:

1. Intelligence - The Group Test of Mental Ability by S.S. Jalota.
2. Personality — (i) Washburne Social Adjustment Inventory by J.N. Washburne.

(ii) Vyaktitva Paraksh Prashnavali (Personality Adjustment Inventory) by M.S.I. Saxena.


4. Academic Achievement — Divisions obtained at the various examinations.

THE CRITERION MEASURE

Selection of an adequate criterion measure is the most important part of a research design on the prediction of teaching success. The various predictor measures can be validated only if a suitable criterion measure is available. If it is not adequate, the predictive validities of these measures will have very little meaning and the whole issue is likely to be confounded. Very often the research studies in the field have employed practice teaching marks as a criterion of teaching success. Marks for practice teaching are generally awarded on the basis of a general impression which a supervisor forms about the teaching efficiency of a student-teacher and are, for this and various other reasons, of limited value for research purposes. Practice teaching marks were, accordingly, not employed as a criterion and a major concern in the design and conduct of the present study is, therefore, the preparation of an instrument for measuring teaching efficiency.
As has been mentioned earlier, the most commonly used instrument for measuring teaching effectiveness is the rating scale and is perhaps the only kind of instrument which can be used. A fair number of such scales have been constructed and have been found to be satisfactory. (Barr and Harris, 1; Beacher, 2, 3; Remmers, 4; Ryan, 5).

Selection of teacher characteristics to serve as dimensions is a very crucial phase in the development of a rating scale. Generally these characteristics are laid down on the basis of the constructor's own idea of what constitutes effective teaching. Obviously this approach is subjective. In the present investigation, Flanagan's "Critical Incidents Technique" which makes use of actual teaching situations to evolve characteristics of effective teaching has been employed. The teacher characteristics so evolved have constituted the dimensions of a seven point numerical rating scale (Chapter VII) which has been used as a criterion measure. This scale hereafter referred to as "The Student Teacher Rating Scale" has been validated against ratings of pupil behaviour and against practice teaching marks. Its reliability has been assessed on the basis of the correlation coefficient between the ratings awarded by two observers.

SAMPLE FOR STUDY AND ADMINISTRATION OF TESTS

After selection of predictor tests and preparation of the Student Teacher rating Scale, the next step was the selection
of a sample and administration of the instruments. Data for
this study was obtained from 437 students enrolled in the
B.T. class in six training colleges. The predictor tests
were administered in the beginning of the session 1964-65
and measures on the criterion were obtained at the end of the
same academic year.

ANALYSIS

As in other studies of prediction, the main analysis
consists in finding a multiple correlation coefficient
between the predictors and the criterion measures. Fisher's
Modification of the Doolittle Method has been employed for
calculating the regression weights and the multiple R. This
method was used in preference to the conventional Doolittle
Method because it,

(a) facilitates calculation of standard errors of the
partial regression coefficients and

(b) enables us to obtain multiple correlation coefficient
after eliminating any of the predictor variables and
thus to see the contribution of each predictor to
the multiple R.

A multiple regression equation is then set up and its
use in selection worked out in detail.

LIMITATIONS

while all attempts have been made to make the research
design as adequate and comprehensive as is practicable, some
limitations nevertheless remain. Some of these are inherent in the nature of the sample under study and others are due to circumstances over which the investigator had little control. These are:

1. The entrants to training courses come from the lower ability and achievement levels and as such the range of intelligence and achievement is necessarily somewhat restricted. This restriction is likely to yield lower correlations than would be the case if the range was not so restricted. This is likely to affect the quality of prediction.

2. The sample in this study comprised students from six training colleges affiliated to Agra University. Perhaps a large sample would have resulted in more stable figures and conclusions. This is a limitation of which the investigator is conscious but a larger sample was beyond his reach.

3. The study is based on a relatively small number of predictor variables. Perhaps a more comprehensive range of predictor variables could have been included. This was, however, not done because one consideration underlying the study was to evolve an usable selection method. A larger number though theoretically more correct would have resulted in a very cumbersome procedure.

4. The instruments available for use as measures of predictor variables were very limited. Some really good instruments could not be available, others were perhaps not the best that could be used but were the only ones available.
REFERENCES


