Research in Teacher Education

A TREND REPORT

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Teacher education today is an integral part of any educational system. Teaching, being both a skill and an art, was found amenable to transmission in the early years of the 19th century. If, for ages, teacher education, *per se*, was a caste or family affair, it could not afford to remain so after education became a mass movement. Mass literacy goals as well as the emergence of technology transformed the very character of teacher training and its philosophy. The National Policy on Education, 1986, reflects precisely this change in its concept and practice. Now, teacher education is no longer limited to primary or secondary levels of teachers but extends far beyond. The creation of the Academic Staff College under the aegis of the UGC is a case in point. No wonder then that teacher education has emerged as an important area of educational research.

In the four surveys so far, taken together, 410 studies have been identified as belonging to the area of teacher education. Researchers working in this area have brought into their study a wide spectrum of variables. If one has studied selection procedures, another has developed curriculum for teacher education programmes and a third has tried to find out the effect of innovative instructional procedures on teacher effectiveness. This is largely due to the fact that teacher education is a long, complicated series of operations. Each operation, in itself, is an extremely complex set of steps. All these interact almost simultaneously. The institution, the process of admission, training climate, administrative setup, the student-teacher, the personal characteristics of teachers, practice schools—these factors, and quite a few more, are constantly at work in the real setting.

To conduct research in any area in a wholly systematized manner, so as to place it in a gestalt perspective is beyond the ability of any single researcher operating in isolation. This can be said even more specifically about researches in this field. Currently these researches are pursued in isolation with little or no contact with each other; the researchers are isolated in their attempts to transform teacher education. In this situation, it is necessary for the reviewer to superimpose a classificatory system which can help in identifying clusters of variables. A cluster of variables, thus identified, may be called an area of research. Though every cluster of variables will have something or other to do with the remaining clusters, it may be said that they do not completely overlap and hence each has an identity of its own.

Reviews of studies in the area of teacher education have been attempted by Lulla and Singh (1974), Mehrotra (1979), Das and Jangira (1983), Bhatnagar (1980), and Pillay (1987). A synoptic overview of the nature of these reviews would help one to take stock of the researches completed in the area. Lulla and Singh (1974), in their trand report in, 'A Survey of Research in Education' (Buch, 1974), classified teacher education research into six areas, namely, selection criteria; abilities and qualities of the teacher; pre-service and in-service training of teachers; workload, job satisfaction and difficulties experienced by the teachers; procedures and practices of teacher education in India; and personality variables of teachers. In his trend report in the *Second Survey of Research in Education,* Mehrotra (1979) did the classification differently. Here the varia-

Pradesh from the administrative point of view pointed out that the teachers had to undertake a lot of paperwork in order to attend a training programme. There are other studies that have identified different types of organizational climate obtaining in various colleges of education. A cursory look at all these studies shows that many of them are just peripheral to the main concern of management of teacher-education institutions. It is necessary that researchers explore institutional environment from various angles, viz., role conflict of different functionaries, analysis of educational laws and acts concerned with teacher education, institutional viability in terms of number of admissions and goals of teacher-education, and evaluation of management practices adopted by different institutions with respect to economic, psychological and sociological factors.

(b) Curriculum Context

Another set of context variables includes studies related to teacher education curriculum. The curriculum, in specific, is a medium that translates socio-educational philosophies into teaching procedures and teaching outcomes. So also, these studies provide an insight into the kind of curriculum that is needed for having a teacher-education programme that will cater to the needs of teachers in particular and education of children in general. There are 38 studies that have evaluated fundamental courses at different levels. Out of these, 23 have limited themselves to courses at the B.Ed. level. The courses have been mostly evaluated by seeking the opinion of teachers, teacher-educators, heads of schools and other personnel connected with teacher-education programmes. Other researchers have developed their own curricula and tried them in their teacher-education institutions in order to test these for expected outcomes.

Arora (1986) evaluated the B.Ed. teacher-education curriculum of the universities of Punjab, Haryana and Chandigarh, keeping in view the needs of science teachers in schools. Pradhananga (1986) examined the syllabi of elementary teacher-education institutions of Nepal with respect to instructional programme and coordination between different components of theory and practice teaching. He elicited the views of administrators, experts, headmasters, teachers and student-teachers. Most studies of this kind, following a similar procedure, did not find the curriculum suited to the needs of the schools teaching programmes. They found a great gap between theory and practice teaching. Some studies done in the sixties and seventies did not find theory related to practice teaching at all. Almost all studies curriculum context suggested changes in the curriculu in general and theory courses in particular. Some researchers went a step further and developed their ow curricula for student-teachers and tried the same teacher-education institutions. Mian (1983) develope a programme of curriculum content and methodolo in the areas of science and agriculture for teache training colleges of Bangladesh. He studied its work bility on the basis of the opinions of teachers, instru tors and college alumni.

A close look at the studies done in the field of curric lum reveals that almost all of them have concluded th the present curricula of teacher-education at differe levels do not meet felt needs. These studies have als tried to suggest a new curriculum but their suggestion have also been limited to the same framework as that i which the old or present curriculum existed. Furthe these studies evaluated the curriculum from the point c view of different personnel attached to the teache education system. Rarely have studies gone in for evalu ation of curriculum from the consumers' point of view that is, teacher-effectiveness, student-teachers' interes solving school problems, workability in existing schoc conditions, etc. The researchers need to explore suc vital issues of curriculum relating to theory and practic and that also at different levels, primary, secondary an higher. Further, researches are needed to develop nev curriculum programmes after removing current draw backs and try the same in the institutions to find ou their effectiveness. The effectiveness of a curriculun has not only to be seen from the point of view of others but rather from the angle of desired behavioural chang es that it can bring about in the student-teachers. T carry out such experiments, one obvious handicap wit the researchers seems to be the rigid process of function ing of the universities. But those colleges and universit departments that have autonomy in the constructio and adoption of curricular courses need to go in for such research studies.

(c) Practising School Context

Another important aspect that affects the teacher-education programme is the practising school. These schools serve as links between laboratory conditions (teacher-education institutions) and real conditions (schools or colleges). Researches in this area provide awareness as to how close a training setting approxi-

Table 19.3

PERIOD-WISE AND AREA-WISE DISTRIBUTION OF STUDIES

Years	*Education*	*Psychology*	*Sociology*	*Agri. Extension*	*Others*	*Total*
1941-50						
1951-60	6					6
1961-70	48	7				55
1971-80	169	7	3	1		183
1981-83	62	4				66
1984-87	93	5	1		1	100
Total	378	26	4	1	1	410

higher teacher education also. After 1980, there has been a spurt in researches in the area of teacher education and 183 studies pertaining to different levels of teacher education were conducted. In a span of four years (1984-87), 100 studies were conducted in teacher education at all levels. Again, the explored area was secondary teacher education. The same can be observed from the overall picture depicted by Tables 19.1, 19.2 and 19.3: that the most favoured area with researchers has been secondary teacher education and the most neglected one, pre-primary teacher education. This trend suggests that researchers need to explore areas of teacher education, other than secondary education, also.

A close scrutiny of the projects reveals that the NCERT has been a pioneer agency that took up 62 per cent of the projects completed in teacher education. This institution also laid more stress on projects in secondary teacher education and much less on pre-primary and primary teacher education. Other institutes that have followed the NCERT in completing a number of projects in teacher education are the SCERTs. Out of these, the SCERTs of Rajasthan and Andhra Pradesh are more prominent. Their areas of concern have been elementary and secondary teacher education. Technical Teachers Education Institutions took up projects on teacher education of polytechnic teachers. The least explored area of teacher education at the project-level has been teacher education for college and university teachers. The university departments of education need to explore this field.

METHODOLOGY

Anther way of classifying the studies could be by the methodology followed by the researchers. Different researchers followed different research procedures according to the nature of the problem selected by them. The major purpose of most of the studies has been determination of the status of the variables. Next in the rank comes prediction of the variables. Determination of the causes occupies third position. Cross-cultural studies constitute 40 per cent and longitudinal studies six per cent of the total. Among the different methods of research followed, nearly 49 per cent can be classified as survey studies, 26 per cent as experimental, eight per cent as case studies, nine per cent as historical, and six per cent as exploratory studies. There are only two studies that had a review of the literature in teachers education as their major objective. In most of the studies, students of different courses and teachers formed the controlled factors studied under higher education. In secondary teacher education, the controlled factors were student teachers, teacher educators, students, parents of students, supervisors and learning material. In primary teacher education, elementary classes, teachers of primary schools, and curriculum of primary teacher education programmes are the controlled factors. Researchers have paid little attention to developmental and evaluation studies. There is a need to go in for such studies so as to provide guidelines for future teacher-education programmes.

Sample

The researchers have selected their samples mainly from locations where they were pursuing their research, though not in the case of cross-cultural and comparative studies. Depending upon the location of the university, institution, investigator, purpose of the study and so on, samples have been drawn from different parts of the country. The population, for different types of sample, has been educational institutions, teachers, students, student-teachers, teacher-educators, supervisors, pupils, headmasters or principals, administrators, etc. The size of the sample varied according to the nature of the population. In the case of pupils, sample size in some cases has been as large as 3000, and in case of administrators as low as five. In general, sample size varied from ten to 1000, according to the nature of the subjects/participants in the studies. The methodology of drawing the sample happens to be simple randomiza-

tion, multi-stage randomization, stratified sampling, random stratified, clustered, etc., depending upon the nature of the related population and the purpose of the study. The variations in samples, the size and methodology of sampling, have been very wide. Because of this variability in sample size, characteristics of the sample and methodology employed for selecting the sample, generalizations cannot be easily drawn from the findings of the studies.

Tools Employed

The questionnaire and the observation scale are the commonest among the tools used by the researchers. Other tools included personal data sheets, interview schedules, check lists and institutional records. In the case of questionnaires, 16 PF has been the most widely used for measuring personality and, in the case of observation scales, the Baroda General Teaching Competence Scale has been put to maximum use by researchers. Most of them have used available standardized tools in their studies. They have also developed their own tools and standardized them. These have been mainly concerned with questionnaire, observation schedule, interview schedule, etc. In the process of standardization of the tools, they followed the usual prescribed procedures like item analysis, finding out reliability and validity. In some cases, they have gone in for establishing norms also.

Statistical Techniques Employed

During the analysis of data, researchers have made use of raw scores and only rarely converted them into standard scores. Depending upon the methodology used in the study, the researchers have made use of correlation, factor analysis, regression and prediction, analysis of variance, analysis of covariance, t-test, chi-square, sign test, etc. along with measures of central tendency and dispersion. The most favoured statistical tools have been parametric tests. Non-parametric tests did not find much favour with investigators. The experimental studies have made use of pre-experimental and experimental designs. Among the most experimental designs have been simple pre-test, post-test designs with one treatment and one control group. Factor analytical studies have aimed at identifying factors implicit in the structure of relationship between different variables pertaining to different individuals. Regression studies have aimed at establishing multiple regression equations and multiple correlations between predictors like personality traits, teaching skills and criteria like teaching competence, examination marks in theory and practice teaching, etc.

SYSTEMS APPROACH TO TEACHER EDUCATION

Keeping in view the advantages of a systems approach, the present trend report is based on studies identified in the area of teacher education and done at both Ph.D. and project levels. Teacher education has been viewed here from a systems approach point of view and the studies have been categorized as context-presage-process-product studies. Because of overlapping and also because of the researchers studying variables belonging to different categories, this trend report is presented under different combinations of these categories. The major headings of the trend report are context studies, presage studies, context-presage studies, presage-process studies, context-product studies, and process-product studies.

(i) The Context.Studies

This area of research in teacher education covers studies on institutional characteristics, student-teacher characteristics, teacher characteristics, and classroom context. The institutional-characteristics-related variables are the climate obtaining in teacher-education institutions, administrative set-up, etc. Under student-teacher characteristics, studies pertain to one or more variables, viz., student-teacher formative experiences, their academic qualifications, abilities, personality factors, intelligence, etc. The studies concerned with teacher characteristics have variables like personality traits, self-concept, job expectation, role expectancy, role performance, etc. Classroom context studies include certain classroom variables such as classroom climate, size of the classroom and curriculum at teacher training and practising school level. The trend of the context studies is presented here according to this classification.

(a) Institutional Context

In this category are clustered those studies that have traced the growth of teacher education in their respective geographical regions, viz. states, districts, etc. Other types of studies surveyed the institutions with re-

spect to their admission procedure, number of student-teachers enrolled, facilities available, etc. Such studies have their value on two counts. One is that they help in understanding the present problems in teacher education programmes and the other is that they indicate the extent of achievement and scope of improvement.

(i) INSTITUTIONAL CONTEXT—Developmental Perspective: There are 67 studies of the growth of teacher education programme at the national level, regional level and state level. There are 24 studies of teacher education in historical perspective in India and other countries like Bangladesh and Thailand. The researchers have also studied growth of teacher education in different fields, e.g., technical teacher education, English teaching, and education of women teachers. There are 26 such studies. The other set of 17 studies includes those that have evaluated teacher-education institutions from the point of view of innovations carried out, teaching strategies adopted, etc.

Mishra (1986) studied the growth of teacher education for women with respect to the history of women's education, institutions involved and number of student-teachers in the institutions. Dash (1985) studied the development of teacher education programmes in Orissa. Hemambujam (1983) made a study of teacher education programme at secondary level in Tamil Nadu. The researchers also made a study of development and organization of in-service teacher-education programmes. Pathak (1985) traced the growth of in-service teacher education programmes in India. Butala (1987) made a study of in-service programmes conducted by secondary teacher training colleges of Gujarat State with respect to number of programmes conducted. Arya (1986) studied the extension education activities organized by the Northern Teachers Colleges in Thailand. All these inquiries have either historically or through the survey method studied the growth of teacher education institutions. Gogate (1985) went a step further and made a case study of teacher education in Marathwada at different levels. The study revealed that there was a teacher-education programme for elementary and secondary teachers in the region but none for university and college teachers. But this may not be true for all regions. There are some universities in India that have introduced teacher-education programmes for college teachers. Kadwadkar (1984) made a study of this aspect and traced the growth of professional courses for college teachers in India.

Another set of studies has surveyed the existing teacher-education programme with respect to admissions, teaching staff and facilities available. These have their relevance because they expose the gap between what exists at present and what is required. It is only on this basis that planning of an effective teacher-education programme can be done at different levels of education and at different stages, viz., pre-service and in-service.

The NCERT has conducted a number of surveys of institutions of teacher education as part of general surveys of elementary and secondary education programmes. This effort has been supplemented by the SCERTs at state level. There are 84 such studies, out of which 48 are at Ph.D. level and 36 at institutional level. The regional SCERT (1966) made a survey of the primary teachers training programme in the State of Rajasthan. The survey was conducted with respect to qualifications for admission, teaching staff available, syllabus, arrangement of practice teaching, difficulties faced, and stipends for student-teachers. Seetharamu and Sharda (1984) and Seetharamu and Usha (1986) made a status study of institutions of primary and secondary teacher education respectively of Bangalore city with respect to admission procedure, physical facilities and financial status. Indradevi (1985) studied the clientele of teacher education programmes (both at M.Ed. and B.Ed. level) run through the non-formal system of education. Kumar *et al.* (1986) tried to find out motivating factors due to which teachers joined the summer-school-cum-correspondence courses of the NCERT for the B.Ed. degree. The factors were found to be compulsions rather than interests. The regional SCERT (1981) evaluated the in-service training programme for primary teachers in teacher-training institutions in Andhra Pradesh with respect to staff, books and teaching strategies adopted. In another study, the SCERT (1980) surveyed in-service training of secondary teachers in science teaching centres attached to colleges of education in Andhra Pradesh. All these surveys painted a dismal picture of teacher education so far as the qualitative aspect was concerned. Dearth of required physical facilities and adequate financial provisions were the major findings. Similar revelations were made when the researchers carried out studies with respect to the teacher-education programme in specific disciplines. Gangaiah (1980) evaluated English-teacher education in Andhra Pradesh both at the pre-service and in-service stage. It was found that proficiency in English of trainees was not taken care of and the training programmes were not need-based.

There are studies that survey teacher education programmes with respect to their objectives and innovations carried out. Shaw (1986) surveyed the management of a teacher-education programme with respect to its objectives, criteria of allocation of methods of teaching to student-teachers and innovative practices carried out. Mohanty (1984) studied teaching programmes in the colleges of education of Orissa. Raj (1984) made a survey of teaching programmes in secondary teacher education colleges of the northern region of India with respect to supervisory practices and current duties of those in charge of practice teaching. All these studies sought to look into the inner functional variables. There were also studies aimed at investigating the peripheral functional variables of institutions, viz., how persons living on the outer precincts of the institution viewed it and got benefit from it. Babu *et al.* (1986) evaluated the Regional College of Education (Mysore) from the point of view of awareness of the people about the courses offered by it.

The objectives of these studies have primarily been collection of information and making suggestions for improvement. But researchers have not been doing justice to the second objective in most cases. There is a need that such studies be conducted with in-depth analysis, insight and intensive logical thinking so that valid lessons are learnt for organizing teacher-education programmes in the country.

(ii) INSTITUTIONAL CONTEXT—Comparative Aspect: There are 29 comparative studies of existing teacher education programmes. These have compared different teacher-education programmes with respect to the facilities available, courses of study, demonstration or practice teaching schools, clientele, etc. They make a contribution to teacher education as they point out possible improvements that can be made in the existing set-up. In this way, guidelines for planned reform and development of teacher-education programmes can be made, keeping in mind the working of different models of teacher-education.

There are nine studies that compare the features of Indian teacher-education programmes with that of developed and developing countries. Researchers like Ghosh (1977) compared Indian teacher-education programmes with those of developed countries like the USA and UK. He came to the conclusion that, apart from differences in teacher education systems between developed and developing countries, the teachers in all these cases came from middle-class groups. Further, the courses and curricula of study in all these models of teacher education needed revision. These studies show that all is not gold everywhere. The criticism against such studies is that they compare the systems irrespective of needs, requirements and environment prevailing in different countries.

Researchers have also compared different teacher-education models in India. Kalla (1984) studied Gandhi Shiksha Bhavan College with respect to innovations carried out and its deviation from the Bombay University model. Yadav (1980) compared teacher-education institutions of different states and their organizational set-up, viz., colleges of Haryana, the Central Institute of Education, Delhi and the Regional College of Education, Ajmer. He found that facilities, courses of study, socio-economic status, and clientele (student-teachers) differed in all three cases. Roy (1985) compared the teacher-education programme for English teachers of two institutions—the CIEFL (Hyderabad) and Patna University. He pointed out some structural flaws in the English-teacher preparation programme of Patna University. All these studies have one common observation, that is, teacher-education programmes are better in those institutions which have some missionary spirit and autonomous status in designing and managing their courses and programmes, thus making a case for autonomous status for teacher-education institutions. The National Education Policy (1986) has suggested the establishment of such autonomous college. This opens up a new dimension of teacher-education for researchers to ponder over and study.

(iii) INSTITUTIONAL ENVIRONMENT CONTEXT: Institutional environment is often assumed to be positively related with teacher-education programmes. There are 14 studies that can be included in this set of variables. Most of them have looked into organizational climate, administrative set-up, etc. Their contribution towards teacher education programmes is the creation of awareness about the operational functioning of teachers-education institutions and highlight the scope for change and adoption of innovations. The studies quoted in the previous surveys have shown that teacher-education institutions in most cases (especially the privately managed ones) work under conditions of insecurity because of the nature of staff recruitment. A study conducted by the SCERT (1981) for evaluating in-service teacher-education institutions in Andhra

les were clustered under contextual, input, process and ıtput categories. In the Third Survey, Jangira (1986) lopted a systems model of classifying (as per Sage,)74) variables under context-presage-process-product ıtegories. Usage of the terms, context-presage-ocess-product, instead of input-process-output, has rtain advantages for classification of studies. One is at it does not have a bias towards instructional system om which input-process-product suffers. Secondly, e context–presage–process–product approach views acher education from a systems point of view, taking to consideration the effect of other subsystems (exter-l or internal) on the working of the subsystems of acher education. Thirdly, it is a more elaborate ap-oach that looks into the effects of internal and exter-l constraints on the stystem and the resistance of the stem to them, that is, it sees the working of the system the context of other systems/subsystems.

The present trend report is based on the studies ab-acted in the three earlier surveys (Buch 1974, Buch 79 and Buch 1986) and also 150 additional studies ntified for the area in this volume. All these 410 stud-done at Ph.D. and project levels have been taken to-ther for identifying emerging trends. No separate ıssification has been thus worked out for the addition-studies separately. This had been done with view to oiding overlapping and to present a comprehensive w of trends in the area over a substantial period. The ıdies have been viewed from three points of view— ir nature, methodology of research, and a systems proach to teacher education.

NATURE OF STUDIES

ere are 276 studies at Ph.D. level, and 134 at project el. Out of the Ph.D. studies, 245 are in education, 26 psychology and six in other disciplines. The most ex-red area in teacher education is pre-service educa-n, having 248 studies, while 110 studies have been ne in in-service education. There are 36 studies that ve tried to probe both pre-service and in-service ıcation.

The levels at which teacher education is organized vide another frame of reference for clustering the dies. The detailed picture of five clusters of re-rches at different levels is given in Tables 19.1, 19.2 1 19.3.

Table 19.1

PERIOD-WISE DISTRIBUTION OF STUDIES DONE AT DOCTORAL LEVEL AND PROJECT LEVEL

	Subjects						
Years	*Education*	*Psychology*	*Sociology*	*Agril. Extension*	*Others*	*Projects*	*Total*
1941-50							
1951-60	3					3	6
1961-70	23	6				26	55
1971-80	106	10	3	1		63	183
1980-83	43	4				19	66
1984-87	70	6			2	22	100
Total	245	26	3	1	2	133	410

Table 19.2

PERIOD-WISE AND LEVEL-OF-EDUCATION-WISE DISTRIBUTION OF STUDIES

	Levels					
Years	*Pre-Primary*	*Primary*	*Secondary*	*Higher Secondary*	*Technical Education*	*Total*
1941-50						
1951-60		2	3		1	6
1961-70	1	16	33	4	1	55
1971-80		15	135	32	1	183
1981-83		10	45	10	1	66
1984-87	1	7	67	22	3	100
Total	2	50	283	68	7	410

Tables 19.1, 19.2 and 19.3 include data indicating period-wise growth of research work at pre-primary, primary, secondary, higher and technical teacher education levels. It may be noted that up to 1950 no work had been done in this area. Even up to 1960, the very little work that was done which was restricted to education of primary, secondary and technical teachers. In the years, 1961-70, there was a slight change and the researchers began to work in areas of pre-primary and

mates the workplace and how transfer of teaching skill can be facilitated in the student-teachers.

There are five studies (already reported in the previous surveys) which have examined practising schools from the point of view of facilities provided in the teacher-education institution, their availability to student-teachers at the time of the practising session, the perception of principals of colleges of education, teacher-educators, student-teachers, headmasters, etc. The practising school, though an important part of the teacher-education programme, has not attracted the attention of researchers. One obvious reason for this is that practising schools have not been an integral part of teacher-education institutions in India and their separate entity does not allow researchers to take up this area of research. But, there is a need to probe this area not only from the cooperation point of view but also from the angle of sources of expert feedback and apprenticeship training.

(d) Context Studies—Student-Teacher Characteristics

The characteristics of student-teachers and their formative experiences are another set of context variables. There are 89 studies that have taken student-teachers' cognitive and non-cognitive variables into accounts. Such studies are probably conducted with a hunch that characteristics are conducive to adoption of a particular profession and teaching is no exception. The researchers, taking up these studies investigated self-concept, creativity, personality traits, adjustment, social maturity, etc. of the student-teachers. They tried to answer the question, 'Are there inherent characteristics in an individual that play their role in shaping him for the job?' Whether this question is answered or not is one thing, but these types of studies are helpful in long-term planning for intake in the teacher-education programme.

Pillai (1985) tried to identify factors that influenced graduates in choosing teaching as a career. Some researchers have also tried to find out the motivating factor that impelled students to join teaching courses. Kumar (1986) studied the motivation factor behind students joining the B.Ed. correspondence courses. The potent factor was found to be personal likes and dislikes. Upadhyay (1984), along with motivation, compared attitude and values among student-teachers belonging to different universities of Uttar Pradesh. The study revealed that geographical set-up and institutional structure did not relate to characteristics of student-teachers. Rai (1983) took up a study of self-concept of prospective teachers. Ls'verne (1985) compared high, medium and low creative student-teachers in terms of personality components. Donga (1987) studied adjustment differences among different student-teacher groups according to sex, marital status, age, educational qualifications, SES and residential accommodation. Tripathi (1983) studied personality traits of student-teachers as related to creativity, SES and sex. Pandeya (1983) prepared personality profiles of student-teachers belonging to groups based on sex and SES.

Savaluk (1983) and Pattramon (1986) studied social maturity of B.Ed. students of Thailand in relation to sex, level of study and social and family adjustment. Sirirassamee (1983) compared adjustment problems of different groups of student-teachers. The groups were based on sex, years of study, teaching subject and student control ideology. Malik (1978) studied the relationship of real and ideal self-concept of teacher trainees with personality dimensions and attitude towards teaching profession. Rao (1986) studied interrelationship of values, adjustment, and teaching attitude of student-teachers at different levels of socio-economic status. All these studies have mainly concentrated on investigating characteristics of student-teachers belonging to different groups based on sex, socio-economic status, educational qualifications and subject of teaching offered. Further, the investigators were mainly concerned with student-teachers of secondary level. There are only 14 studies of student-teachers of primary level. But there are no studies which investigate such characteristics of prospective teachers in higher education, though some universities have such teacher-education programmes. Probably, teacher-education courses at the higher education level have not been extensive enough to attract the attention of investigators.

A peculiar feature of these studies is that they have approached the student-teacher not as a student of education, or a student under training in teaching skills, but as a person who is acquiring the traits of a teacher. The investigators need to see the student-teacher from a different angle and study the characteristics that are conducive to attaining particular teaching skills and promote learning. The study of reading habits, study hours, learning needs, etc. of student-teachers will be helpful for teacher-education programmes in a developing country like India.

Context Studies: Teacher Characteristics

Another set of context studies is concerned with teacher characteristics. There are 178 studies that have investigated the characteristics of teachers in pre-primary (9), primary (41), secondary (84), higher (26) and technical (18) education. These studies have their relevance in the field of teacher education on three counts. First, they try to answer the question, 'Who is a good teacher?' Secondly, these studies specify the conditions under which the teacher is working. Thirdly, such studies provide guidelines for arranging in-service courses for teachers.

Thakur (1976) tried to identify the characteristics of a good teacher. There were 19 such studies but the definition or concept of a good teacher differed in all these studies. Some researchers have studied the 'good teacher' from the perception of other members related to school or college life, including students. The other studies have taken account of teachers' teaching with respect to its bearing on achievement of students. Gupta (1977) studied effectiveness of teachers through the effect of teachers' classroom behaviour on pupil creativity. Prakasham (1986) studied teaching competence arising out of school organizational climate. Shobha (1985) studied the ability of teachers to predict students' performance in the examination. Apart from finding out the effect of the teacher on pupils, researchers like Srisucondharatna (1985) studied teachers as a factor affecting modernization. He studied personality characteristics of teachers in the process of modernization. Other studies on characteristics of teachers have covered a variety of variables — operational problems of secondary and primary school teachers (Kumar, 1985; Singh, 1975), utilization of time in different activities (Kudesia, 1986), learning needs (Kudesia, 1984), teacher morale (Vichao, 1983; Kanchana, 1985; Narula, 1986), attitudes and values (Saran, 1975; Wera, 1982; and Gupta, 1986), personality characteristics (Kaul, 1977; Hossain, 1983; Som, 1984; Puranik, 1985), self-concept (Rai, 1983; Chadda, 1985), job satisfaction and job involvement (Mistry, 1985; Abdulsamad, 1986; Ahmad, 1986; Dixit, 1986), job satisfaction and professional honesty (Srivastava, 1986), role conflict (Mehta, 1985), role expectation and role performance (George, 1982), innovative proneness (Shukla, 1984), caste prejudices (Saxena, 1975), attitude towards environmental education (Gupta, 1986), sociometric structure of teachers in schools (Kaur, 1985). Through the study of such variables, the investigators projected the picture of a teacher.

Investigators also studied subject-specific and sex-specific characteristics of teachers. Balwinder (1986) studied job satisfaction of home-science teachers with respect to personal and professional characteristics. Bhamwari (1986) studied role perspective of women teachers in relation to marital status, age, educational background, etc. Saita (1984) studied role conflict experienced by women teachers of Thailand. There are at least 20 such studies that have investigated characteristics of women teachers. One conclusion that can be drawn from such studies is that sex-specific characteristics do not make for differences in the job of teaching. Researchers like Kumar (1982) went deep into the subject and made a job analysis of secondary school teachers and identified different jobs done by the teachers. Banerji (1984) investigated the grievances of college and university teachers.

Apart from the characteristics of teachers, researchers also studied thinking patterns and ideologies of teachers working in schools. Sharique (1984) studied the educational viewpoint of secondary school teachers about aims, methods, pupil control, policy of promotion, etc. Mishra (1986) made a study of teachers with respect to degree of overall meaning in life and sources of meaning in personal and professional life. Such studies are an encouraging trend in research in teacher education. They will provide qualitative analysis for input variables in the shape of characteristics of teachers for teacher education programmes especially at the in-service stage.

The other set of studies connected with teacher characteristics are of the conditions under which the teachers work. These are mainly surveys of schools and colleges. The reports of five surveys conducted at the national level have already made their appearance in the three earlier surveys of educational research (Buch 1974, 1979, 1986). Along with these, a review of a few more surveys will help in understanding problems linked with teacher education. Sharma (1976) surveyed the schools of backward areas of Rajasthan with respect to teacher–pupil ratio, number of teachers teaching science, and needs of teachers in the backward areas. In another survey, Sharma (1981) tried to find out the number of untrained teachers in the primary schools of Rajasthan. Gogate (1984) surveyed the educational qualifications of teachers to find out whether the subject they had offered at their first degree level was the same as that which they were teaching at the secondary level. At the higher education level, Singh (1984) investigated the procedure of recruitment of teachers in uni-

versities and colleges. Banerji (1984) studied the grievances of college and university teachers. Naqvi (1984) surveyed the basic factors that were related to mobility, inbreeding and retention of teachers at university and college level. All these surveys have one thing in common: they all tell us that prevailing conditions are not conducive to teachers teaching according to expectations.

All these studies have been concerned with areas like selection, occupational choice, social origin and status of teachers, intellectual abilities, personality characteristics, values, attitudes, teachers role, need, problems, working conditions, etc. One can observe that these studies concentrate on non-cognitive variables and only a few have studied cognitive variables. Another feature of these studies is that they have studied the characteristics of teachers mainly at secondary level, and only a few have studied characteristics of teachers working at pre-primary, primary, higher and technical educational levels. Researchers need to pay attention to these not-so-explored areas. Also, there is a need to investigate the training needs of the teachers working in different geographical and educational environments. Such studies can be of great help in planning in-service teacher education programmes in view of the fact that teacher education has to be a continuous process and changes are currently taking place in school curriculum.

Presage Studies

This area covers variables related to teacher educators' characteristics, such as the formative experience of the teacher-educator, his education, professional experience, training, personality factors, intelligence, attitude and his training skills. These studies have their importance as they help in management and manpower planning in teacher-education programmes. But this area has not attracted the attention of researchers. Only 12 studies can be counted to fall in this set. Valand (1983) studied innovative proneness of teacher-educators of primary teacher-training colleges of Gujarat. Innovative proneness was identified through teacher-educators' attitude towards specific innovations. It was found that innovative proneness varied with respect to age, experience, sex and professional and academic qualifications. Pramua (1987) investigated the attitude of teacher-educators towards non-formal education in Thailand. The attitude was found to be related with sex, level of creativity and teaching experience. The other studies reported in earlier surveys only investigated non-cognitive variables. Studies are required in the cognitive aspect of teacher-educators. Above all the professional aspect of the teacher-educator needs to be studied with deeper insight. The job of teacher-educator is different from that of the school-teacher. Therefore, the studies have to be done with respect to job analysis, role performance, job satisfaction, etc. of the teacher-educator.

Context–Presage Studies

In this set are categorized those studies that have related context variables of institutional environment with the presage variables of characteristics of teacher-educators. Only four studies fall in this area, out of which only one is reported in this survey. Chaichana (1981) studied the relationship of organizational climate with teacher-educators' morale in the teachers colleges of Thailand. A sample of 530 teacher-educators from 36 teachers colleges of Thailand was taken. Teachers colleges were identified as having open and closed climate. The study revealed that the morale of teacher-educators was high in teachers colleges having open climate as compared to those having closed climate. With such a small number of studies it is difficult to comment. More studies are required in this area so as to restructure teacher-education programmes in India. Keeping in view the varied institutional responsibilities of teacher-educators in India, the researchers need to conduct studies which compare and relate teacher-educators' behaviour and responsibility with different types of institutions.

Presage–Process Studies

Studies of the relationship between presage variables and process variables are grouped in this set. The presage studies are linked with the characteristics of teacher-educators. The process studies consist of classroom transaction and mediating processes that lead to learning such as attending, practising, task persistence, active learning time, student–teacher's engagement with learning task, teacher-educator's supervisory behaviour, etc. The studies that link the presage and process variables have their importance for drawing up guidelines for evaluating practice-teaching programmes and adopting innovations. But this area has not been able to attract the attention of researchers and only four studies could be categorized for this set. In these studies, the investigators have studied the characteristics of

teacher-educators as related to their supervisory behaviour. Tripathi (1984) studied the relationship between personality traits of teacher-educators with their supervisory practices at the B.Ed. stage. He found that personality traits of teacher-educators were related to their mode of supervision. Teprongtong (1984) studied the difference in role performed and role expected of teacher-educators as supervisors in the eyes of student-teachers. Apart from a supervisory role, the teacher-educator plays other roles also in teacher education as a specialist in education and task-oriented jobs. Such roles need to be probed with respect to characteristics of teacher-educators.

Context–Product Studies

In this set, studies have related teacher/student–teacher characteristics and institutional characteristics (context variables) with the outcomes of teacher education programmes (product variables). Product variables can be categorized in two types— one that describes immediate outcomes of teacher-education programmes and the other that looks into long-term outcomes. The immediate outcome variables are those that pertain to teacher/student–teacher outcome as reflected in achievement, attitude, teaching skills, etc. The long-term outcome variables used in the studies pertain to professional skills, teaching success or teaching effectiveness. The definition or concept of teaching success or teaching effectiveness has been used differently by various researchers, rather it has been dependent upon the tools used by them. Such studies make a contribution to teacher education as they try to answer the question, 'What pre-conditions are required to become a successful/effective teacher?' This area is one of the most explored areas in teacher education. There are 56 studies that can be categorized for this set. These can be further divided into two sections; one of studies relating teacher/student–teacher characteristics with teaching effectiveness; and another of studies that relate institutional environment with teaching effectiveness.

Twenty-two studies have related institutional context variables with product variables. Joshi (1985) studied expressed attitude of teachers in relation to Christian and non-Christian managed institutions. He found a change in the role behaviour of teachers belonging to different managements. There is a large number of studies reported in earlier surveys that have been concerned with the effect of organizational climate and institutional environment on teacher's teaching, adjustment and his classroom behaviour. Other studies have taken into account the institutional environment with respect to organizational climate and social cohesiveness in the teacher-education institution and found its impact on achievement of student-teachers in theory and practice teaching, their attitude, adjustment, etc. Such studies tested the hunch that the organizational climate of an institution was positively related with academic and other intellectual attainments of the participants.

In a second section can be included studies which related context variables or teacher/student–teacher characteristics with the product variables of teaching success or teaching effectiveness. There are 34 such studies. Gopalacharyulu (1984) studied the relationship of personality, attitude towards teaching and socio-economic status with the achievement of student-teachers in B.Ed. Patil (1984) studied the relationship of sex, academic qualifications and intelligence of B.Ed. students with their achievement in theory. Radha (1984) compared personality characteristics of the science student-teachers who achieved high and low scores in the B.Ed. All these studies pointed out that characteristics like personal adjustment, attitude towards professional work, scientific temper, etc. were related to performance in the B.Ed. and could predict teaching performance. Some researchers went a step further and related characteristics of teachers/student-teachers with their attainment of teaching skills. Katiyar (1982) and Dubey (1986) studied personality traits of student-teachers having high and low attainment scores on various teaching skills. Their studies revealed differences in personality traits of high and low achievers. The extent of variation in the product variables used in all these studies is so high that it is difficult to make inferences. Further, the researchers limited the product variables to classroom functioning of the teacher. The skills and behaviour of the teacher required to deal with the outside classroom situation have not been studied by researchers. There is a need that non-intellectual and psychomotor learning outcomes of the teachers be studied with respect to their characteristics and institutional environment.

Process–Product Studies

The process–product studies included the process variables related to the functioning of teacher-education programme and product variables like teacher effectiveness, general teaching competence, attitude towards teaching, adjustment, maturity of student-teachers, cre-

ative abilities, knowledge and comprehension skills, social awareness, etc. These studies have much to contribute towards teacher-education programmes as these spell out ways of process of teacher education. In these studies, two categories can be distinguished. The first is those that took up the existing teacher-education programmes and studied their effects on teaching competence. The second concentrated on some innovation in the teacher training system and used it in the form of an instructional design system. The researchers followed a series of steps like framing objectives, learning experiences, planned training procedures, systematic observation of classroom transactions and a feedback to the learner. Such studies used various innovations like microteaching, classroom interaction training system and training in models of teaching.

(a) Studies in Operational Teacher Education Programme

Most of the studies in this category are impact studies as these ascribed the change in product variables to the ongoing teacher-education programme. They investigated the product variables when the student-teachers entered the existing system and later when they were just about to leave the college. Mehta (1985) and Pillai (1985) studied the impact with respect to change in attitude towards teaching, motivating factor for choosing teaching, and change in values. Banga (1983) studied the impact of a teacher-training programme in physical education on physical fitness, personality characteristics, adjustment and maturity of student teachers. Kudesia (1986) studied the effect of a technical teachers training programme on teaching skills. All these researches concluded that a change in student-teachers' behaviour took place because of training. In a similar context, some researchers compared trained and untrained teachers on various product variables and found trained teachers different from their untrained counterparts. Bhide (1987) compared them on self-concept. Researchers like Das (1979) went a step further and compared trained and untrained teachers of primary level on their ability to solve the problem of wastage and stagnation. However, results revealed that training of teachers did not contribute to checking wastage and stagnation.

Some researchers compared the products of two different operational schemes of teacher education. Singh (1985) compared teaching competence, role performance, and attitude towards teaching of teachers trained through a one-year B.Ed. course and a four-year integrated teacher-education course run in the regional colleges of education. The teachers of the two courses were not found to be different. Gogate (1983) went a step further and studied the effect of a training programme not only on teachers but also on teacher education and extension education workers. The training programme was organized for the education of socially and economically backward children. A change was found in the awareness of the subjects involved in the training programme about the methods of teaching required for the target group. However, a close look at all these studies shows that the impact of present teacher-education programmes has been investigated only at the peripheral level. A deeper analysis is needed so as to study the impact of training at social, economic and cultural levels. The researchers need to study the impact of training with respect to teachers' contribution to society as a factor of social and cultural change.

(b) Studies in Innovative Teacher Training Practices

The second set of studies used some innovations in operational teacher education programmes. The innovations used had been concerned with various aspects of teacher-education programmes. Researchers like Bhatt (1966) studied the effect of the Kapason training scheme where student-teachers, apart from usual practice teaching and theory, were also trained in organizing creative activities in arts and craft. The training was found to be effective. Adinarayan (1983) trained student-teachers in stating objectives, analysis of the context and techniques of evaluation. The experimental group was found to be better on inquiry and investigatory skills. All such studies introduced specific innovations in the operational teacher-education programme and investigated its effectiveness. There are other studies that used innovations concerned with the theory or practice teaching part of the teacher-education programme. The innovations in the theory part had been development and use of self-learning material and the use of mass media, whereas in the case of practice teaching part, the innovations were behaviour modification techniques, microteaching and training in models of teaching. Most of these studies are experimental in nature and employ experimental design as per their objectives to judge the effectiveness of the innovations with respect to teaching competence.

(i) Studies in Use of Learning Material: The innovations of teaching through instructional strategies motivated researchers to develop self-learning material and study its effectiveness in the field of teacher education also. Sangaun (1984) developed programmed learning material, Jayalakshmi (1985) developed instructional material and Bhatt (1982) developed software material to be presented in simulation or programmed learning style. All of them took up the subject of educational psychology for developing instructional material. They studied the effectiveness of the material with respect to trainees' achievement and attitude at different levels of sex, SES, intelligence and English reading comprehension. Lambhate (1987) developed instructional material for teachers teaching science with relevant rural aids, graphics and models. These studies made use of the Skinnerian approach for the development of instructional material. Researchers like Sheth (1984) developed a self-instructional multi-media package for developing teaching skills among teachers. Some researchers went a step further and developed instructional material for remediation of deficiencies. Swamy, N.(1984) developed a diagnostic test and learning material for remediation of deficiencies in secondary school physics for student-teachers. Mukherjee (1983) identified reading disabilities of teachers in English language and developed remedial self-instructional material for the same. Researchers like Datar (1984) developed question banks in educational psychology. However, there is a need to develop self-instructionasl material in structured form from the different theory papers of teacher-education programmes. Researchers also need to develop instructional material for remediation of deficiencies in language, sciences and social sciences for teachers/student-teachers especially at primary level, the reason being that, at primary level, the teachers are less educated and require more subject clarity.

(ii) Studies in Use of Mass Media: With the advent of television and radio programmes in India and the stress of national bodies like the UGC and NCERT on the use of television in teacher-education programmes, researchers have been tempted to make studies in this direction. Mohanty *et al.*, (1976) surveyed the reaction of teachers to educational TV programmes for in-service primary teachers. In yet another study, the same researchers assessed the popularity of radio programmes among the participants in an in-service teacher education programmes. These studies were primarily conducted with the objective of providing feedback to the media managers for their teacher education programme. Now, when there is increased use of media like television and radio in education in India, it is desirable that studies be conducted in different regions of the country to evaluate television and radio programmes in teacher education. The researchers also need to plan studies to assess the improvement in teaching competency of teachers because of use of mass media in teacher-education programmes.

(iii) Studies in Microteaching: In practice teaching, one of the innovations that has attracted the attention of researchers is microteaching. The research in this field in the beginning aimed mainly at finding out effectiveness of microteaching with respect to improvement in teaching competence. But after its effectiveness was established and it was made a part of teacher-education programmes in many universities in India, the researchers conducted studies in improvement in components of various teaching skills, strategies for integration of different teaching skills, effect of different types of feedback and sources of feedback, development of multimedia packages for training in teaching skills. Such a trend in research studies is helpful in adopting the innovations in different sets of conditions.

There are 49 studies in all in the field of microteaching out of which 22 are reported in this survey. Yogendrakumar *et al.* (1980), Naik (1984) and Thakkar (1985) went in for establishing effectiveness of microteaching with respect to improvement in teaching competence of student teachers. Researchers like Sharma (1980), Lalitha (1981), Sharma (1982), Bawa (1984), Bhatia (1984), Chathley (1984), Dave (1987), and Ekbote (1987), studied the effect of different strategies of integration of skills on teaching competence of student teachers. It can be concluded from their findings that planned integration of skills is helpful in improving teaching competence. Some researchers compared various strategies of feedback used during the process of microteaching. Syag (1983) and Prabhune *et al.* (1984) compared three strategies of feedback, viz., self (audio-feedback), peer and supervisory feedback. They found peer-feedback to be most effective in improving competence in teaching skills. One feature common to all these researches is that they use teaching competence as a criterion to measure attainment of skills. But these studies are unable to answer the question, 'What minimum level of competence needs to

be achieved when a teaching skill is said to be attained?' In this direction, Joshi (1984) made a venture and developed a performance criteria for testing efficacy of student-teachers in attaining teaching skills. Further, product variables considered in the studies were not only general teaching competence but also pupil attainment, pupil liking, peer assessment, headmaster's perception, attitude of student-teachers and teacher educators towards microteaching (Sidhu,1983; Khan,1985; Kalyanpurkar,1986; and Oak,1986).

Almost all these studies are experimental and employed pretest, post-test control group design. Among these, Sidhu (1983) and Syag (1983)) went a step ahead and conducted longitudinal studies. They studied the carry-over effect of microteaching on different product variables just after training, six months after training and two years after training. They came out with the conclusion that microteaching training retained its effect over time. More studies of this kind are required to arrive at generalizations. Further studies in microteaching are required to specify skills that are required for teaching different subjects at different levels, viz., elementary, secondary and higher education. In this direction, Pratap (1982) made a venture and studied skills required for teaching modern mathematics at secondary level. More studies in this direction will help for planning the teaching of different subjects.

The researches done in the field of microteaching are still at a preliminary stage. More imaginative and analytical studies are required so as to answer various questions like 'What specific skills are required for teaching different subjects? How many microteaching cycles are required to attain competence? What exactly should be the length of a lesson plan? What are the skill-relevant behavioural changes that take place during attainment of skill?' Apart from finding answers to these questions, the researchers need to study the microteaching skills with respect to their proportion being used in the classroom rather than limiting themselves to a few most used skills in the classroom.

(iv) Studies in Techniques of Behaviour Modification: Still another training system that stresses specification of behavioural objectives, reinforcement of desired behaviours and rapid feedback of the effects of such reinforcement is the system of teacher behaviour modification. In this volume there is a separate chapter on teacher behaviour but in the present chapter only those studies have been considered that are connected with training of teachers in modification of their classroom behaviour. Shukla (1985) studied the effect of transaction training on different indices of teaching. Bhalwankar (1984) developed a scale suited to the Indian set-up for observing and training teachers in classroom behaviour indices. Dogra (1986) studied the effect of the content analysis system of classroom communication behaviour pattern. Gupta (1983) studied the effect of training in behaviour modification in simulation. The intent of these studies was to get teachers maximize the frequency of such indices that affected the pattern of learning in the pupils. They tested the proposition that using a particular system of recording teacher behaviour, and feeding the same back to the teachers, will get them to engage in more and more desired behaviour towards their pupils. The studies reported in this survey are a step in advance of those reported in previous surveys as these did not simply use the Flanders Interaction Analysis System to observe and train teachers/student-teachers interaction analysis; rather, they used interaction categories united to the subject taught by the teacher. But the question that remains still unanswered is, 'How can the behaviour of the teacher be modified through training be maintained over a long period of time? 'The researchers need to conduct studies in this direction so as to establish the lasting limits of learnt behaviour in teachers.

(v) Studies in Training in Teaching Models: The standard training models used in teacher education have been classroom interaction analysis and microteaching. These models are predominantly behaviouristic in nature. These have been used as training models, irrespective of the subject being taught and objective being achieved. However, the researchers have started trying out several alternative models for training in teaching of information, social interaction, behaviour modification, personal abilities, etc. Such a system of training includes elements like theoretical orientation, observation and demonstration, peer practice and feedback, and coaching in a real classroom situation. Passi *et al.* (1986) took up a study at the national level with a view to establishing the effect of these four elements on teaching competence in one particular model of teaching. In a similar study, Passi *et al.* (1986) studied the effect of training in models of teaching on the competence of student-teachers and their willingness to use the same in their classrooms. It was found that training had a positive effect on the product variables of competence and

willingness. Such studies represent a welcome trend in two ways. One is that they are a departure from a purely behaviouristic orientation in teacher education, and secondly they help in recognizing the fact that there are different models of teacher education with respect to different aspects of teaching.

Studies in training of teachers in models of teaching need to be designed to find out how far training in particular teaching model improves the conceptual level of the trainees, their teaching style, adoption of various skills and transfer and reutilization of the same in different situations. The researchers need to find out specifically the number of demonstrations, practice sessions and coaching exposures that would help the student-teacher master a particular teaching model. Further studies also need to be done with respect to methods and types of feedback that could bring the desired level of competence in a student-teacher within minimum exposure time.

SUGGESTIONS FOR FURTHER RESEARCH

A cursory look at the number of researches conducted in the last three decades reveals that more and more studies are being conducted in the area of teacher education. The quantitative leap, however, cannot be taken to imply that the area is being exhaustively explored; rather it is difficult to claim that the researchers took cognisance of the gaps pointed out in the trend reports of the earlier surveys. Lack of coordination and planned effort on the part of researchers has made the gaps more conspicuous. Further, the emphasis given to teacher education programmes in the National Education Policy (1986) has opened new avenues of research in the field. This section of the report is devoted to pinpointing some of such needed research efforts.

The observed trend of researches in teacher education has made it quite clear that researchers viewed teacher education from a narrow angle. They studied teacher education in relation to isolated aspects of the total process. They hardly went in for relating policies and practices of teacher education. After all, teacher education cannot be considered in isolation from its national and social obligations. A large number of commissions and committees on education enumerated goals for teacher education in different sets of circumstances. But researchers rarely went in for finding out how far these goals have been realized. They, rather, confined their studies to assessing the functioning of single institutions with respect to the achievement of a small group of students. It is urgently necessary that the gaps between functionality and set targets should be pointed out. This will help in planning teacher education programmes for the desired role of the teacher in the new social order. Now that the National Education Policy (1986) has laid special emphasis on education of teachers and detailed out the role of the teacher in guiding students, building their character, promoting innovation, etc., it has become obligatory on the part of researchers to provide empirical evidence of how far existing teacher education is helpful in promoting such ideals.

If the researches are seen from the framework of categories given in the trend report, one finds that presage-product studies are lacking. Researchers did study teacher effectiveness from the point of view of teacher characteristics, or teacher behaviour and its impact on the achievement of students. But similar studies have not been forthcoming of cases where the teacher educator's characteristics or his classroom behaviour have been studied with respect to student-teachers' attainment in theory of teaching skills. There is a need to train the teacher-educator for training student-teachers. Further studies need to be undertaken where context-presage-process-product variables are taken into account. Such studies will help in providing a gestaltic view of the teacher-education programme and answer questions like, 'What kind of teachers' using what kind of procedures, most effectively foster healthy mental and behavioural skills in different kinds of children who differ in their background, needs and aspirations? What type of institutions, with what kind of teacher-educators, and following what type of teacher training programmes, promote the desired competency level among student-teachers of a particular background? Further studies made in institutional climates affect student-teachers' and teacher-educators' performance. However, no study has systematically related this factor to the nature and quality of instruction. Only occasionally have studies explored the significance of student-teachers' and teacher-educators' traits in influencing learning, even though these may account for much of the unexplained variance in achievement. Much more needs to be discovered about how teacher-educators personal traits influence their teaching in the classroom and student-teachers' competence and satisfaction in learning. The complex interaction of institutional environment, personal traits of teacher-educators and student-teachers, instructional methods

and supervisory methods employed and instructional outcomes is a most needed area of research.

The trend of process-product studies reveals that there has been systematization of instruction and a large coverage of objectives of teacher education. In their quest for making instruction more systematic, some researchers developed instructional strategies. Not only did they develop instructional strategies but they also made attempts to select the best strategy among alternative strategies. Further, researches in interaction analysis provided to student-teachers an experience in objective evaluation of the lessons they observed and helped them in understanding the dynamics of classroom teaching. On the other hand, microteaching studies have been aiming at development of teaching skills in student-teachers. Simulated studies were incorporated for the development of application and decision-making abilities. Above all, the studies in training of student-teachers in alternative models have enhanced the chances of getting rid of outdated approaches in practice teaching programmes. The teaching for training in models such as Concept Attainment, Inquiry Training, Advance Organizer Model, etc., has helped in recognizing the fact that there should be different models for teacher education, depending upon the context of the teacher education programme. All this shows that researchers in teacher education have been following a trend of larger and comprehensive coverage of objectives. This is a welcome trend, but the severe criticism that is levelled against this type of studies is that they have made teacher education simply a mechanical process, rather than a process implying training, of a humane teacher. There is some substance in this criticism, insofar as there may be a lot of risk inherent in this kind of highly specified skill training. After all, the teacher's function is not limited to the four walls of the classroom. He is emotionally attached to the learner as well as the subject he teaches. Because of this attachment and the skills required, he develops an individual 'Style of Teaching'. Researchers must direct their studies towards probing such styles of teaching and communication abilities which may differ from subject to subject and situation to situation in different teachers.

While viewing studies from a methodological point of view, it can be said that researchers have not generally interpreted their studies in terms of implications; they have not made explicit what their findings imply and how they should be used. What is needed in research is that one not only describes the characteristics of teachers and student-teachers of institutions, but also tests strategies for improvement of teacher education with respect to planning and functioning of the system. Empirical evidence is required to identify the gap between the type of student-teachers that enter the portals of teacher-education institution and the requirements of the existing education in the institution; the changes in the teacher-education programme that can be easily made at micro and macro levels so that it is conducive to the society in general and the teaching community in particular.

The trend research work done in the area of curriculum context reveals that this has been one of the most neglected areas in teacher education. The work that has been done is haphazard and ill-conceived, unconnected with the real problems of teacher education. The major problem that has been troubling the educationists is the weightage to be fixed for different theory and practical aspects of courses at B.Ed. level. Educationists have chalked out a programme in the form of 'Curriculum Framework' and fixed a particular system of weightage for the different aspects, but all this they did on the basis of their thinking and experience, in the absence of empirical research data. Such a framework may not provide for a particular aspect of the teacher education course that will help student-teachers to acquire a certain degree of competence to deal with pupils of different ages and abilities. Many problems of this nature need to be addressed to make the curriculum relevance-based.

The measure of good teaching still remains complex and unclear. The development of teaching theories remains in its infancy. Even after four surveys, teaching theory in the Indian context has not been thought out. Of course, this may be partially because of definition, design and instrumentation. Another plausible reason that one infers from the researches done in teacher education so far is that teacher effectiveness has perhaps been considered in the abstract, without reference to the particular subject content involved. As more knowledge is gained about the structure of an individual discipline, both teaching methods and methods of evaluating their effectiveness can be found. Researchers, therefore, need to plan their sutdies so as to answer the questions, 'What are the conditions under which one learns to learn and how can students be helped to develop attitudes, habits and skills conducive to life-long learning?' Answers to questions like these will help in pursuing the proposed objective in the National Education Policy about 'Accountability of Teachers' to the society in gen-

eral and the profession in particular. But this does not mean that teacher accountability is solely dependent upon his ability to effect desired changes in learners. This, in fact, raises further questions for researchers: 'What factors help the teacher to become an object of student respect and a source of positive personal influence on the formation of students' intellective values and attitudes? What factors promote social organizational conditions conducive to a teacher's smooth functioning with his peers, head and management authorities?' These questions demand attention.

Changes in society and world over have made it necessary that teacher education be looked at not only from the angle of teacher–student interaction but also from social and psychological perspectives. In other words, teacher-education institutions need to prepare teachers for their social obligations. It is essential that researchers probe into the role of the teacher outside the classroom and related factors. There is need to know more about the teacher's role expectations, the relationship between the individual teacher's role expectation and the social responsibilities of the teacher; the relationship between the teacher's concept of his role and his performance as observed by other members of the society. Such knowledge will help in developing new models of teacher education and trying them for training teachers of the new social order.

The National Education Policy has stressed strong, unified and responsible teachers' associations to protect the dignity and rights of teachers. The role of such teachers' associations, as envisaged by the NEP, is to develop awareness among teachers of their professional growth and development. It entails upon researchers to probe issues concerned with the linkage between the institutional decision structure and the degree of participation by teachers; the educational impact of involving teachers in decision-making; the type of activities in which teachers must participate in order to influence policy; the linkage between teachers' policy-influencing activity and their satisfaction with their working conditions. Research into such questions would help to analyse the relationship between academic governance and policy making.

A problem that is yet to draw the attention of researchers is correspondence education in the field of teacher preparation. It has been steadily expanding with far greater remote control systems than previled a few years ago. Some of the institutions and centres have national networks and it is open to graduates working in different establishments. The products of this system can hardly be distinguished in terms of degree requirements, but certainly they have undergone an entirely different kind of exposure to teacher preparation. It is necessary that researchers probe the qualitative differences in the products of the two systems and advise the universities and the government to adopt such systems as are qualitatively strong and have lower unit cost.

With the advent of the Navodaya Vidyalayas and the Academic Staff College, in-service education of teachers has become a continuous programme. For a very practical reason, it can be provided most widely by an inflow of enriched material into the educational institutions in the form of teachers' handbooks in different context areas. It will help teachers in self-learning as well as give them the freedom to seek guidance from time to time, at their convenience. Such handbooks are equally desired for pre-service education of teachers. After all, future teachers will be able to make their pupils independent in learning in every-day life only if they themselves enjoyed the same independence during their training. Researchers must take up studies in this field and develop material for education of the teachers of different disciplines and different levels of education.

Changes in society have made it all the more necessary to have provision for separate institutions for students of specific age-groups and abilities. The institutions of non-formal education, for exceptional children, adult learners, etc. have to be different from those for general and formal education. For such institutions, specialized teachers are needed and provision has to be made to prepare such teachers to deal with special types of learners. The general teacher-education admission procedure, curriculum, evaluation process, practical work, etc. cannot cover everything in these courses. In this context, it is necessary that researchers identify problems and needs of teachers of such courses so as to advise the functionaries and managers concerning the organisation of specialized teacher-education programmes.

The provision for socially useful productive work and community services in teacher-education programmes has been thought ideal for developing skills and values among student teachers. But such courses have simply become rituals for passing the examination. The responsibility for this lies also with researchers who had not planned their studies to find out training as well as evaluation procedures for such value-oriented tasks. It is necessary that researchers should conduct studies in this direction and help planners chalk out programmes

of community work so that they become an integral part of teacher education.

In the end, it can be said that there is need for more comprehensive and sophisticated research and better dissemination of results so that these can be used later on, for the improvement of teacher-education programme within the framework of the total educational system in the country.

ABSTRACTS: 1034-1177

1034. ABDUL SAMAD, *Study of Organisational Climate of Government High Schools of Chandigarh and its Effect on Job Satisfaction of Teachers*, Ph.D. Edu., Pan. U., 1986

The objectives of the study were (i) to identify the climate of schools as well as the degree of job satisfaction of teachers, (ii) to determine whether a significant relationship existed between organizational climate and job satisfaction of teachers, (iii) to find out the relationship between biographical characteristics and perceptions of the organizational climate. The biographical characteristics were sex, age, total teaching experience and teaching experience at the present school.

The data for the study were collected from 175 teachers selected randomly from 18 government high schools of Chandigarh. They were administered, (i) The Halpin and Croft Organizational Climate Description Questionnaire, (ii) The Gaba Teacher Job Satisfaction Scale.

The findings of the study were: 1. Teachers in more open climate schools enjoyed job satisfaction than teachers of less open climate schools. 2. Teachers in more open climate schools enjoyed more job satisfaction with respect to 'principal' than teachers in less open climate schools. 3. Teachers in more open climate schools were more satisfied with respect to colleagues than teachers in less open climate schools. 4. Teachers in more open climate schools were more satisfied with the facilities provided in schools than teachers in less open climate schools. 5. Teachers in more open climate schools were more satisfied with respect to 'Miscellaneous regarding Personal Characteristics' than teachers in less open climate schools. 6. No significant differences were found between teachers working in open climate schools and teachers working in less open climate schools on the sub-scales, manager, society, emoluments and students. 7. There was no significant relationship between the dimension of disengagement and the sub-scales, manager, society, emoluments and facilities. 8. No significant correlation existed between organizational climate dimensions of hindrance, intimacy and aloofness and all the eight sub-scales of the job satisfaction scale. 9. There was a positive correlation between dimension of esprit and four sub-scales of job satisfaction, viz., principal, colleagues, students and some characteristics. 10. Production emphasis was significantly related with job satisfaction sub-scales—principal and emoluments. 11. A significant positive correlation was found between the dimension of thrust and sub-scales of job satisfaction, viz., principal, manager, colleagues, emoluments, facilities, students, miscellaneous regarding personal characteristics. 12. The dimension of consideration was significantly related with six sub-scales of job satisfaction, viz., principal, manager, society, emoluments, facilities and miscellaneous regarding personal characteristics. 13. Male and female teachers did not differ significantly in their perception of some dimension of organizational climate, viz., disengagement, hindrance, intimacy, aloofness, production emphasis, thrust, and consideration. 14. Teachers belonging to lesser age group (20–30 years) perceived disengagement to be higher than those of the over-age group (42 years). 15. Significant difference was found among the four groups of teachers categorized on the basis of experience (0–5 years, 6–11 years, 12–17 years and 18 years and above) on the dimension of esprit. But no difference was found in these groups on the dimensions of hindrance, intimacy, aloofness, production emphasis, thrust and consideration. 16. Female teachers expressed greater openness of climate than their male counterparts. 17. Teachers belonging to the lesser age group (20–30 years) expressed lesser openness of climate than the other two, older, age groups (i.e. 31–41 years and 42 years and above). 18. Teachers with 18 years or above teaching experience expressed greater openness of climate than those with 0–5 years of teaching experience. 19. Female teachers were more satisfied with their job than their male counterparts. 20. Teachers of 20–30 years of age were less satisfied with subscale 'Principal' of the Job Satisfaction Scale than teachers with 42 years or above age. 21. Teachers with least years of teaching experience (0–5 years) indicated significantly less satisfaction with 'Principal' than teachers with more years of teaching experience.

1035. AHMAD, Q., *Determinants of Job Involvement among Teachers*, Ph.D. Psy., Mag. U., 1986

The major objectives of the study were (i) to examine the relationship between value orientation and job involvement, (ii) to study the relationship of background factors, such as length of service, family size, etc. with job involvement and job satisfaction, (iii) to investigate if job involvement and one's satisfaction with the institution where one worked were significantly correlated, (iv) to find out the relationship between job involve-

ment and job characteristics, (v) to measure whether there was any difference between teachers belonging to constituent colleges and affiliated colleges on a number of factors such as job involvement, college satisfaction, job satisfaction and job characteristics, and (vi) to investigate the relationship between job involvement and job satisfaction. Six hypotheses were examined.

The sample included 200 male undergradute college teachers, derived from three constituent (N=100) and four affiliated colleges ((N=100) of Magadh University. A representative sample of teachers from all the departments was sampled out. Modified version of Lodahl and Kejners' Job Involvement Scale, Stone's Job Characteristics Scale, Super's Value Perference Scale, along with the College Satisfaction Scale, Job Satisfaction Scale and Biographical Inventory were used. All the scales were pretested. The Mann Whitney U-test was employed for checking item discrimination. Descriptive statistics of the major variables were examined. Intercorrelations between variables were calculated. Correlational analysis was done. Typological difference of the colleges on job involvement and related factors were tested by using the t-test.

The major conclusions were: 1. Both individual and organizational factors determined job involvement of college teachers. 2. Job involvement was positively correlated with job satisfaction and college satisfaction. 3. Constituent colleges induced more job involvement, identification with institution and job satisfaction among its teachers compared to affiliated colleges. 4. Some value preferences, such as ability utilization, achievement and economic gains were negatively correlated with job satisfaction. Social relations, prestige and autonomy were positively associated with satisfaction. 5. Some job attributes, such as variety, autonomy interaction and feedback contributed to job satisfaction.

1036. BABU, D.S. et al., *Acceptance, Awareness and Impact of RCE (Mysore) Programmes,* RCE, Mysore, 1986 (NCERT financed)

The study was concerned with examining the Regional College of Education (RCE), Mysore, programmes from the viewpoint of, (i) awareness of the programmes in the southern region, (ii) the beneficiaries of such activities, and (iii) the impact of these programmes as reflected in the adjustment and performance of ex-students who had undergone a course of instruction in the college.

The sample included all students of the Four-year Integrated and One-year B.Ed. courses who had studied at the RCE, Mysore, during the period 1972–82. Data about awareness of the programme and work of the college were obtained from in-service secondary school teachers in the region, with the help of ex-students of the college. Acceptance of the programme conducted by the college were assessed by obtaining from ex-students, comprising the sample, their opinions/judgements regarding the courses they had pursued while studying in the college. The tools for data collection were a questionnaire to obtain data regarding awareness of college programmes, an adapted version of the Student Evaluation of Education Quality (SEEQ) of Marsh, H.W., a Job Satisfaction Scale designed by the investigators and observations of classroom lessons, using a Student Teaching Profile developed by the RCE. For awareness, the sample included 2010 students, of whom 685 were of the four-year course and 1325 were of the one-year B.Ed. course. For measuring acceptance, the SEEQ was mailed to all 2010 ex-students, of whom 430 responded. For measuring the impact, the Job Satisfaction Scale was sent to all 2010 students, of whom 430 responded. Out of 430 forms, only 82 forms could be used. The lessons of 37 ex-students could be observed as the second source of data to measure impact.

The major findings of the study were: 1. A majority of respondents reported that they had some idea of the courses offered by the RCE. They knew that these courses were different from those offered by conventional colleges of education. However, their reasons for holding this view were not clear. 2. Very few teachers had an opportunity of being exposed to teaching materials and aids prepared by the RCE. 3. The ex-students were generally satisfied with the courses offered by the RCE. 4. There was no difference between ex-four-year-course students and one-year-course students in their judgements of aspects like learning, enthusiasm of teachers, etc. except in the sphere of evaluation. In this sphere, a significant difference was identified between two groups. 5. The ex-students were generally satisfied with their jobs. The four-year students were more satisfied with their jobs than the one-year students.

1037. BAILKERI, K.N., *Effect of Self-Instructional Remedial Microteaching Course on the Instructional Competence of Inservice Secondary School Mathematics Teachers,* Ph.D. Edu., Kar. U., 1983

The objectives of the study were (i) to prepare a mathe-

matics instructional competence scale, (ii) to diagnose the weak instructional skills of in-service mathematics teachers (iii) to prepare remedial self-instructional microteaching course (RSIMC) materials to strengthen the weak skills, (iv) to provide in-service training to the teachers through RSIMC, (v) to evaluate the effectiveness of the RSIMC in improving mathematics instructional competence, and (vi) to study the reactions of participant teachers to the SIMC. It was hypothesized that: (1) RSIMC is effective in improving the mathematics general instructional competence of in-service teachers in terms of the following instructional skills taken together: *a.* skill of explaining, *b.* skill of asking initial question, *c.* skill of asking probing questions, *d.* skill of fluency in questioning, *e.* skill of concretizing abstract ideas with examples, and *f.* skill of using black-board. (2) In-service teachers sustain mathematics general instructional competence in terms of the six skills taken together and each skill independently (excepting the last one), strengthened by the RSIMC even two months after training.

Fourteen teachers who were found to be weak in the skills of asking probing questions and of concretizing abstract ideas with examples participated in the experiment. The Dharwad Mathematics Instructional Competence Scale (DMICS) was prepared using scientific procedure. It had 23 instructional behaviours covering six skills to be rated on a five-point scale. Its inter-rater reliability was found to be 0.77 (n=20) and concurrent validity 0.67 (n=20). A rating scale was also prepared with a view to collecting reactions of participant teachers to the SIMC. Single-group pretest and post-test design was used. The RSIMC material was prepared mainly in the form of two handbooks and an audio-cassette containing model microlessons. Each participant was supplied with two handbooks and an audio-cassette. The effectiveness of the course was tested by comparing pretreatment scores with immediate post-treatment scores and immediate post-treatment scores with delayed post-treatment scores using t-test.

The findings of the study were: 1. The remedial SIMC was effective in improving mathematics general instructional competence of in-service teachers of secondary schools in terms of the six instructional skills taken together and each skill independently, excepting the skill of using black-board. 2. In-service teachers sustained mathematics general instructional competence in terms of the six skills taken together and each skill independently (excepting skill of using black-board) strengthened by RSIMC even two months after training. 3. Participant teachers held a favourable attitude towards the SIMC.

1038. BALWINDERKAUR, *Job Satisfaction of Home-Science Teachers: Its Relationship with Personal, Professional and Organisational Characteristics*, Ph.D. Edu., Pan. U., 1986

The objectives of the study were (i) to study the relationship between personal characteristics and job satisfaction of home-science teachers, (ii) to examine the nature of the relationship between professional characteristics and job satisfaction of home-science teachers, (iii) to study the relationship between organizational characteristics and job satisfaction of home-science teachers, (iv) to identify the factor structure underlying personal, professional and organizational characteristics and job satisfaction of home-science teachers, and (v) to find out individual and conjoint predictability of predictor variables towards the criterion variable of job satisfaction, and to locate the best combination of predictor variables explaining the maximum criterion variance.

The study was a correlational one, where a sample of 245 home-science teachers working in schools, colleges and universities of Punjab, Haryana and the Union Territory of Chandigarh were selected through a stratified random sampling technique. The sample subjects were administered the following tools: (i) Raven's Standard Progressive Matrices (1960), (ii) the Jalota Socio-Economic Status Scale, (iii) the Srivastava Need Satisfaction Scale, (iv) the Halpin and Croft Organizational Climate Description Questionnaire (1963), (v) the Halpin Leader Behaviour Description Questionnaire (1966), and (vi) the Gupta and Srivastava Teacher Job Satisfaction Scale (1980). The data so collected were analysed through factor analysis and step-up regression analysis.

The findings of the study were: 1. From among personal variables (age, intelligence, socio-economic status and need satisfaction), need satisfaction (including physical security, social, ego and total need satisfaction) was found to be a correlate of job satisfaction. 2. Professional charateristics (experience, salary and qualifications) did not act as a correlate of job satisfaction. In factorial structure also, they did not share significant common variance with job satisfaction. They were also not considered for working out a step-up regression equation for the purpose of prediction. 3. Eight of the 11 organizational characteristics, viz., disengagement,

hindrance, espirit, thrust, consideration, initiating structure, consideration and total leadership behaviour appeared as correlates of job satisfaction. Disengagement and hindrance emerged as significant predictors of job satisfaction in step-up regression analysis. The remaining organizational characteristics, namely, intimacy, production emphasis and aloofness were not found to be potent predictors of job satisfaction. 4. The predictive efficiency (percentage contribution of variance) of professional characteristics to the criterion variable of job satisfaction was higher than that of organizational and professional characteristics. 5. Personal and organizational characteristics conjointly were found to be better predictors of job satisfaction than when taken separately. 6. Job satisfaction and its various dimensions clustered together in factorial structure on the same general factor of satisfaction followed by the appearance of one or more dimensions of job satisfaction in subsequent group factors. Besides this, dimensions of job satisfaction were also found to be associated differentially with specific personal, professional and organizational characteristics in respect of group factors.

1039. BANERJI, A., PYLEE, M.V., *Teachers in Higher Education—Grievances and Their Redressal*, NIEPA, 1984

The study was sponsored by the National Commission on Teachers in Higher Education, India. The major objectives of this study were (i) to investigate the grievances of college and university teachers, and (ii) to suggest principles and procedures for the redressal of teachers' grievances.

The sample included about 2300 university teachers and about 6300 college teachers. The tool used for data collection was a questionnaire.

The major findings were: 1. Unfair appointments and promotions got the first rank among the grievances of university teachers. Non-payment of emoluments according to the letter of appointment was a serious grievance in case of college teachers. 2. The college teachers ranked poor working conditions as their number one grievance. The college teachers gave second rank to unfair appointments and promotions. 3. The universtiy teachers chose poor working conditions as the second major grievance. 4. The other grievances of university and college teachers were discrimination in the allotment of work and funds, discrimination in providing facilities and callous behaviour of administrators. 5. The other grievances were unfair distribution of remunerative assignments, denial of democratic rights, denial of privileges and disciplinary action without proper procedures. 6. The acuteness of various grievances differed among universities and states. For example, in Assam and Rajasthan about 5 per cent teachers said that the first grievance in order of seriousness was disciplinary action without procedures, whereas in Haryana, Gujarat and Punjab, the first rank went to discrimination in allotment of work and funds. 7. The seriousness of the grievances also differed with categories of teachers (lecturers, readers, professors, principals) and also the experience of teachers. Teachers with teaching experience of 21 to 30 years gave the first rank to the grievance of unfair appointments and promotions against poor working conditions felt by a majority of teachers. 8. About 30 per cent of university teachers said that there were 'a few' or 'many' cases of arbitrary disciplinary action. There were variations in this among states and universities. 9. Disciplinary actions were regulated by proper rules according to 60 per cent of university teachers. About 24 per cent said that there was provision for arbitration procedure for redressal of grievances. Quite a considerable number of teachers felt that they should take the help of their unions and go to courts of law when other procedures failed. In colleges, 36 per cent of teachers said that there were cases of arbitrary disciplinary action. About 63 per cent said that disciplinary actions were regulated by proper rules; 30 per cent said that there was provision for arbitration procedure. About 62 per cent of college teachers would prefer to approach their unions for redressal of grievances and 88 per cent felt that teachers should go to court when other measures failed.

1040. BANGA, U.S., *Impact of Teacher Training Programme in Physical Education on the Physical Fitness, Personality, Adjustment and Motivity of Students*, Ph.D. Edu., Punjabi U., 1983

The objectives of the study were (i) to measure the changes in physical fitness, personality characteristics, adjustment and maturity in student-teachers as a result of undergoing one year training in physical education, and (ii) to locate areas in the training programme in which changes were sought to make the training programme more effective.

The sample for the study was selected from the students of four physical education colleges affiliated to Punjabi University. It comprised 228 students, which included 114 boys and 114 girls. They were adminis-

tered the Sharma Motivity Test, the Asthana Adjustment Inventory, the Cattell 16 PF Inventory and the Aspher Youth Fitness Test. t-test was used for drawing conclusions.

The study revealed the impact of teacher training as under: 1. Boys became weaker in ego-strength. 2. Boys could overcome emotional situations at the end of the training. 3. Boys became more suspicious and self-opinionated. 4. Boys became more tense and frustration driven. 5. The training programme improved the quality of group dependence of boys. 6. The training programme negatively affected the emotional control of boys. 7. Boys were apprehensive, worrying and depressive when they joined the course and became more so after the training programme. 8. The training programme made boys more radical. 9. The training programme negatively affected the traits of outgoingness, warm-heartedness and easygoingness of girls. 10. It made the girls a little less humble, mild and accommodating than they were at the time of joining the course. 11. The girls were suspicious and self-opinionated and the training added to these traits. 12. The girls were practical, careful, conventional, and artless and the training programme added to these characteristics significantly. 13. The girls were emotionally controlled and socially precise at the beginning of the training and at the end of the programme they were found to be more so. 14. The girls were relaxed and unfrustrated at the time of joining the course. The training made them a little less relaxed and less frustrated. 15. The boys improved their scores on adjustment after training; on the other hand girls went down in their adjustment scores. 16. Both boys and girls had improved their physical fitness index as a result of training. The mean score on physical fitness in case of girls increased from 303.08 to 347.37 and in case of boys from 342.00 to 383.70. 17. There was no significant difference as a result of one year training course in the motives of students for joining the physical education course.

1041. BAWA, M.S., *Effectiveness of Micro-teaching with Planned Integration Training, Following Summative Model and Micro-teaching without Planned Integration Training on the General Teaching Competence of Teacher Trainees,* Ph.D. Edu., Del. U., 1984

The objectives of the study were (i) to assess whether training through micro-teaching brought about substantial changes in teaching competence of the participant student-teachers, (ii) to find out the gains in teaching competence of student-teachers who taught after additional systematic instructional training subsequent to micro-teaching, (iii) to assess gains in integration of teaching skills for student-teachers who participated in integration-based instruction after micro-teaching, (iv) to ascertain gains in teaching competence over the period following the termination of micro-teaching amongst student-teachers who taught without any additional systematic instructional training, (v) to assess gains in integration of teaching skills for student-teachers who taught on their own, withut exposure to integration-based instruction, (vi) to evaluate comparatively the gains in teaching competence of student-teachers who participated in integration-oriented instruction and those who did not, (vii) to assess comparative gains in integration of teaching skills of student-teachers who participated in integration-oriented instruction and that of those who did not, and (viii) to study comparative changes in attitude towards teaching amongst student-teachers exposed to integration-oriented instruction and student-teachers not exposed to integration-oriented instruction.

The study was envisaged in three stages, viz., the planning and preparation stage (development of tool and selection of sample), the implementation stage, and the evaluation stage. In the study a pretest, post-test experimental control group design was followed. A sample of 40 student-teachers was randomly selected from the B.Ed. student-teachers of the Education Department of Delhi University. All the sample subjects were observed on the General Teaching Competence Scale. The sample student teachers were later randomly divided into two groups of 20 student-teachers each. One of the groups, designated as the experimental group, was exposed to an integration-oriented programme. The other group, designated as the control group, continued teaching on its own, using a self-assessment scale as a means of self-feedback. The experimental programme comprised a mixture of instruction-cum-demonstration (by the investigator) and teaching (by the student-teachers). The tools used in the study were: (i) the General Teaching Competence Scale (GTCS), (ii) the Self Assessment Scale (SAS) for providing self-feedback, (iii) the Scale for Integration of Skills of Teaching, (iv) instructional material for various component skills of teaching under the micro-teaching programme,(v) model lessons to illustrate integration of various teaching skills for demonstration of teaching of various aspects of a the-

matic unit, and (vi) the Ahluwalia Teaching Attitude Inventory (ATAI).

The findings of the study were: 1. Exposure to micro-teaching resulted in improvement of teaching competence for all participants. 2. Exposure to the integration-based programme after micro-teaching did not result in wholesale and uniform improvement in teaching competence, speed of presentation and maintenance of discipline were the two component skills of general teaching competence which were not much affected by participation in integration-based instruction. 3. Exposure to integration-based instruction helped teachers to increase their ability to integrate various teaching skills effectively. 4. Teaching on one's own after micro-teaching training helped to improve their teaching competence. 5. Micro-teaching had some sort of broad effect in terms of integration of teaching skills, even when this did not form a specific theme of the micro-teaching programme. 6. Consolidation of already acquired teaching competence—on both these counts systematic integration-based instruction appeared to have the upper hand over teaching on one's own after micro-teaching. 7. The integration instruction group not only consolidated its teaching competence but also improved upon it. It did so in a significantly more effective manner as compared to those who taught on their own. 8. Systematic instruction with explicit objectives was much more effective than learning on one's own. 9. The overall attitude of participants in integration-based instruction became more positive towards teaching as compared to that of those learning on their own. 10. The change in attitude was significant with respect to attitude towards the educational process and pupils.

1042. BHALWANKAR A.G., *A Study of Reliability and Validity of the Process-Process Appraising Scale of Teacher Effectiveness,* SNDT College of Education, Pune, 1984 (SIE Maharashtra financed)

The major objectives of this study were (i) to determine the reliability of the Process-process Appraising scale of Teacher Effectiveness (PASTE), (ii) to determine criterion related to and the content validity of the PASTE, (iii) to determine the relationship between various component scores of PASTE and total teacher effectiveness scores on PASTE, (iv) to study the effect of increase or decrease in number of components of PASTE on reliability of PASTE, and (v) to determine the relationship between presage variables and teacher effectiveness score of student-teachers.

Ten science student teachers who offered the science method for the B.Ed. from SNDT College of Education, Pune, were selected for the study. Information about intelligence, attitude and degree marks obtained by the student teachers were observed throught the practice teaching programme with the help of PASTE. The last two lessons were observed by two supervisors and two experienced headmasters from secondary schools. The obtained data were analysed by four-way analysis of variance, chi-square and phi coefficient.

The major findings of the study were: 1.The reliability of PASTE by four-way analysis of variance was 0.72. The reliability of PASTE was quite satisfactory. 2. PASTE had satisfactory content and criterion-related validity. 3. All the components correlated positively with the total teacher effectiveness score. Some skills were significantly related to total teacher effectiveness. 4. Intelligence, attitude and degree marks were all positively related to teacher effectiveness. Intelligence was significantly related to total teacher effectiveness.

The educational implications of the study are:(1) Intelligence along with degree marks should be used as selection criteria for admitting student-teachers to a college of education. (2) In order to solve the problem of the feasibility of PASTE, at least some lessons at regular intervals should be observed during practice teaching. (3) A tool based on skills of teaching related to total teacher effectiveness score should be developed and training in those skills should be given to student-teachers.

1043. BHAMWARI, V.T., *A Study of the Role Perspective of Women Teachers in relation to Certain Socio-Psychological Variables,* Ph.D. Edu., SPU, 1986

The objectives of the study were (i) to prepare a reliable and valid tool to measure the role perspective of women teachers, (ii) to study the role perspective of women teachers of secondary schools from urban and rural areas, (iii) to compare the role perspective of women teachers in relation to their marital status, (iv) to compare the role perspective of women teachers of different age groups and having different educational background, (v) to compare the role perspective of women teachers having different teaching experience, (vi) to compare the role perspective of women teachers

belonging to non-SC/ST and SC/ST castes, (vii) to compare the role perspective of women teachers coming from different socio-economic strata, and (viii) to study the role perspective of women teachers in the context of certain personality variables such as aloof *vs* warm, dull *vs* bright, emotional *vs* mature, submissive *vs* dominant, etc.

The scale for measuring role perspective was constructed and standardized by following the method devised by Edwards and Kalpatrick known as the scale discrimination technique. The tool was standardized over a sample of 1000 women teachers selected from Central Gujarat. The other tools used for collecting the data were the SES Scale preparaed by B.V. Patel and I.A.Vora and the 16 PF Inventory of Cattell. The reliability of the scale was established by various methods and it ranged between 0.80 and 0.87. The concurrent validity was established and it was found to be 0.63. Factorial validity was also established. Factorial design was adopted for the study. The analysis of variance and t-test techniques were used for drawing conclusions.

Some of the findings were: 1. The science graduate teachers had higher role perspective than arts and commerce graduates. There was no significant difference between the role perspective of arts and commerce graduates. 2. The married women teachers had a higher role perspective than unmarried teachers. The score of urban women teachers was higher than that of rural women teachers. 3.The non-SC/ST women teachers had a higher role perspective than SC/ST teachers. 4. The role perspective did not depend on the age of the teachers. 5. The experience of teachers had no effect on the role perspective. 6. The women teachers coming from urban area had a better role perspective than those from rural area. Marital status had no influence on role perspective. 7. The main effect of SES was significant and was in favour of women teachers coming from high SES group. 8. The main effects of area and personality factor A, that is aloof *vs* warm, were significant. The interaction effect was not significant. The difference was in favour of high personality. 9. The main effect of the other factor B, that is dull *vs* bright was significant and the mean difference was in favour of high personality. The main effects of factors C, E, F, that is emotional *vs* mature, submissive *vs* dominant and silent *vs* enthusiastic were not significant. Similarly, the main effect of factors N, Q, that is simple *vs* sophisticated, dependent *vs* self-sufficient were not significant. The main effect of factor H, timid *vs* adventurous, was significant. The study of role perspective and personality factors in the context of caste revealed that non-SC/ST women teachers had a better role perspective than SC/ST teachers. The main effects of factors A, B, C, E, H and Q were significant and the difference was in favour of high personality. The main effect of other factors, F and N, were not significant. The interaction effect of these variables with caste was not significant. The marital status and factors A, B, C, H, N and Q had relation as the main effects of these variables were significant and were in favour of high personality. The main effect of factor F was not significant. Hence, it had no relation with role perspective.

***1044.** BHATIA, RANJANA, *Evaluation of New B.Ed. Curriculum in the Colleges of Education Affiliated to the University of Bombay,* Ph.D. Edu., Bom. U., 1987

The major objectives of the study were (i) to identify the specific objectives of teacher education in the revised curriculum at B.Ed. level in the University of Bombay, (ii) to study the relevance of the topics given in the revised B.Ed. curriculum in view of the objectives, (iii) to study the relevance of the practice teaching programme in the new B.Ed. curriculum accordingly, (iv) to study the effectiveness of the evaluation scheme in the new B.Ed. curriculum, (v) to find out the difficulties faced by administrators in the implementation of the revised B.Ed. curriculum, and (vi) to suggest improvements in the new B.Ed. curriculum.

The study employed the normative or descriptive survey method showing the status of the present B.Ed. curriculum in comparison with the past B.Ed. curriculum in the University of Bombay. The specific feature of the study was the critical evaluation approach on the basis of specifically evoloved objectives of teacher education. The method of purposive sampling was used for the selection of the sample. The samples included 64 teacher educators, 600 teacher trainees, 20 past students and nine principals from 13 colleges of education. The techniques used for data collection included a questionnaire, an interview schedule, a check-list, group discussion, observation, reports of seminars and workshops, documents on teacher education and comparative analysis of the content of revised and old B.Ed. curriculum. The data were analysed with the help of statistical techniques, viz., the rank method, mean and percentages.

The main conclusions of the study were: 1. There

were some important changes in the new B.Ed. syllabus on the one hand, while, on the other hand, quite a few topics were repeated. 2. Implementation of the new curriculum was found to be difficult. 3. The revision of the curriculum had not brought about any serious changes to help produce a quality teacher. 4. Teacher educators unanimously agreed that the area of practice teaching was the most important part of the B.Ed. programme. 5. They felt micro-teaching should be taken more seriously. 6. Practical work was a useful part of the curriculum and should be organized more seriously. 7. Method masters should observe practice lessons. 8. Schools attached to the training colleges should be used as experimental schools. 9. A large majority found the B.Ed. curriculum mechanical and book-oriented. 10. The study indicated that the theory load should be cut down and the ratio of the theory and practice teaching should be fifty:fifty.

1045. BHATIA, S.K., *Microteaching with and without Integration Training using Additive Dimension with Peer Supervisor Feedback under Simulated and Real Conditions,* Ph.D. Edu., JMI, 1984

The objectives of the study were (i) to study the effectiveness of training through microteaching with skill integration intervention employing additive strategy and without skill integration intervention on the general teaching competence of in-service commerce teachers, (ii) to study the effectiveness of training through microteaching with skill integration intervention employing additive strategy and without skill integration intervention on the retention of general teaching competence of in-service commerce teachers at the end of one month and two months respectively after the training, (iii) to study the effectiveness of the training through microteaching with skill integration intervention employing additive strategy and without skill integration intervention in the acquisition of the skills of reinforcement, probing questioning, illustrating with examples, stimulus variation and explaining appropriately and competently, (iv) to study the effectiveness of training through microteaching with skill integration intervention on retention of the acquisition of the skill of reinforcement, probing questioning, illustrating with examples, stimulus variation and explaining, appropriately and competently at post training II stage (one month after the training) and post training III stage (two months after the training), and (v) to study the effectiveness of the training through microteaching with skill integration intervention employing additive strategy and without skill integration intervention upon the attitudes of in-service commerce teachers towards teaching.

The tools used in the study were (i) the Baroda General Teaching Competence Scale (BGTCS), (ii) Ahluwalia's Teacher Attitude Inventory (ATAI), (iii) the Reinforcement Observation Schedule, (iv) the Probing Questioning Observation Schedule (PQOS), (v) the Illustrating with Examples Observation Schedule (IWEOS), (vi) the Stimulus Variation Observation Schedule (SVOS), (vii) the Explaining Observation Schedule (EOS), (viii) the Teaching Skill Integration Observation Schedule I, II, III and IV (TSIOS), and (ix) the Teaching Skill Integration Rating Scale (TSIRS). A pretest, post-test parallel group experimental design was used in the study and t-test was used for examining hypotheses. Forty teachers of commerce teaching class XII consisting of 24 males and 16 females constituted the sample.

The important findings of the study were: 1. The treatment of skill integration intervention employing additive strategy administered to the experimental group and treatment of microteaching without skill integration intervention administered to the control group significantly improved the general teaching competence (GTC) of in-service commerce teachers at post-training I stage, i.e. soon after the training, and it significantly retained the gain at post-training II stage (one month after the training) and the post training III stage (two months after the training). 2. Skill integration intervention employing additive strategy administered to the experimental group was significantly better than microteaching without skill integration intervention, administered to the control group, in improving the general teaching competence of in-service commerce teachers and the experimental group was also significantly better than the control group in retaining the GTC gains at post-training II stage and at post-training III stage respectively. 3. The experimental group with additive integration intervention significantly improved the attitudes of commerce teachers towards teaching in comparison to the control group with microteaching without skill integration intervention training. 4. Microteaching without skill intervention training administered to the control group significantly improved the gains in respect of appropriate use of the skill of reinforcement at post-training I stage. But it did not help in improving the ability to use the skill of rein-

forcement competently at the post-training II stage. Microteaching treatment of skill integration intervention training employing additive strategy improved the ability of using the skill of reinforcement appropriately at post-training I stage and this improvement was significantly retained at post-training II and III stages. 5. Microteaching without skill integration intervention was better than the treatment of skill integration intervention with additive strategy in improving the ability to use the skill of reinforcement appropriately at post-training I stage. 6. Both the treatments significantly improved the appropriate and competent use of the skill of probing questioning at post-training I stage and retained the gains at post-training II stage. But microteaching without skill integration intervention training retained the gains of only competent use of skill at post-training III stage while the skill integration intervention training with additive strategy significantly retained and improved the ability to use the skill probing questioning appropriately and competently at post-training III stage. 7. Skill integration intervention training employing additive strategy was better than the treatment of microteaching without integration intervention training in respect of competent use of the skill of probing questioning, while in respect of appropriate use of the skill, the latter treatment was better than the first one at post-training I stage. 8. Both the treatments helped in improving the ability to use the skill of illustrating with examples appropriately and competently at post-training at I, II and III stages. 9. Skill integration intervention with additive strategy was not significantly better than the treatment of microteaching without integration in respect of appropriate and competent use of the skill of illustrating with examples at first stage but the first is significantly better than the latter at II and III stages. 10. Additive integration strategy significantly improved ability in respect of appropriate and competent use of the skill of stimulation veriation at post-training I stage. Microteaching without skill integration intervention significantly improved only the appropriate use of the skill of stimulus variation. The former treatment also retained the gains in respect of appropriate use and retained and further improved the gains significantly in respect of competent use of the skill of stimulus variation at post-training II and III stages. While the latter treatment retained significantly the gains in respect of appropriate use of the skill of stimulus variation at post-training II and III stages. 11. The treatment of skill integration intervention training with additive strategy had significantly improved the gains in respect of competent use of the skill of explaining at post-training I stage and also improved and retained the gains at post-training II and III stages. The treatment of microteaching without skill integration intervention training improved the ability in respect of appropriate use of the skill of explaining at post-training I stage but it lost significantly gains in respect of appropriate use of the skill of explaining at post-training II and III stages respectively. 12. The treatment of skill integration intervention with additive strategy was better than the treatment of microteaching without skill integration intervention in respect of competent use of the skill of explaining at post-training I stage.

1046. BHATNAGAR, T.N.S., *Studies and Literature on Student Teaching and Other Practical Work in the B.Ed. Programme in India—A Review,* Department of Teacher Education Project, NCERT, 1980

The main objective of the study was to analyse the contents of studies and literature on student teaching and other practical work in the B. Ed. programme and to suggest the future perspective of studies in these areas.

The researcher analysed 39 studies and worthwhile documents in the area of teacher education during 1952 to 1978.

The major findings were: 1. Most of the studies and literature were available in the form of books, seminar documents, commission reports, and guide books. They covered different areas like evaluation of student teaching and supervision of student teaching with special reference to secondary teacher education. The studies had not concentrated on the practical work of the B.Ed. programmes. There was not much work on elementary teacher education. 2. These studies emphasized the need for a comprehensive network of school activities to be included in student-teaching programmes. 3. They highlighted the negligence in organization of teacher-training institutions and their rigid structures. 4. A few studies revealed that student-teaching was the weakest link in the teacher-education programme at primary as well as secondary level. 5. Microteaching, as a popular concept of teacher training programmes, gained ground in the seventies. Most of the literature of this period spoke highly about this training approach. Research findings on this approach were highlighted in most of these studies. 6. The Department of Teacher Education,

NCERT, produced workshop and seminar reports in the area of teacher education during late seventies. 7. A handful of studies were conducted on supervision of student-teaching programmes conducted by school principals and teacher educators. No significant differences were observed in the case of supervision done by the principals and supervision carried out by teacher-educators. 8. *Teacher Education Curriculum—A Framework,* brought out by the NCTE (1978), gave a new look to student teaching and evaluation work in the area.

1047. BHATT, M.M., *Kapasan Scheme of Improvement in Teacher Training,* SIERT, Rajasthan, 1966

The study was taken up on the assumption that qualitative improvement in education was possible by preparing better teachers in training schools. A scheme based on this assumption was developed and tried out at the Government Basic Training School, Kapasan.

One hundred and forty-one teacher-trainees were divided into 13 groups, each under the supervision of an instructor. They were given knowledge about the scheme. Besides getting training in planning lessons and teaching, they also organized creative activities and were trained in arts and crafts. Pre- and post-tests were administered.

The study revealed: 1. As a result of the training, there was improvement in lesson planning and standard of teaching. 2. On the basis of pre- and post-tests trainees' knowledge of the content was found to be much improved. 3. They were encouraged to teach in a planned manner.

1048. BHATTACHARJEE, R., *Effectiveness of Microteaching in Developing Teaching Competence, Extension Service Department,* Post Graduate Training College, Shillong, 1981

The objective of the project was to observe the effect of integrating a few selected teaching skills upon the teaching competence of B.Ed. trainees. The hypothesis was: The mean scores on the Indore Teaching Competence Scale (ITCS) and the General Teaching Competence Scale (GTCS) of the group trained for integration of skills through a 'summative model' and the control group would differ significantly.

Four skills (introducing a lesson, fluency in questioning, increasing pupil participation and using the blackboard) were selected. A sample of 20 BEd. trainees was selected from one training college in Shillong, and divided into two equal groups (experimental and control) in terms of age, sex, qualifications, etc. Ahluwaliah's Teacher Attitude Inventory was administered to the groups for measuring the covariate. Each trainee gave two regular lessons in a school setting in his subjects of specialization and his performance was assessed through GTCS and ITCS. The obtained scores were treated as pretest scores. Later, orientation to microteaching skills and adequate practice in the four selected skills were given to the groups in simulated conditions and then treatment was given. Control group trainees gave two regular lessons each, in simulation, with peers acting as pupils and traditional feedback was given. Experimental group trainees were given adequate training in integrating the four teaching skills. They prepared lesson plans on integration of four skills and practised them in a simulated training situation, with peers acting as pupils. A 'summative model' of integrating the skills was followed. Feedback was given by using ITCS and GTCS. Each trainee practised two lessons integrating the four skills. Then trainees of both the groups gave two regular lessons each in a school setting and observation was made by using GTCS and ITCS and no feedback was given. After this, both groups were given practice in real situations. Control group trainees gave two regular lessons in a school situation and traditional feedback was given. Each trainee in the experimental group also gave two regular lessons of similar duration in the same setting and feedback on the basis of both ITCS and GTCS was given. Finally each trainee of both the groups gave two regular lessons and post-treatment observation was made. ITCS and GTCS were used to observe each lesson and no feedback was given. Gain scores of both the groups were found out and group-wise mean and SD of the gain scores were calculated. The significance of difference between mean gain scores was computed by using the t-test to find out the effect of integrating the four selected skills.

The study revealed that training for the integration of the four selected skills under the 'summative model' of integration had contributed to the teaching competence of the experimental group significantly in comparison with the control group.

*1049. BHIDE, L.G., *An Experimental Study of the Impact of the Teacher Education Programme on the Self-Concept of the Pupil-teachers,* Ph.D. Edu., Nag. U., 1987

The objectives of the study were (i) to evaluate the impact of a training programme in the modification of self-concept of pupil-teachers at the end of their training, (ii) to compare the self-concept among pupil-teachers, teachers—untrained and trained—and also postgraduate students at the commencement of the academic session, (iii) to compare the change in self-concept among all participants at the end of the academic session, (iv) to assess the development in self-concept of the trained and untrained teachers in service and postgraduate students at the end of the academic session, and (v) to make suggestions for building of desirable self-concept in pupil-teachers through the training programme.

The sample for the experiment consisted of 304 pupil-teachers from colleges of education of Nagpur, Akola, Bhandara and Wardha in the 1979-80 session. The tools employed for the study were the Inventory of the Teacher's Characteristics constructed and validated by the researcher and a questionnaire also prepared by him. A Pretest Post-test Control Group design was used. The results were analysed by employing t-test and the analysis of covariance.

The findings were: 1. Comparisons among the participant groups did not show accountable changes in self-concept. 2. Intra-group comparisons showed that postgraduate students had the highest degree of development, followed by fresh pupil-teachers, trained teachers and experienced pupil-teachers, in that order. 3. Only untrained teachers had shown increase in variability of performance. 4. Change in self-concept due to training in education was inconsequential. 5. Training could bring modification in self-concept but better results could be produced by modification in the training programme.

1050. BUTALA, M., *A Critical Inquiry into In-service Educational Programmes Conducted by Secondary Teachers Training Colleges of Gujarat State,* Ph.D. Edu., Guj. U., 1987

The objectives of the study were (i) to study the existing position of in-service educational programmes in secondary teachers training colleges classified by types, organization, and factors affecting planning, (ii) to study the usefulness of in-service educational programmes for teachers, and (iii) to study in-service educational programmes according to the assessments of the participants, resource personnel and coordinators.

The technique of stratified incidental sampling was used to select the sample of teacher participants and lecturers who worked as resource personnel. The tools used were questionnaires for the teacher participants, resource personnel, coordinators and honorary directors. In addition to the questionnaires, interview schedules for the principals and coordinators were also used. For the analysis of data, frequency distribution and percentages were used.

Some of the major findings were: 1. During 1980–85 only nine colleges conducted in-service college programmes. 2. On an average, a college conducted about 33 programmes. The maximum number of programmes were conducted in 1982-83 and the minimum in 1984-85. 3. A majority of the teachers were not covered under any in-service programme. 4. Secondary teachers from Bharuch, Banaskantha, Amreli, Bhavnagar, Surendranagar and Kachchha districts were not covered by in-service programmes in a systematic way. 5. In one year, the average time spent by the secondary teachers training colleges for in-service educational programmes was 231.4 hours. Programme-wise, the time allotted was 6.9 hours per programme. 6. The main modes employed in the programmes were lectures, seminars and workshops. No audio-visual aids were employed. 7. The in-service educational programmes concentrated mainly on school curriculum. Very few training colleges focused on areas like educational technology, administration, management and modern trends in education. 8. The programmes of in-service education were planned by the advisory committee of the centre. 9. The teachers were in favour of in-service training programmes being organized on working days only. The second preference was summer vacations. Working on weekends was their last preference. 10. The training colleges did not have adequate facilities for conducting the programmes. 11. Teacher-participants considered an attendance certificate to be a proper incentive for participating in in-service programmes. They, however, desired that such attendance should be considered a necessary qualification for the purpose of promotion. 12. Most of the resource persons felt that a monetary allowance was the best incentive. 13. Co-operation of the staff of the training college and also the

non-teaching staff was considered to be an important factor affecting planning of in-service education. 14. Teacher participants indicated that the major achievement of in-service education was updating the teacher and the content area. The second gain of the in-service programme was developing skills for better teaching of the subject. 15. The in-service programmes were not evaluated systematically. 16. The quality of in-service programmes was rated fairly high by teacher-participants. They felt that the programmes were useful in terms of their professional growth. 17. The coordinators felt the need for special training to enable them to play their role more efficiently. Such a training could be provided by the SIE, Regional College of Education or the NCERT. 18. The coordinators felt that their remuneration was inadequate. They had to spend at least four hours a day for planning and implementing in-service education programmes. 19. The coordinators desired that the post should be exclusive and they should not be asked to work as teachers. The principals, however, felt that the coordinators should continue to work as lecturers. 20. The resource personnel had experience of in-service education programmes in school subjects as well as subjects related to school administration and technology of training. Resource personnel wanted a special training for them. A majority of the lecturers felt that participation as resource personnel should be made compulsory for all the lecturers.

1051. CHADDA, D.K., *Self-Concept of Teachers and Their Emotional Adjustment*, Ph.D. Edu., Kur. U., 1985

The objectives of the study were (i) to estimate the emotional adjustment and the level thereof achieved by teachers at a defined point of time, (ii) to study the self-concept and emotional adjustment of teachers in respect of variables of sex and rural–urban background, and (iii) to find out the extent of the relationship between self-concept and emotional adjustment of teachers as obtained through a self-concept scale and emotional adjustment inventory. In the light of these objectives, the following hypotheses were framed: (1) There is a significant difference between the self-concept scores of male and female teachers and also between rural and urban teachers. (2) There is a significant difference between the emotional adjustment scores of the two sets of teachers, viz., male and female, and rural and urban. (3) There is a significant positive relationship between the self-concept scores and emotional adjustment scores of the two sets of teachers, viz., male and female, and rural and urban.

The sample of the study consisted of 350 teachers of high and higher secondary schools of Haryana state. These teachers were categorized as male or female and rural or urban. The tools used were the Dutt and Chadda Self-Concept Scale and the Emotional Adjustment Inventory. The data were analysed with the help of t-test. Profile analysis of self-concept and emotional adjustment was done with the help of frequency tables.

The findings of the study were: 1. The distribution of the scores of self-concept through profile analysis was not normal for the total group of teachers as well as for the sub-samples of teachers consisting of male, female, rural and urban sub-groups. 2. The profile analysis of emotional-adjustment scores revealed that the distribution of scores was not normal for the total sample of teachers as well as for the male, female, rural and urban sub-groups. 3. There was no significant difference between the self-concept scores of the male–female and rural–urban sub-groups of teachers. 4. No significant difference was observed between the emotional adjustment scores of various sub-groups of teachers, viz., male rural–male urban, female rural–female urban, male rural–female rural, male urban–female urban, urban–rural, and male–female teachers. 5. Self-concept of teachers differed significantly from their emotional adjustment and the same had also been observed in respect of male–female and rural–urban teachers. 6. The value of the coefficient of correlation for self-concept and emotional adjustment scores had not been found to be high and also not statistically significant for various groups of teachers, except for urban male teachers. The coefficient of correlation between self-concept and emotional adjustment scores for the urban male teachers was relatively higher than values of the coefficient of correlation pertaining to other sub-groups. 7. There was a moderate correlation between self-concept and emotional adjustment for the male teachers. 8. There was also a moderate correlation between self-concept and emotional adjustment scores for urban male teachers. 9. There was a moderate coefficient of correlation between the self-concept and emotional adjustment scores for urban teachers. 10. The lowest coefficient of correlation between the self-concept and emotional adjustment scores was for rural male teachers. 11. There was zero or no correlation between scores of self-concept and emotional adjustment for female teachers. 12. There was a low magnitude of correlation between self-

concept and emotional adjustment scores of the total sample of 350 teachers. 13. The value of correlation between self-concept and emotional adjustment scores for rural female teachers was −0.06. 14. There was no correlation between self-concept and emotional adjustment scores for the total group of rural teachers.

1052. CHATHLEY, Y.P., *An Experimental Study of the Teaching Competency at Macro-level as a Function of Training in Micro-skills among the Prospective Secondary School Teachers in relation to the Integration of Skills and Subject Area*, Ph.D. Edu., Pan. U., 1984

The objectives of the study were (i) to measure the gain in general teaching competence before and after training in micro-skills, before and after training in integration, before training in micro-skills and after training in integrated skills, (ii) to study the quantitative and qualitative improvement in the use of each skill as a result of training in microteaching, (iii) to study the differences in qualitative gain across different 'sets' within any specific strategy of integration, (iv) to find out the effect of different strategies of integration of skills on the gain in the general teaching competence of trainees, (v) to measure the differences in quantitative and qualitative gain in the subject areas of physical sciences, social sciences and languages at all the stages of training in microteaching and mesoteaching, and (vi) to find out the differences in gain in male and female trainees at all stages of training in the microteaching and mesoteaching.

In this study, the factorial experimental design was followed. There were three factors, namely, subject area, strategy for integration of skills and the sex of the trainee. The subject area varied in three ways—physical sciences, social sciences and languages; the strategy of integration also varied in three ways—integration of skills in twos, in fours and in sixes respectively. Thus (3×3×2) three ways factorial design was followed, having six categories of subject (three subject areas and two sexes). For each category of subjects, initially a sample of 18 subjects was taken, which was later reduced to 15 subjects, keeping in view sample mortality. Thus the final sample consisted of 90 trainees comprising 45 males and 45 females, and 30 from each subject area of physical sciences, social sciences and languages. Further, from each of these six combinations having 15 trainees, five were drawn for integration strategy in twos, five for integration strategy in fours, and five trainees for integration strategy in six. The data were collected with the help of the Baroda General Teaching Competence Scale, the Observation Schedules for skills of introducting the lesson, fluency of questioning, probing questioning, skill of reinforcement, explaining, stimulus variation, illustration with examples, recognizing attending behaviour, black-board use, increasing pupil participation, silence and non-verbal cues and skill of achieving closure, and the Observation Schedule for integrated skills.

The findings of the study were: 1. There was a significant improvement in the general teaching competence of trainees as a result of training in micro-skills. 2. There was a further improvement in general teaching competence of trainees as a result of training in integrated skills. 3. Among the trainees in physical sciences, the tetraclustered and hexaclustered strategies were more effective, while among the trainees in languages the three strategies were equally effective in improving their general teaching competence. Among the social sciences trainees, the tetraclustered strategy was more effective than the biclustered and hexaclustered strategies in improving general teaching competence. 4. There was no significant difference in the gain in general teaching competence between male and female trainees as a result of training in integrated skills. 5. There was a highly significant improvement in general teaching competence as a result of training both in micro-skills and integrated skills. 6. The trainees who were trained through the biclustered strategy of integration did not show any difference in overall gain in general teaching competence across subject areas, while in the case of those who were trained through the tetraclustered and hexaclustered strategies of integration, the trainees in physical sciences gained more in overall general teaching competence than their counterparts in social sciences and languages. Further, the female trainees who took up languages scored more than their male counterparts in overall gain in general teaching competence. 7. There was no significant difference in the quantitative gain scores across subject areas for the skills of fluency, questioning, probing questioning, stimulus variation, recognizing attending behaviour, silence and non-verbal cues and achieving closure. 8. For skill of explaining, the trainees in physical sciences gained quantitatively more than the trainees in social sciences and languages. 9. For skill of introducing a lesson, reinforcement and black-board use, the trainees in physical sciences gained quantitatively more than the

trainees in socal sciences and languages. 10. For skill of fluency in questioning and achieving closure, the overall quantitative performance of male trainees was significantly better than that of their female counterparts, while for skill of black-board use, the quantitative gain was more for female trainees. 11. Qualitative analysis revealed that for almost all the 12 skills under study, the trainees in physical sciences gained significantly more than the trainees who took up the social sciences and languages. 12. The male trainees having physical sciences gained qualitatively more than their female counterparts. The female trainees in languages gained significantly better than the male ones. 13. For the biclustered strategy of integration, the subject areas and sex variation had no impact on the performance of trainees. 14. For the tetraclustered strategy of integration, the trainees in physical sciences were able to integrate skills better in a set where skills of introducing a lesson, fluency in questioning, probing questioning and reinforcement were integrated. 15. Sex differences had no impact on performance of trainees being taught through the tetraclustered strategy of integration. 16. For the hexaclustered strategy of integration, the subject area, sex and set had no impact on the integration of skills.

1053. DAS, R.C., *Effectiveness of Teacher-Training in Reducing Educational Wastage,* SIE, Assam, 1979

The main aim of the study was to find out the impact of teacher-training on educational wastage and stagnation in primary schools.

A field survey was conducted. As many as 743 schools from representative rural district were covered. Amongst them the number of single two-teacher and multiple-teacher schools were 247 (179 schools had trained teachers), 284 (171 schools had both teachers trained and 102 schools had one trained teacher), and 212 (132 schools had a majority trained, 58 schools had a majority untrained and 22 schools had an equal number of trained and untrained teachers) respectively. The extent and rate (classwise and total) of wastage and stagnation at the primary level of education in single-teacher schools with trained and untrained teachers, two-teacher schools with both trained, both untrained and one trained teacher, and multiple-teacher schools with a majority trained, and a majority untrained teachers were found out separately. The values of criterion variables between single-teacher, two-teacher and multiple-teacher schools were compared.

The major findings were: 1. The training of teachers at the primary level had no significant contribution towards reduction of wastage and stagnation in schools with multiple-class teaching. Training of teachers had no significant impact on the system of education at the primary stage. 2. In the case of multiple-teacher schools, when a majority of teachers were trained, the impact of training did contribute effectively towards checking wastage. 3. The rate of stagnation in multiple-teacher schools with a majority of trained teachers was 60.71 per cent against 56.50 per cent for schools with a majority of untrained teachers. 4. The rate of stagnation for the schools with one trained and one untrained teacher was the lowest among the three categories of two-teacher schools.

1054. DASH, J., *An Investigation into the Development of Teacher Education Programme in Orissa with reference to Motivation, Cost Structure and Quality,* Ph.D. Edu., Utkal U., 1985

The objectives of the inquiry were (i) to study the factors that motivated the authorities to set up private training colleges, (ii) to study the factors that prompted the trainees to pursue the B.Ed. Course, (iii) to ascertain the sources of finance, private costs and unit cost of the B.Ed. programme, and (iv) to determine the quality of the B.Ed. programme.

The study was delimited to Orissa state during the year 1981-82. The data were collected from all the B.Ed. colleges of Orissa state, except the Regional College of Education, Bhubaneswar. The sample respondents were 12 principals, 1200 trainees, 120 teacher educators and 20 governing body members of private colleges. The questionnaires prepared by the investigator were used for data collection. The investigator collected data through personal visits to the training colleges. Descriptive statistical techniques were used for data analysis.

The findings of the study were: 1. The private training colleges were established mostly with commercial motives and parochial feelings. 2. Inadequate physical facilities, inefficient teachers, poor quality of trainees, unsuitable practice teaching and undue expansion of training colleges was reflected in the poor status of teacher-training programmes in the state. 3. Faulty admission procedures for trainees and their negative attitude towards the teaching profession were other indica-

tors of poor performance of the training programme. 4. The ratio of graduate trainees to postgraduate trainees was 19:1 in private training colleges. 5. There was no uniformity in the B.Ed. curriculum of the three universities of the state. 6. The provision of in-service education of teachers was inadequate. 7. The lecture method dominated in teacher-training programmes. 8. The pupil–teacher ratio in government colleges was 9:1 and in private colleges was 23:1. 9. On the whole, 16 per cent of the trainees of government colleges and 0.9 per cent of the trainees of private colleges got financial help from the government. 10. The unit private cost in private colleges was much higher than that in government training colleges. Trainees of private institutions paid tuition fee and capitation fee, unlike their counterparts in government training colleges. 11. The private training colleges were mainly financed by the contributions of the trainees.

1055. DAVE, C.S., *Relative Effectiveness of Microteaching Having Summative Model of Integration versus Miniteaching Model in terms of General Teaching Competence, Teacher Attitude towards Teaching, Pupil Liking and Pupil Achievement*, Ph.D. Edu., DAVV, 1987

The objectives were (i) to compare the effectiveness of the summative model of integration, miniteaching model of integration and traditional model of integration in terms of general teaching competence (GTC), (ii) to compare the effectiveness of the summative model of integration, miniteaching model of integration and traditional model of integration in terms of attitude of teachers towards teaching (TATT), (iii) to compare the effectiveness of the summative model of integration, miniteaching model of integration and traditional model of integration in terms of pupil achievement, and (iv) to compare the effectiveness of the summative model of integration, miniteaching model of integration and traditional model of integration in terms of pupil liking. The hypotheses were: (1) There is no significant difference in the mean scores of GTC of the student-teachers trained through the summative model of integration (SMI), miniteaching model of integration (MMI) and traditional model of integration (TMI) at occasion II (post-test I) and occasion III (post-test II). (2) There is no significant difference in the mean scores of TATT of the student-teachers trained through MMI, SMI and TMI groups, both at occasions II and III. (3) There is no significant difference in the pupil liking for their teachers when trained through MMI, SMI and TMI groups at occasion III. (4) There is no significant difference in mean achievement scores of pupils taught by student-teachers trained through MMI, SMI and TMI at occasion III.

The sample comprised 30 student-teachers selected randomly and of 180 student-teachers admitted during the 1983/84 academic session in the Department of Education, DAVV, Indore. All pupils taught by the student-teachers formed the sample. It comprised 402 pupils. The pretest post-test parallel group design with one control group was followed. The GTC, TATT pupil achievement and pupil liking were the dependent variables. The General Teaching Competence Scale developed by Passi and Lalitha was used for measuring GTC. The inter-observer reliability coefficients of the scale ranged from 0.85 to 0.91. TATT was measured with the help of the Teacher Attitude Inventory developed by Ahluwalia. The split-half reliability was found to be 0.80. The Pupil Liking Scale by Malhotra and Passi was used for measuring pupil liking. The test-retest reliability of the scale was 0.95. A pupil achievement test was developed for measuring pupil achievement. The reliability coefficients for test-retest and split-half were 0.92 and 0.90 respectively. The data were analysed by computing mean, SD and analysis of covariance, followed by t-test.

The findings were: 1. The MMI was found superior to the SMI and TMI in terms of development of general teaching competence in student teachers. 2. The teachers belonging to the MMI group did not attain a significantly favourable attitude towards teaching in comparison with those belonging to the SMI group and TMI group at occasion II (post-test I). 3. The teachers belonging to the MMI group produced a significant favourable attitude towards teaching in comparison with the SMI and TMI groups at occasion III (post-test II). 4. There was a significant effect of treatment MMI in comparison with SMI and TMI treatments on achievement of pupils. 5. Pupils' liking of their teachers was not effected by variation of treatment of teacher preparation. Instead of the present training treatment given to teachers, some other personality factors might be influencing pupils' liking of their teachers.

***1056.** DEO, D.S., *To Study the Practical Programme other than Practice Teaching in Teacher Education Institutions*, Ph.D. Edu., Del. U., 1985

The objectives of the inquiry were (i) to study the role of

practical work (besides practice teaching) in a secondary teacher education programme, (ii) to survey the nature and type of practical work, other than practice teaching, that was being given to student-teachers in secondary teacher education institutions in Delhi, (iii) to study how these programmes of practical work were actually implemented, (iv) to survey the perception of student-teachers about the objectives of such practical work, (v) to find out how these objectives were achieved and the reasons for non-fulfilment to the desirable extent, and (vi) to suggest an effective scheme of practical work.

The sample of the study consisted of 350 student-teachers and 55 educators selected randomly from three teacher-education institutions of Delhi. The sample subjects responded on a locally prepared questionnaire having questions about different types of practical work, their objectives, and working in the college system, etc.

The findings of the study were: 1. Most of the student-teachers felt that 'lack of time' was a major factor in not being able to achieve the objectives of the practical programme. 2. The teacher educators opined that lack of sufficient opportunities and lack of time were the causes for non-fulfilment of the objectives of practical programme. 3. The student-teachers felt that there could be a large number of practical programmes in the colleges of education, but due to lack of time, lack of proper guidance, lack of sufficient opportunities and lack of feedback from the teachers they were not able to achieve the objectives. 4. For work experience and socially useful productive work, sufficient time and guidance were not provided to students by the teachers and also there was no provision for them in the time-table. 5. The student-teachers were not provided facilities for training in preparation of some visual and audio aids. 6. Physical education and participation in games and sports were taken casually by student-teachers. 7. Excursions for student-teachers were not arranged by the institutions. 8. Social work had not been an integral part of the teacher-education programme. 9. Cocurricular activities were not organized according to the interests and needs of the students. 10. Opportunities for talented students were not provided in the areas of art, library, dramatic and other cultural areas. 11. There was no provision for psychology practicals which would give student-teachers opportunities for application of theories of learning.

1057. DIXIT, M., *A Comparative Study of Job Satisfaction among Primary School Teachers and Secondary School Teachers*, Ph.D. Edu., Luc. U., 1986

The study was designed (i) to measure job satisfaction among primary and secondary school teachers, and (ii) to observe the effect of sex, teaching experience and medium of instruction on the level of satisfaction with their profession.

The sample for the study consisted of 300 primary and 300 secondary school teachers working in Lucknow. The data regarding job satisfaction were collected with the help of a Likert-type scale devised by the investigator.

The main findings of the study were: 1. In Hindi-medium schools, primary school teachers were more satisfied than secondary school teachers. 2. In English-medium schools the level of job satisfaction among primary and secondary school teachers was the same. 3. Female teachers were more satisfied than male teachers both at the primary and the secondary levels. 4. At the primary level, the group seniormost in age was most satisfied and the middle age-group was least satisfied. 5. Among the secondary school teachers, those with greater length of service were more satisfied. 6. Among the primary school teachers, those teaching in Hindi-medium schools were more satisfied than those teaching in English-medium schools. 7. Among the secondary school teachers, those teaching in English-medium schools were more satisfied than those teaching in Hindi-medium schools.

1058. DOGRA, N., *Effect of Training in Concept Development Strategies upon Classroom Communication Behaviour Patterns*, Ph.D. Edu., Pan. U., 1986

The objectives of the study were (i) to determine if teachers could be trained in Content Analysis System (CAS), (ii) to explore the cognitive style of students and teachers, (iii) to study the discriminatory power of CAS to identify a content development sequence, (iv) to determine the effect of training of teachers in the use of elements and sequence of strategies of content development through classroom communication behaviour and changes in the communication behaviour through content development, (v) to describe some of the relationships of content development characteristics.

The method of enquiry adopted in the study was a non-equivalent control group quasi-experimental design, where classroom behaviour of sample subjects was observed and coded through the Content Analysis System six times. The first observation of experimental and control group was recorded without training, the next five observations were recorded following training in Content Analysis System (CAS) to the experimental group and traditional training to the control group. The sample consisted of 24 women student-teachers of a college of education of Ambala City of Haryana State. The sample was divided randomly into two groups, the experimental group having 16 subjects and the control group having eight subjects. Both the groups taught science to the 9th and 10th classes. Analysis of classroom communication behaviour was undertaken in terms of elements and relationship among elements. The elements were limited to 12 categories of communication which were identified and defined by the Content Analysis System (Hill, 1969). The 12 categories of CAS were background, naming, defining, general example, abstract example, concrete example, negative example, personal example, amplification, digression, vivid, and miscellaneous. The analysis was done through five sets of gain scores obtained by subtracting pretest measures from post-test measures for six different observations.

The study revealed: 1. The student teachers trained in the use of the Content Analysis System showed a significant increase in defining, concrete examples, negative examples, amplification and vivid categories. Simultaneously, they showed a decrease in the use of background, naming, general examples, abstract examples, personal examples, digression and miscellaneous categories. 2. The student-teachers trained in CAS presented the content by using different types of examples, by enlarging the focus of attention, by relating or contrasting two or more things. 3. The experimental group used relationships involving the amplification element at a faster rate than the control group. 4. As a result of training in CAS, student-teachers showed an increase in the use of most of the relationships, which were more emphasized during training. They showed a decrease in the use of those relationships which were expected to show a decrease in their use. 5. CAS had discriminatory power to identify content development. 6. Matrix displays of category data were quite useful as a means of providing feedback to a teacher concerning his strategies for the organization of content. 7. Teachers trained in the analysis of content communication could better engage themselves in self-evaluation.

1059. DONGA, N.S., *A Study of the Adjustment of Trainees of Teachers Training Colleges in Gujarat*, Ph.D. Edu., Sau. U., 1987

The objectives of the enquiry were (i) to study adjustment differences among different groups according to the different levels of cultural and educational variables, viz., sex, marital status, age, teaching experience, level of teaching experience, educational qualification, faculty, residential accommodation, social status, economic status and status in family of teacher-trainees of Gujarat State, (ii) to observe the effect of interaction on income, social status and residential accommodation on adjustment, (iii) to observe the effect of interaction of faculty, teaching experience and sex on adjustment, (iv) to observe the effect of interaction of age, marital status and educational qualification on adjustment, and (v) to study the adjustment differences among the different groups according to different levels of teacher aptitude, self-concept and academic achievement. To study the relationship of the different variables with adjustment, 40 hypotheses were built.

A cluster sample of 1635 student-teachers, 979 male and 659 female, from different universities of Gujarat State, constituted the sample for the study of cultural and educational variables. In the same way, a cluster sample of 419 teacher-students from teacher training colleges of Saurashtra University was taken for the study of cognitive and personality variables. An adjustment inventory, adopted by researcher from Rotter's FSB, was administered to 1635 teacher-trainees. The Teacher Aptitude Test by Upadhyay and the Self-Concept Inventory by Desai were administered to 419 student-teachers. The tools had high reliability and validity. Critical ratio, analysis of variance, coefficient of correlation, test of linearity and multiple correlation techniques were used for statistical analysis.

The major findings were: 1. Female trainees were more adjusted than male trainees. 2. There was no significant effect of marital status, level of education, status in family and age on adjustment. 3. Socially backward trainees were more adjusted than non-backward trainees. 4. Trainees of different colleges differed significantly in adjustment. 5. Trainees coming from the science faculty had the lowest adjustment. 6. The middle-income group was most maladjusted. 7. The group having teaching experience of two years was more maladjusted than the others. 8. The trainees having teaching experience in primary school were highly adjusted. 9. Trainees who resided in hostels were highly adjusted.

10. There was no significant effect of interaction between faculty, teaching experience and sex upon adjustment. 11. There was no significant effect of interaction between age, marital status and educational qualification upon adjustment. 12. There was no significant effect of interaction between income, residential accommodation and social status upon adjustment. 13. There was no significant effect of teacher aptitude and self-concept regarding 'me as a student' upon adjustment. 14. Three different groups, according to levels of self-concept, differed significantly. 15. There were significant correlations between adjustment and five different elements of self-concept. 16. The multiple coefficient of correlation of adjustment with two elements 'teachers' and 'syllabus' of self-concept was 0.3394. It was significant at 0.01 level. 17. There was no significant effect of adjustment upon academic achievement.

1060. DUBEY, RAJESHWARI, *Study of the Personality Traits of Pupil-Teachers towards Successful Integration of Instructional Skills,* Ph.D. Edu., Bhopal U., 1986

The objectives of the study were (i) to identify those male and female teacher trainees who obtained high and low scores on the component of Integration of Instructional Skills (IIS), as measured by the Indore Teaching Assessment Scale (ITAS), in terms of their personality traits, intelligence level and attitude towards teaching, (ii) to determine the relationships between the scores on different personality factors of the teacher-trainees and their scores on the component of IIS, (iii) to determine the relationship between the scores of teacher-trainees on intelligence test and IIS components, (iv) to determine the relationship between the scores of teacher trainees on intelligence test and attitude towards teaching scale, (v) to find out the interrelationships between scores on the various personality factors, intelligence and attitude towards teaching of male and female trainees scoring high and low on the IIS components, and (vi) to develop specification equations for the prediction of IIS ability of the student teachers—males and females.

The sample consisted of 241 B.Ed. teacher-trainees (97 males and 144 females), who were in the age group of 22-26 years. The total sample was divided into four sub-samples—males and females scoring high and low on the IIS component. The tools used for the study were: A Hindi Version of Cattell's 16PF Questionnaire Form 'A' developed by Kapoor (1970), the Culture Fair Intelligence Test Form 'B' Scale--3 adapted by Rao (1965), Ahluwalia's Teacher Attitude Inventory (1974) and the Indore Teaching Assessment Scale developed by Passi, Deshmukh and Sharma (1980). The statistical techniques used for the treatment of data were the product-moment coefficient of correlation and specification equations which were developed on the basis of beta weights and intercept constants.

The major findings of the study were: 1. Significant personality traits of the males scoring high on the IIS component as identified on the basis of the investigation were: they were suspicious, self-opinionated and hard to fool (L+) and experimenting, critical, liberal, analytical. 2. Females scoring high on the IIS component were also found to have the L+. factor. 3. Males and females scoring low on the IIS component were found to be more intelligent; males were more reserved, detached, critical and cool; whereas females were conscientious, preserving, rule-bound and tolerant of traditional difficulties, respecting established ideas. 4. The correlation between intelligence test scores and scores on the component of integration of skills was found to be significant but it was negative in the case of the male sample. No relationship between these two variables was found for the female sample. 5. No significant correlation was found between the scores on attitudes towards teaching and scores on the IIS component for the male as well as female samples. 6. Male teachers scoring high on the IIS component were practical and careful and showed favourable attitudes towards teaching. 7. Females scoring high on the IIS aspect were outgoing, warm-hearted, apprehensive, worrying, troubled, shy, restrained, tenderminded, shrewd, calculating and conservative. They had a favourable attitude towards teaching. 8. Male teachers scoring low on IIS were practical and careful, shrewd, calculating and having favourable attitude towards teaching. 9. Female teachers scoring low on IIS were apprehensive, worrying and troubled, had favourable attitude towards teaching. 10. No significant relationship was found between intelligence and attitude towards teaching. 11. Multiple correlations (R) for the male and female sub-samples scoring high on the IIS component were found to be 0.61 and 0.41 respectively and for those scoring low on the IIS component the Rs were found to be 0.75 and 0.71 respectively.

*1061. DWIVEDI, J., *A Critical Study of Emoluments, Welfare Schemes and Promotional Avenues for Teachers in Different States of India,* National Commission on Teachers-I, Allahabad, 1983

The objectives of the investigation were (i) to study the grades of teachers at primary, middle and secondary level in India, (ii) to study the minimum qualifications of schoolteachers, (iii) to study the scales of pay of school-teachers, and (iv) to study the allowances provided to them.

Data were collected through mailing information blanks to school authorities of different states of India. The final sample included 32 authorities, i.e., eight field advisers, eight secretaries and chairmen of Boards of Secondary Education, and 16 heads of teacher organizations. Further, documents on planning, monitoring and statistics of the Department of Education of the Government of India were treated as the sources of data. Data were collected for 26 states and Union territories of the country. Data were analysed in descriptive form.

The main findings of the study were: 1. Pay scales were linked with the cadre and level at which the teacher was placed. Pay scales also varied on the basis of prescribed minimum academic qualification and professional training of the teachers. Teaching experience and additional higher academic qualification were also considered as additional factors in prescribing pay scales. 2. Class obtained in the examination of the basic qualification had been made a point for consideration of pay scales. 3. Differences were witnessed from state to state with regard to the positions of head teachers of primary schools and vice-principals in secondary schools. 4. The scheme of selection grade had been introduced to overcome the feeling of stagnation among teachers. There was no uniform scale of pay for teachers all over the country. 5. The states differed from each other with regard to provision of allowances. By and large, the allowances were admissible on the basis of a fixed percentage of the basic pay of the employee, ranging from 3.5 per cent to 47.5 per cent subject to a maximum fixed amount. In some of the states, a fixed amount was given instead of a percentage of basic pay. 6. The welfare scheme included group insurance, scholarship to the wards of teachers, cash merit award to able and good teachers, house construction loan, loan to purchase conveyance, family benefit schemes, financial assistance for teacher welfare fund, and national foundation for teachers' welfare. Diversity in the form, nature and amount of these schemes was prevalent among various states. 7. The conditions, varying in form and nature from state to state, were inferred as: seniority, seniority cum merit, 25 per cent of the existing vacancies were reserved for open and direct recruitment while the rest 75 per cent were reserved for working teachers. In some states, the percentage was 50, and required experience of work for a certain minimum period along with the requisite academic qualification for the higher post. The variances and disparities were attacked by the teachers through their organizations which were well reflected in the growing demand for national uniform pay scales and welfare schemes.

1062. EKBOTE, E.R., *Development of a Strategy for Integration of Skills in Teacher Training,* Ph.D. Edu., MSU, 1987

The objectives of the study were (i) to develop a strategy for integrating the teaching skills acquired through microteaching practice, (ii) to determine the validity of the integration strategy in terms of content validity, student-teachers' performance in classroom teaching and their reaction to the strategy, and (iii) to study the effectiveness of the integration strategy in relation to the following variables pertaining to the student-teachers: a. qualification, b. teaching experience, c. academic achievement, d. skill comprehension, e. availability of study time, f. attitude towards teaching, and g. attitude towards microteaching. The hypotheses of the study were: (1) There will be no significant difference between the pre-integration performance and the post-integration performance of student-teachers in classroom teaching. (2) The reaction of the student-teachers to the various components of the strategy will be equivocal. (3) There will be no relation between the improvement in the classroom teaching performance of student-teachers through the strategy and the variables pertaining to the student-teachers, viz., qualification, teaching experience, academic achievement, skill comprehension, availability of study time, attitude towards teaching, and attitude towards microteaching.

The study was conducted with a purposive sample of 13 student-teachers of a regular B.Ed. programme having science as one of their special methods and English as the medium chosen for practice teaching. The study involved a single group pretest post-test design. Before the pretest there was a general treatment comprising simulation practice teaching through the Indian Standard Model of Microteaching for seven skills. The ex-

perimental treatment included integration practice using instructional material, instructional techniques like discussion, lecture, simulated practice, classroom practice and field work as its components. The content units of the strategy were use of questioning and explaining, use of blackboard, use of visual media, reinforcement personalization, inquiry approach, variables influencing classroom teaching, diagnostic and remedial practices and organization of cocurricular activities related to classroom teaching. The pretest and post-test were conducted by observing two lessons of each student-teacher in a real classroom using the following instruments: (i) Baroda General Teaching Competence Scale developed by Passi, *et al.* (ii) Teaching Effectiveness Comprehensive Scale developed by the investigator. (iii) Skill Interaction Analysis Category System developed by the investigator (inter-observer reliability 0.81). The other tools used were the Skill Comprehension Paper-Pencil Test developed by the investigator, Ahluwalia's Teaching Attitude Inventory, and the Attitude Towards Microteaching Programme—a Rating Scale developed by Passi, *et al.* The analytical technique used was mainly analysis of covariance.

The major findings were: 1. The integration strategy was found effective in terms of the improvement it made in the student-teacher's performance in classroom teaching. 2. All the seven variables pertaining to the student-teachers, viz., qualification, teaching experience, availability of study time, academic achievement, skill comprehension, attitude towards teaching and attitude towards microteaching influenced the improvement in classroom teaching performance through the strategy.

The outcome of the study is a fully tried-out and validated strategy for integration of teaching skills with instructional material and other software. They have been developed taking into consideration the organizational constraints in a typical teacher-training programme in India. Hence, the study provides a workable model for skill integration which can be incorporated in the practice teaching programme of any Indian teacher training institution.

1063. GANGAIAH, N., *A Critical Study of English-teacher Education in Andhra Pradesh,* Ph.D. Edu., Kar. U., 1980

The objectives of the study were (i) to evaluate the present preservice and inservice professional training programmes for graduate English-teachers in Andhra Pradesh, and (ii) to suggest modifications for the improvement of English-teacher education in Andhra Pradesh.

An English test paper to test the entry achievement of B.Ed. trainees was constructed and administered to 423 trainees in nine colleges who opted for English method. Information relating to the present practices in allowing a trainee to opt for English method in the B.Ed. course was collected from 10 out of 15 principals through a questionnaire. Another questionnaire was prepared to collect information from the lecturers in English method on their professional preparation, teaching methods being used by them, their in-service education needs, etc. Eight of 11 lecturers responded to this questionnaire. In all, 250 trainees responded to the scale prepared to evaluate the effectiveness of the English methods course. Another questionnaire was prepared to collect information regarding the in-service programmes at the HSELTCs (High School English Language Teaching Centres) from the tutors of the centres. Eight of 15 working tutors responded to the questionnaire. The syllabuses and responses to the test, scale and questionnaire were subjected to analysis.

The major findings were: 1. The performance of the majority of trainees on the English test was far from satisfactory. 2. No performance, either in terms of actual linguistic abilities or in terms of marks in English in the degree examination, was a criterion for admission into B.Ed. English method courses. 3. The instructors followed mainly the lecture method in teaching, were ignorant of their in-service education needs and were in favour of radical changes in the English-teacher education programmes. 4. B.Ed. trainees had not achieved most of the expected outcomes of the course. 5. The proficiency of the trainees was not taken care of in the training programmes. 6. The in-service programmes were not need-based and the periods of training were not adequate to improve the teachers' competence in English.

1064. GARG, N.K., *A Study of Teachers' Professional Responsibility in relation to Administrative Styles and Organizational Climate at Secondary Level,* Ph. D. Edu., Mee. U., 1983

The objectives were (i) to study the extent of a sense of professional responsibility present in the teachers of secondary schools in the context of the type of school, boys-girls, government-private, rural-urban, large-

small, (ii) to study how teachers' professional responsibility was related to administrative styles of principals/headmasters, and (iii) to study how teachers' professional responsibility was affected by the organizational climate of the schools. The hypotheses were: 1. Teachers' professional responsibility is normally distributed over the total sample of the teachers included in the study. 2. There is a significant difference between the degree of professional responsibility of the teachers of boys and girls schools. 3. There is a significant difference in the degree of professional responsibility found in the teachers of government and private schools. 4. Rural-urban location of a school is differentially related to teachers' professional responsibility. 5. There is a significant difference in the degree of professional responsibility found in teachers of large and small schools. 6. Teachers' professional responsibility is related to the administrative styles of the principals. 7. Teachers' professional responsibility is related to the organizational climate of schools.

The sample comprised 870 teachers and 48 principals of secondary schools from UP state. A Teachers' Professional Responsibility Schedule (TPRS) was developed by the investigator. Its split-half reliability coefficient was 0.89. A Principal's Administrative Style Questionnaire developed by A. Bhatnagar was used to measure principal's administrative style. The Organizational Climate Questionnaire (OCQ) developed by M. Bhatnagar was used to measure organizational climate. The reliability was established by using the KR-21 formula and coefficients ranged from 0.79 to 0.87. The data were analysed with the help of the Kolmogorov-Smirnov Test.

The findings were: 1. The degree of teacher's sense of professional responsibility was less in some secondary schools while it was more in others. 2. A teacher's sense of professional responsibility was not normally distributed in the sample. 3. Teachers of girls schools were significantly more responsible professionally than teachers of boys schools. 4. The type of management of the institution was associated with a teacher's sense of professional responsibility. 5. The level of sense of professional responsibility of teachers of urban schools was found to be significantly higher than that of the teachers of rural schools. 6. The size of a school was not a contributing factor to a teacher's professional responsibility. 7. The principal's administrative style was not linked with the level of a teacher's sense of professional responsibility. 8. Teachers in 'high support and satisfaction' climate were found to be more responsible professionally than teachers in 'low support and satisfaction' climate schools. In the same way, teachers in 'high thrust' climate schools were found to be more responsible than teachers in 'low thrust' climate schools. Teachers in 'high discipline and control' climate schools were also found to be more responsible than teachers in 'low discipline and control' climate schools. Teachers in schools with 'low lack of facilities' climate were also found to be more responsible than teachers in schools with 'high lack of facilities' climate. 9. The remaining dimensions of organizational climate, namely, disharmony, hindrance, authoritarianism, democracy and freedom and academic emphasis were found to have no significant relationship with a teacher's sense of professional responsibility.

1065. GEORGE, P.G., *Role Expectations, Role Performance and Training Needs of Teachers of English in the Secondary Schools of Kerala*, Ph.D. Edu., Ker. U., 1982

The main objectives were (i) to describe the role expectations of teachers of English at the secondary school level held by different rating groups—teachers of English, language experts, language teachers (teaching languages other than English), subject teachers, parents and teacher trainees, (ii) to describe the role performance of teachers of English as assessed by different rating groups, (iii) to measure the relationship between role expectations and role performance of teachers of English for different roles and for different rating groups, (iv) to identify and compare the extent of gaps between role expectations and role performance for each of the roles for different rating groups, (v) to identify causative factors for gaps between role expectations and role performance for each of the roles studied, and (vi) to find out, for each of the roles, training needs for the closure of gaps, if any.

The sample for the study consisted of 320 secondary school teachers, 40 language experts, 100 parents, 100 teacher-trainees and 200 secondary school pupils. The tools and techniques used were rating scales to rate teacher expectations and performance, observation and interview schedules. The statistical techniques employed were calculation of means and standard deviations, testing of the significance of difference between means for correlated and uncorrelated groups, the product-moment coefficient of correlation, the rank order coefficient of correlation and the chi-square test.

The main conclusions were: 1. The expectations from teachers of English as perceived by the rating groups were very high, for professional, personal and academic roles and moderate to high for social role. 2. The different rating groups showed differential patterns in their ratings of role expectations and role performance. 3. The role performance rating scores were significantly lower than the role expectation rating scores for all rating groups. 4. The main difficulties experienced by teachers in improving their role performance were preoccupation with domestic affairs, the single optional system at the B.Ed. course, poor standards in English of pupils, inadequate library facilities and heavy workload. 5. Intensive training for teachers of English at the B.Ed. level and in-service courses for teachers were necessary to close the gap between role expectation and role performance. Lengthening of the B.Ed. training course, introduction of modern methods in teacher training, a course in general English, training in evaluation techniques and in the use of audio-visual aids are the main educational implications.

1066. GOGATE. S.B., *A Study of Educational Qualifications of Teachers of Std. X from Selected Districts of Marathwada,* IIE., Pune, 1984

The objectives of the study were (i) to find out whether the secondary school teachers had offered the subjects they had been teaching at Std. X at their first degree, as also in the training college, and (ii) to find out whether there was any correlation between this and the SSC results of the school.

All secondary schools from Satara, Yeotmal and Nanded Districts of Maharashtra were undertaken for study. During 1980-81 the number of such schools in these districts was 248,163 and 147 respectively. More than 90 per cent of the schools responded to the questionnaire sent out by the researcher. A questionnaire was sent to headmasters of all the schools seeking complete educational information concering every teacher teaching at Std. X in their schools. The SSC results of the schools for that year were also collected.

The major findings were: 1. In Satara, Yeotmal and Nanded districts, the percentage of teachers teaching a particular subject at Std. X and having offered the same subject either at the first degree or the second degree varied for different subjects. It ranged from 49.8 to 66.81 per cent for all the subject teachers taken together. 2. The coefficient of correlation between the percentage of teachers who had offered, at the first/ second degree, the subject they had been teaching at the SSC (X) and the result of the school of SSC (X) ranged from 0.7049 (Nanded) to 0.9860 (Satara). 3. The percentage of teachers teaching a particular subject at class X and the number of teachers offering that subject at B.Ed. level in private rural schools ranged from 16.09 (Yeotmal) to 31.26 (Satara). The corresponding percentages for Zilla Parishad's rural schools were 7.02 (Yeotmal) and 15.99 (Nanded). In private urban schools these percentages were 12.90 (Yeotmal) and 25.92 (Satara). In Zilla Parishad urban schools of Yeotmal, this percentage was 11.64.

1067. GOGATE, S.B., *Teacher-education in Marathwada—A Case Study Prepared for the Project, 'A Study of Regional Imbalance in Vocational Education and Manpower Planning in Marathwada',* Swami Ramanand Teerth Research Institute, Aurangabad, 1985

The objectives of the study were (i) to assess the teacher-training facilities in Marathwada, (ii) to assess the need of teachers at various levels of education in Marathwada, (iii) to assess the need of trained teachers during the next decade in Marathwada, (iv) to study the shortcomings of the present courses and to suggest remedial measures, and (v) to study how training colleges could participate in in-service training along with the normal training of teachers.

All colleges conducting D.Ed. and B.Ed. courses formed the sample for this study. During 1984-85, Marathwada had seven colleges of education conducting B.Ed. courses. Some had M.Ed. classes also. These colleges were aided by government. In addition, there were three colleges conducted on a no-grant basis, teaching B.Ed. courses. Similarly there were 20 junior colleges of education teaching D.Ed. courses. In addition, 17 new institutions were allowed to conduct D.Ed. courses on a no-grant basis. Efforts were made to collect information from all the institutions. However, it was possible for the researcher to collect information only from those institutions which were aided and had been receiving grant-in-aid from government.

Questionnaire was the main tool of collecting information from colleges. In addition, the researcher personally went round all the districts of Marathwada and visited almost all the colleges of education conducting B.Ed. and M.Ed. courses.

The major findings were: 1. Diploma in Education (D.Ed.), a two-year course, was the training qualification prescribed for pre-primary and primary school teachers in Maharashtra. B.Ed., a one-year course, was prescribed for secondary school teachers. Diploma in Higher Education (DHE) was prescribed for a few years for Junior College (XI and XII) teachers. No training qualification was prescribed for college and university teachers. A bi-focal B.Ed. course with physical education as one focus was also recognized by the Government of Maharashtra. 2. Percentages of trained primary teachers in Maharashtra and Marathwada were 93.6 and 88.3 respectively. The percentages of trained secondary teachers in Maharashtra and Marathwada were 95.2 and 95.1 respectively. 3. Marathwada had 12 B.Ed. colleges, including one bi-focal college and 27 colleges imparting Diploma in Education(D.Ed.). 4. Students of B.Ed. colleges were found weak in the content of subjects they had to teach in schools. 5. The medium of instruction at B.Ed. was Marathi. However, good books in Marathi were not available. 6. Teacher trainees had to take practice lessons in schools. However, schools did not cooperate in practice teaching.7. Most of the colleges lacked good library and laboratory materials and teacher trainees suffered because of this. 8. The quality of cocurricular activities in B.Ed. colleges was poor due to lack of resources. 9. There was a lot of political interference in most of the colleges in Marathwada. 10. Vacancies were not filled in due time by government and the small number of teachers who were there had to work extra, which led to a lot of dissatisfaction among them. 11. There was no provision in the rules for library assistants and laboratory assistants. This adversely affected the working of laboratories and libraries in colleges. 12. Government has never thought of expanding buildings of B.Ed. colleges. In fact, parts of buildings which were meant for B.Ed. colleges were made available to some other government institutions. B.Ed. colleges, therefore, faced paucity of space. 13. There was no special financial provision for the subject 'working with the community'. In fact, the subject was taught only theoretically and, therefore, the purpose for which the subject was introduced was not fulfilled. 14. The teacher educators themselves had no motivation. They started loosing contact with reality when they continued in B.Ed. colleges for a long time. 15. Students admitted to B.Ed. colleges lacked motivation. They only needed the paper degree to get a job.They had no faith either in the theory or in the methodology of teaching. They were very much aware that they would not be able to use either the theory or the methodology in actual practice. 16. One-year training for content and methodology of teaching English at the D.Ed. level was found insufficient. Moreover there was a shortage of good teachers to teach this subject. 17. The syllabus for the D.Ed. was upgraded a few years back. However, textbooks written according to the new syllabus were not available. 18. Music, physical education and drawing were the neglected subjects in teacher education because there were no teacher educators who had mastery over these subjects. 19. Day by day, the ability of teacher-trainees to understand the new syllabus has declined. It had become exceedingly difficult to make them digest the comprehensive D.Ed. course. 20. Textbooks were costly. Therefore, students did not purchase them. They insisted on notes being dictated in the class. 21. Most of the training colleges did not have their own hostels. That led to hardship for students.

1068. GOGATE, S.B., *Training of Primary School Teachers in the context of Universal Primary Education*, IIE, PUNE, 1983 (UNICEF financed)

The object of this scheme was to initiate a programme of training of primary teachers, especially in view of the enlarged role they would have to play and the new responsibilities they would have to assume when elementary education became universal for children in the age group 6–14. The project ultimatery focused on, (i) preparation of literature for primary school teachers which could be useful in their in-service training as also in their self-training, (ii) orientation of primary school teachers, teacher educators and extension officers with the help of the literature prepared in the project, and (iii) creation of social awareness among primary school teachers for the education of economically and socially backward children.

During the years 1979 and 1980 four different surveys were undertaken by the IIE, namely, a survey of teachers working in Pune Municipal Schools regarding time, energy and money spent by them for coming to school and going back home, a survey of dropouts and non-enrolment of children in the 6–14 age-group, a survey of expectations of primary schoolteachers in Pune regarding further training, orientation and continuing education, and a review of D.Ed. curriculum, textbooks and question papers.

The outcomes of the project were: 1. A set of 16 booklets written in simple language was made available for

orientation programmes and self-learning of primary eachers. 2. A new method of orienting primary school eachers had been established. 3. Teachers, particularly rom rural areas, were aware of the social, cultural and conomic needs of rural society. 4. Teachers under-tood that development was possible through educa-ion. 5. Teachers understood that education was the nain instrument of child development and that they ad a social responsibility for achieving this develop-nent. 6. Teachers were aware of the methods of formal nd non-formal systems of education. They knew that, t some stage in the future, they would have to take re-ponsibility for non-formal education. 7. Teachers de-eloped proper attitudes towards the problems of chil-ren with high intelligence, education of children from veaker sections of the society and problems of educa-ion of girls. 8. Teachers were now aware of the extent nd cause of the problems of wastage and stagnation.

1069. GOPALACHARYULU, R.V.V., *A Study of Relationship between certain Psycho-sociological Factors and Achievement of Student-teachers in Teacher Training Institutes of Andhra Pradesh*, Ph.D.Edu., SVU, 1984

The objectives of the study were (i) to find out whether differences in the psycho-sociological factors of the student-teachers accounted for the significant differences in their achievement, (ii) to identify the psycho-sociological factors that significantly predicted the achievement of student-teachers, (iii) to study the contribution of psycho-sociological factors in predicting the achievement of student-teachers singly and jointly, (iv) to select an appropriate predictive test battery from among the tests used in the study and to compute a multiple regression equation to predict the future achievement of student-teachers, and (v) to study the attitude of student-teachers towards the training given to them with a view to suggesting suitable changes in the course.

A stratified random sample of 450 student-teachers from the 12 teacher-training institutes of Andhra Pradesh was selected for the study. The tools employed included the 16 P.F. Personality Factor Questionnaire of Cattell Form C, an Attitude Inventory consisting of two attitude sub-scales, viz., attitude towards profession and attitude towards training of student-teachers, constructed by the investigator, a Common Socio-Economic Status Scale for rural and urban areas constructed and standardized by Aaron, *et al* of Karnataka University and the Personal Data Schedule constructed by the investigator. The variables studied were psychological factors 16 PF and two attitudinal factors and sociological factors—socio-economic status, age, sex, locality and caste. The dependent variable was studied with reference to achievement in theory, achievement in practicals and total achievement. The split-half reliability for the attitude scale was found to be 0.80.

The major findings of the study were: 1. Socio-economic status and caste influenced all the three achievement variables, namely, theory, practical and total achievement. 2. Attitude towards profession and attitude towards training influenced theory and total achievement significantly. 3. Age and locality of student-teachers were found to have significant influence on theory and total achievement. 4. None of the 16 PF factors and sex were found to have any influence on the three achievement variables. 5. Multiple regression analysis revealed that SES, attitude towards profession and training, Factor-B, Factor-N and Factor-Q_2 were significant predictors of the criterion of achivement in theory. 6. SES and attitude towards profession were the only significant predictors of the criterion of practical achievement. 7. The conjoint effect of the five predicters, namely, SES, attitude towards profession, attitude towards training, Factor-N and Factor-Q_2 on the criterion of total achievement explained only 15.9 per cent of the amount of variance.

*1070. GOYAL, J.C., and Chopra, R.K., *A Comparative Study of Teacher Profiles in Their Rural and Urban Settings in Elementary School System*, NCERT, 1984

The major objectives of the project were (i) to study and compare teacher profiles in respect of background, professional and socio-economic variables in elementary schools of (a) rural and urban areas, (b) educationally backward and advanced states, (c) rural and urban areas of educationally backward states and (d) rural and urban areas of educationally advanced states, and (ii) to study and compare male and female teachers' profiles in respect of socio-economic status and psychological variables in elementary schools.

The sample of study consisted of 450 teachers (223 from rural areas and 227 from urban) from 117 schools selected randomly from the selected districts of the four states selected randomly for the study. Bihar and Madhya Pradesh were selected from backward states and

Haryana and Tamil Nadu from advanced states. The data were collected with the help of a School Information Card and a Teacher Information Card developed by the investigators, the Socio-Economic Status Scale (SESS) developed by Bhardwaj, Gupta and Chauhan (1980), the Teacher Attitude Inventory by Ahluwalia (1974), and the Multivariable Personality Inventory by Muthayya. The data were collected personally from 450 teachers working in the elementary schools. Obtained data were analysed by calculating percentages to study profiles of teachers. The product moment correlation and t-test were used to test different hypotheses.

The major findings of the study were: 1. More male teachers were working in rural areas and in backward states compared to urban areas and advanced states. 2. A majority of teachers were found in the age-group of 30–40 years, having more than 11 years of experience, working in permanent capacity and were married. 3. Mostly teachers belonging to scheduled castes, tribes and backward classes were found in the schools of urban areas and backward states. 4. Teachers in urban areas and backward states were more qualified than their counterparts in rural areas and advanced states. 5. The work-load of the backward states' teachers was comparatively heavier. 6. Teachers working in rural areas and in advanced states got more opportunities to attend in-service programmes than those in urban areas and in the backward states. 7. No significant disparity was found between male and female teachers of rural and urban areas and educationally backward and advanced states in respect of socio-economic status and attitude towards the teaching profession. 8. Reading material was purchased by more urban teachers than rural teachers. 9. More teachers of rural areas and in advanced states were members of professional organizations. But a larger number of teachers in urban areas and in the backward states were members of social and cultural organizations. 10. Job satisfaction among advanced state teachers tended to be higher than that of backward state teachers. 11. Rural and female teachers had less empathy, with and understanding of their colleagues' feelings and needs than urban and male teachers.

***1071.** GOYAL, J.C., SABHARWAL, N., TEWARI, A.D., *Developing Tools for Admission to Secondary Teacher Training Institutions in India*, NCERT,1984

The major objectives of the study were (i) to identify factors that might help in the selection of prospectiv teachers, (ii) to study the relationship of these factor with the achievement of student teachers in the B.Ed examination, (iii) to develop a battery of reliable an valid tools for the selection of candidates seeking admis sion to colleges of education, (iv) to develop criteria fo the selection of candidates to secondary teacher trainin institutions by providing proper weightage to the constit uent factors, and (v) to develop a battery of tools base on the criteria for selection of candidates.

The sample consisted of 749 student-teachers. Out o these, 352 were from four regional colleges of educatio and 397 from other government colleges of education Data were collected with the help of a personal dat schedule, achievement tests, an interview schedule, at titude scales, intelligence tests, and personality invento ries. The obtained data were analysed by employin various statistical techniques, viz., t-test, product mo ment, coefficient of correlation, stepwise multiple re gression analysis and coefficient of predictability b using multiple regression.

The major findings of the study were: 1. All the si groups of student-teachers male–female, married unmarried, rural–urban, graduate–postgraduate science–arts, and experienced–inexperienced differe significantly from each other with regard to previous ac ademic record. 2. Total marks secured by student teachers in their final examination correlated signifi cantly with theory external marks, external evaluatio marks and theory marks. 3. Total marks secured b student-teachers did not show statistically significan relationship with teaching experience scores. 4. Intelli gence, attitude and personality were found to be the bes predictors of student-teachers performance in the B.Ed final examination.

1072. GUPTA, A., *Study of Attitude of Teachers to wards Environmental Education, Nehru Memori al Junior College*, Pune, 1986 (SIE Maharashtr financed)

The objectives of the study were (i) to develop a tool t measure the attitude of teachers towards environmenta education (ii) to measure the attitude of teachers to wards environmental education, and (iii) to compare at titude of teachers teaching at various levels towards en vironmental education.

Data were collected from 150 in-service teachers a primary, secondary and junior college levels admitte

to vacation course (1983–85) in B.Ed. of the University College of Education, Nagpur, and 25 lecturers from five colleges of Nagpur. A Likert-type attitude scale was constructed with 114 items. The test was tried out at a preliminary stage on 52 teachers. At the final stage, after item analysis, 78 positive and 36 negative statements were included in the scale. The chi-square test was used for analysis of data.

The findings of the study were: 1. The mean attitude score for all the groups of teachers showed a favourable attitude towards environmental education (EE). 2. The order of favourableness was junior college, secondary, college and primary teachers. 3. The mean attitude score of teachers at college level was found to be less than the mean attitude score at the junior college and secondary levels and slightly higher than the mean attitude score at primary level as the college teachers opined differently to the other groups. 4. The college teachers felt the need for organization of EE teaching for the general group and special group of learners. 5. Though, in general, the teachers had shown a favourable attitude towards various dimensions of EE, their divided opinions or unfavourable attitude towards some issues on the attitude scale indicated their lack of awareness of the interdisciplinary nature of the subject. 6. The teachers pointed out constraints like crowded classrooms, lack of time for proper planning of activities, loss of interest in the absence of regular follow-up action, etc., on implementation of EE programme.

1073. GUPTA, C., *An Experimental Study of the Correlates of Teacher Performance in Simulated Teaching at Secondary Level*, Ph.D. Edu. Mee. U., 1983

The objectives were (i) to analyse teacher performance in the simulated group and control group, (ii) to analyse the relationship between correlates and teacher performance, (iii) to ascertain the modification of behaviour, in terms of the interaction variable through simulated technique, (iv) to evaluate the effect of training in simulation technique, and (v) to examine the change of teaching performance of science and mathematics student-teachers through training in simulation technique.

The sample consisted of 120 student-teachers, both male and female, comprising 60 of the experimental group and 60 of the control group, with science and mathematics as their teaching subjects in two academic years (1980-81 and 1981-82) from different institutions affiliated to Meerut University. The Teaching Aptitude Test by K.P. Pandey, The Minnesota Teaching Attitude Inventory, the Maudsley Personality Inventory, the Classroom Evaluation Form and Flanders' Interaction Analysis Categories (FIAC) were used. A Taxonomical Performance Evaluation Form developed by the investigator was also used. The data were analysed with the help of analysis of variance and analysis of covariance.

The findings were: 1. Training in simulation technique resulted in significant gain in taxonomical performance and classroom performance rating of secondary science and mathematics student-teachers. 2. When student-teachers were exposed to simulated teaching they gained in Indirect Teacher Talk, and lost in their Pupil-Initiative Ratio (PIR). 3. Student-teachers of high teaching aptitude performed significantly better through simulated teaching. 4. Student-teachers with a high positive attitude towards teaching gave better performance through simulated teaching. 5. Student-teachers of high academic ability showed the desired effect on their teaching behaviour or teaching performance through simulated teaching. 6. The personality dimension did not play any role in simulated teaching.

***1074.** GUPTA, P.N., *A Study of Administrative Procedures and Problems of Secondary Teachers Training Colleges in Maharashtra State*, Ph.D. Edu., Bom.U.1985

The objectives of the study were (i) to identify the selection procedures for teacher-trainees in colleges of education in Maharashtra, (ii) to study the organization of the teacher education programme in the colleges of education in Maharashtra, (iii) to study the pro-formas used by colleges of education for administration in Maharashtra, (iv) to identify the problems of organization and administration in the colleges of education in Maharashtra, and (v) to study the appointment procedure of teaching staff in colleges of education in Maharasshtra. The main hypotheses of the study were:(1) There is no significant difference in administrative problems of the government and private colleges. (2) There is no significant difference in administrative problems of private and university colleges of education.

The study employed the analytic survey method to collect data for study. The purposive random sampling technique was used for the selection of the sample. The data were collected through a questionnaire which included open-ended and close-ended items on various aspects of administration of colleges of education, an interview schedule for their principals, discussion with staff members and non-teaching staff in order to get the information about building, library, equipment, classes and playgrounds. Questionnaires were sent to the principals of 47 colleges of education in Maharashtra, out of which 40 returned the questionnaire duly filled in. All the tools used in this study were developed by the investigator with the help of expert principals and eminent persons of the field. The responses were analysed.

The major conclusions of the study were: 1. All colleges of education in Maharashtra followed similar rules for selection of members of the teaching staff, as laid down by the UGC. 2. Office organization and procedure were not satisfactory in the colleges of education. 3. Other administrative pro-formas were neither similar nor adequate in the colleges, which indicated poor administrative procedures and practices in the organization of the teacher-education programme. 4. The selection procedure of student-teachers was similar in all the colleges of education, except for the fact that some colleges used some tests in English and content of school subjects. 5. Colleges of education were confronted with problems of lack of space, classrooms and laboratories which led to a poor standards of teacher education programme. 6. Cocurricular activities were not as well arranged in many colleges as expected for preparing effective teachers. 7. Most of the colleges of education did not use objective and standardized evaluation pro-forma to assess student-teachers in many practical activities and skills. 8. In Most of the colleges relations between the principal and staff members were cordial. As a result, there were no serious conflicts affecting the quality of teacher education. 9. Government, university and private colleges did not show differences in the administrative problems which they had to face in executing the teacher education programme.

1075. HEMAMBUJAM, K., *A Critical Study of Teacher Education at the Secondary Level in Tamil Nadu,* Ph.D. Edu., Kar. U.,1983

The objectives of the study were (i) to conduct a survey of teacher education at secondary level and make a critical appraisal of the B.Ed. Programme in Tamil Nadu, at its operational set-up. (ii) to report briefly on the historical background and the evolution of teacher education at the secondary level in India and especially in Tamil Nadu, (iii) to report a comparative study of the contemporary teacher education programmes at the secondary level in advanced countries abroad, with reference to that in India and in Tamil Nadu, and (iv) to locate the deficiencies in the system here, if any, and suggest remedies.

The data were collected from all the colleges of education in Tamil Nadu through a comprehensive questionnaire which collected data regarding the functional aspects of teacher education, the opinions of teacher educators on various aspects and their suggestions for improvement and remedies for the defects or shortcomings in the programme. An interview schedule was also used for collecting data.

The findings of the study were: 1. The state government controlled the recruitment of all the teacher educators. Selection was done on the reservation basis; the service of teacher educators was secure and there salaries were directly paid. 2. The comprehensive B.Ed. curriculum was not effectively implemented due to time shortage, semester internal assessment, etc. 3. The revised B.Ed. syllabus in force in Tamil Nadu was appropriate and fulfilled the requirements on the professional side, but lacked in content knowledge of the academic subjects. 4. In some of the colleges of education there was no selection committee, nor were the staff were involved in it. 5. To improve the quality of teacher education programme, the cooperating schools and colleges of education needed to work in harmony. 6. Teacher educators followed the latest methods in teacher education programmes due to the proper facilities prevalent in their colleges of education . 7. Many colleges of education had hostels for the trainees and some had hostels for staff too. Some colleges of education had compulsory residential programmes. 8. The financial resources of the colleges of education included tuition fees and special fees, remitted to them by the trainees. 9. Work-experience was provided to the trainees through NSS programmes.

***1076.** HUSSAIN, H., *A Study of High School Teachers' Role Discrepancy in Kashmir in relation to Their Morale, Teaching Effectiveness and Academic Alienation,* Ph.D. Edu. Mee.U.,1985

The major objectives of the study were (i) to determine

the roles of high school teachers as perceived by their pupils, (ii) to determine the real roles of high school teachers as performed by them in the class, (iii) to study difference in ideal role as perceived by pupils and real role as performed by teachers in the class, (iv) to analyse the relationship between role discrepancy of teachers and the levels of their morale, (v) to analyse the relationship between role discrepancy of teachers and the levels of their teaching effectiveness, (vi) to analyse the relationship between role discrepancy of teachers and the levels of their alienation, (vii) to compare the relative position of teachers working in private and government schools with regard to role discrepancy, morale, teaching effectiveness and academic alienation, and (viii) to compare the relative position of different streams of teachers with regard to role discrepancy, morale, teaching effectiveness and academic alienation.

The study was confined to the urban high and higher secondary schools of Srinagar, Baramula and Anantnag managed by both private and government agencies. The sample consisted of 938 students studying in class X and 165 teachers teaching them English, Urdu, Hindi, social studies, sciences and mathematics. The tools used for the collection of data were the Ideal Role Scale, Real Role Scale and Teaching Effectiveness Scale (all developed by the investigator). An Indian adaptation of the Purdue Teachers Morale Inventory, and Hindi version of the Alienation Scale. The data were analysed using the K-S test, chi-square and median tests.

The major findings of the study were: 1. The practice of teachers dictating notes in the class was disapproved by more than 50 per cent of the students in all schools. 2. Their required roles were not being played by a majority of teachers. 3. The discrepancy in ideal role and real role was found significant in all teachers. 4. The high discrepancy did not affect the morale of the teachers, but the low discrepancy group enjoyed higher morale. 5.The low discrepancy group of teachers was high on teaching effectiveness. 6. No difference was found between high and low discrepancy groups of teachers on academic alienation. 7. Government and private school teachers were not different as far as their role discrepancy was concerned. 8. There was no significant difference between private and government school teachers with regard to teachers' morale. 9. The government school Urdu teachers and social studies teachers were different from private school Urdu and social studies teachers on teaching effectiveness. 10. A significant difference was found between government and private school mathematics teachers with regard to academic alienation. 11. In government schools and in private schools teachers teaching English and mathematics were found to be highly discrepant. 12. Private school teachers had better morale, whereas the maximum number of government school social studies and science teachers had shown low morale. 13. Teachers of government schools were found highly effective in comparison with private school teachers. 14. The maximum number of private school teachers were low alienated.

1077. INDRADEVI, V., *Philosophical Analysis of the Concept of Distance Education and Its Implications on the Emerging Nonformal Systems of Education with special reference to Teacher Education*, Ph.D. Edu., Osm. U., 1985

This study attempted to find answers to the questions: (i) What are the considerations involved in taking education to or the philosophy of providing education at the doorstep of the learner? (ii) How economically viable is the distance mode of learning? (iii) Does the alternative system of education cater to the needs of the socially handicapped and culturally deprived and provide an additional opportunity for those who wish to pursue further or recurring education? (iv) What are the underlying perceptions of distant learners with regard to the advantages of the emerging alternative system?

The investigation was designed partly as a philosophical enquiry and partly as an empirical study. The philosophical enquiry was to critically analyse and evaluate distance education. For the purpose of empirical study, a sample of 540 distant learners pursuing study in the faculty of education in Osmania University was selected. These subjects were drawn from all batches who had passed through the courses since the inception of the faculty. The subjects included both B.Ed. and M.Ed. students and represented both the sexes. The subjects were administered the following tools: (i) the Socio-Economic Status Scale; (ii) the Motivation for Distance Learning Inventory to measure motivation of distant learners; (iii) the Attitude Scale for Distance Education to measure perception of distant learners.

The findings of the study were: 1. The need for the adoption of advanced technology necessitated a learning society which needed not only trained manpower but also a society which was engaged in constant pursuit of knowledge. 2. While the existing system had been assigned the tasks of training and retraining manpower to suit changing social needs, efforts had also been made

simultaneously to provide opportunities of education outside the purview of the conventional system. 3. The open learning system opened up opportunities for education outside the realm of the conventional system. 4. External study, private study, correspondence study, the Open University, were all new educational opportunities which had emerged due to the necessity for knowledge. 5. Distance education was different from other open learning opportunities like private study, for distance education involved an organized attempt to teach a learner without necessitating his presence in the classroom as was required in the traditional system. 6. Distance education involved all the planning and supervision which were the hallmark of the traditional system but it did not adhere to rigidity of the system which lays stress on mere sequential order, regular classroom instruction, etc. 7. The learner in distance education was made to involve himself in constant pursuit of studies through correspondence packages, media instruction and individual study. 8. Distance education needed to be less costly than regular courses of study for it did not involve much private and institutional cost. 9. The greater number of respondents in distance education were from the middle-income group with a mean income of Rs 856.23. 10. The distance learning opportunity suited those age cohorts who fell into the disadvantaged age group from the point of view of upper age limit and other restrictions prevailing in regular systems. 11. There was greater representation of respondents from government institutions followed by representation from private institutions. 12. There was significant representation of graduates which was the basic requirement for teachers. This was followed by postgraduates. 13. A significant percentage of respondents had dropped out of the system at the secondary school stage and only a few had dropped out after the graduation stage. 14. The factors that motivated the learners to take up the present mode of study, in preference to a regular course of study, included the flexible nature of the course, not being able to afford study in the regular course both in terms of money and time, and being a woman member of the community. 15. There was no significant relation between respondents' caste and their reactions to the course. 16. The reactions of the respondents further revealed that distance education suited middle-aged groups and female subjects.

1078. JAYALAKSHMI, T.K., *Systematising Instructional Modules in Educational Psychology at B.Ed. Level*, Ph.D. Edu., MSU, 1985

The objectives of the study were (i) to develop instructional modules in educational psychology for B.Ed. students, (ii) to validate the instructional modules in terms of achievement of students in the criterion tests and performance of students in all the enabling activities, especially in discussion, and (iii) to study the effectiveness of the modules as instructional materials in respect of intelligence and English reading comprehension.

The instructional materials were prepared in modular forms on a certain core content in educational psychology for the B.Ed. level. The materials were used for teaching 89 B.Ed. students of R.V. Teachers College, Bangalore. The learning experiences included study of materials presented in the form of programmed learning material (PLM), practical work, classroom observation, library work, study of additional reading materials, self-check and group discussions.

A criterion-referenced self-check was prepared by the investigator. This was given at the end of PLM in every module. Moreover, a comprehensive achievement assessment test prepared by the investigator was used at the end of the use of three modules. The Standard Progressive Matrices and Govinda's (1975) English Language Comprehensive Tests were used for measurement of intelligence and language abilities of learners respectively. For studying the validation of the instructional programme, different statistical techiques like t-test, ANCOVA and product–moment correlation were used.

The main findings of the study were: 1. The instructional strategy for learning educational psychology at the B.Ed. level was quite effective. 2. The instructional modules had potentiality for use in any institution with marginal change in personnel. 3. The modules as a whole had provided good motivation for the study of educational psychology at the B.Ed. level. 4. The PLM, as a basic component, had been successful in giving the basic information. 5. The different enabling activities had been effective in contributing to better achievement 6. Facility with language was found to be a significant factor affecting the performance of this group. 7. Learners were helped in acquiring a better knowledge about certain classroom techniques like discussion.

1079. JOSHI, A.N., *A Study of Developing Performance Criteria and Testing their Efficacy in Training Student Teachers in a Teaching Skill Cluster*, Ph.D. Edu., Poona U., 1984

The study focused on (i) the evaluation of the behaviour-

al model of teaching skill programmes, (ii) the relationship between a symbolic (planning) model and a behavioural (performance) model, (iii) its bearing on planning and the critique procedures of micro-teaching, and (iv) study of efficacy of the modified planning and critique procedures.

The first three aspects were studied through a field study, whereas the last aspect was studied through an experiment. For the field study, the sample consisted of 53 student-teachers enrolled in the Adarsh Comprehensive College of Education and Research, Pune, during 1978–80. The transcripts of 318 recorded micro-teaching lessons were analysed with the help of Moves in Interactive Strategies of Teaching (MIST). On the basis of these, data exercises were made to fix the minimum performance criterion for each skill, to find out the relationships between planning and performance, to determine the bearings of performance criteria on planning and to evolve a modified planning critique procedure. The planning critique procedure in modified form highlighted the following aspects: planning done in detail, after having envisioned future performance clearly, determination of the length of the lesson plan and estimation and indication of the time required for pupil and teacher behaviour, analysis of the lesson plan prepared, guidance of the trainees in planning the minimum number of skill-relevant behaviours essential for attainment of a minimum performance level, use of a category system like MIST, feedback based on the extent of translation of planning and specific guidance for improving both the planning and performance, etc. For studying the efficacy of the Interlinked Microteaching Approach (IMA) in comparison to that of the Standard Microteaching Treatment (SMT), the pretest–post test design was employed. The sample of the study consisted of 34 student-teachers belonging to two teacher training colleges of Maharashtra. The subjects were divided into two groups and matched on the basis of sex, qualifications, regional background and material status. The tools used for the study were FIAC, Raven's Standard Progressive Matrices (RSPM), and Ahluwalia's Teacher Attitude Inventory (ATAI). Data were collected through observations and audio recordings. Statistical techniques like t-test and ANOVA were used for analysis of data.

The major findings of the study were: 1. The coefficient of stability for three forms of MIST was 0.85. 2. The rates of teachers' steady talk and pupils' steady talk seemed to be useful and stable for estimation of the time dimension at the time of planning. 3. The coefficients of correlation between completely translated planning (CTP) and performance varied from 0.61 to 0.83 for the skills of Reacting, Questioning and Initiation, and Response (RQI). 4. The performance scores could be predicted from CTP scores and *vice versa*, using appropriate regression equations. 5. The minimum performance criteria for RQI skills were determined as 32, 56 and 90 per cent respectively. 6. The high performers in RQI skill cluster were not always significantly higher in all the components of the skill. 7. The high performers profitably used the time at their disposal, rate of interchanges, and types of helices. 8. The results of the experimental study indicated favourable results for IMA over SMI in terms of increasing the proportion of desired transitions in total transitions, occurring in teaching; in reducing the percentage of directions given by the student-teachers in teaching; and in training of RQI skill cluster as a whole. 9. The IMA did not differ significantly from SMI with regard to changing teaching behaviour of the student-teacher and changing the teacher attitude of the student-teachers.

1080. JOSHI, PREM KUMARI, *A Study of the Expressed Attitudes of Professional Relationship of Teachers of Christian and Non-Christian Managed Secondary Schools and Degree Colleges in Uttar Pradesh,* Ph.D. Edu., Luc. U., 1985

The study was designed to get an idea about the expressed attitudes in professional human relations of the teachers of Christian and non-Christian managed secondary schools and degree colleges in Uttar Pradesh.

The sample for the study consisted of 800 teachers from 32 institutions in Kanpur, Agra, Gorakhpur, Allahabad and Lucknow. Some 380 teachers were teaching in Christian and 420 were teaching in the non-Christian institutions. A Hindi adaptation of Walker's Teacher Human Relations Questionnaire was administered to the subjects to get an idea about their attitudes to professional human relations.

The main findings of the study were: 1. Different managements created different types of climates or job situations in their institutions. 2. The attitude of teachers differed significantly under different types of management. 3. Managements in the Christian institutions did not interfere with the day-to-day administration of the institutions. 4. The role behaviour of the principals of Christian-managed institutions was perceived to be more desirable as compared to that of principals of the

non-Christian-managed institutions. 5. Teachers of Christian-managed institutions perceived their institutions and community more favourably than their counterparts in non-Christian-managed institutions.

1081. KADWADKAR, S.D., *A Critical Enquiry into Professional Courses for College Teachers in India*, Ph.D. Edu., Kar. U., 1984

The objectives of the study were (i) to analyse and evaluate selected professional courses for college teachers, (ii) to examine the functioning of these courses, and (iii) to offer suggestions for the improvement of courses and procedures for their implementation. The study was limited to the postgraduate diploma in higher education course of Madurai University and the diploma in higher education course of Bombay University.

Three approaches were used for evaluating the courses and their functioning. A list of 27 specific professional abilities required by the college teacher for successful teaching and evaluation was prepared using the systems analysis approach and was used for the evaluation of course components in terms of their value in acquiring professional abilities. An instrument was designed, using a model intended to represent the acquisition of a professional ability in the form of a plan. The stability coefficient of the instrument was found to be 0.925 (n=15). This was administered to 15 teacher candidates about to complete the postgraduate diploma course of Madurai University and 75 diploma-course students of Bombay University. A comprehensive enquiry form was developed to collect the views of teacher educators handling the courses. The responses of 90 teacher candidates to the instrument and eight teacher educators to the enquiry form were used as the basis for evaluating the courses and their functioning.

The major findings of the study were: 1. Theoretical information relating to 'planning for teaching' ability and some components of 'teaching and testing' abilities was given in a global way and related practical work was either not prescribed or not given due weightage. 2. No specific information relating to the ability, 'dealing with behavioural problems of students in the classroom', was given. 3. Some theoretical information relating to 'action research' ability was given but no related practical work was attempted. 4. No or very little scope was given to demonstrate professional abilities.

The main implications of the study are: (1) The courses should be modified so as to make them performance-based. (2) The micro-teaching approach should be used to upgrade the teaching competence of teacher candidates. (3) More weightage should be given to practical work.

***1082.** KAKKAD, G.M., *Secondary Teacher-Education Curricula—An Analytical Study and Developing Teacher-Education Programme*, Ph.D. Edu., Nag. U., 1983

The objectives of the study were (i) to analyse existing B.Ed. curricula of various representative universities of four different regions of the nation, (ii) to study the common and uncommon aspects of secondary teacher education programmes analytically, (iii) to know the changes that were expected in STEP, and (iv) to develop a Secondary Teacher Education Programme (STEP).

The sample for the study was B.Ed. syllabi of 24 universities, the IATE, the NCERT and the L.T. course of UP. The tools used were an interview schedule and a comprehensive questionnaire prepared by the researcher.

Following were the main findings of this study: 1. The duration of the STEP should be two academic sessions. 2. The aspects of STEP should be, (a) educational theory, (b) practice teaching, (c) community work, (d) work experience, (e) sessional work, (f) cocurricular activities. 3. There should be content courses along with the school subject methodology paper. 4. There should be two subjects for methodology of teaching and the number of lessons should be 15 for each subject. 5. Internship in teaching should be introduced for a period of three months. 6. There should be a provision for urban and rural teaching in the STEP. 7. There should be provision for theory and practical action research or classroom research in STEP. 8. There should occasionally be exchange of teachers between colleges of education and secondary schools. 9. There should be examination in theory and practicals. 10. Separate results in theory and practicals should be declared. Assessment of theory papers should be in marks. Evaluation of practicals, sessional work and other aspects may be in grades.

1083. KALLA, A.S., *Gandhi Shikshan Bhavan, An Experiment in Education—A Case Study*, Ph.D. Edu., Bom. U., 1984

The major objectives of the investigation were (i) to

study Gandhi Shikshan Bhavan (GSB) in its totality, (ii) to find out the points of deviation at Gandhi Shikshan Bhavan College from the Bombay University prescription, (iii) to assess innovations carried from the institution to the schools, (iv) to assess the professional growth of staff at Gandhi Shikshan Bhavan College, and (v) to study the curriculum at Gandhi Shikshan Bhavan school.

The method of incidental sampling was used for the selection of the sample. The study employed primarily the historical method and was based on interviews and an opinionnaire of some founder members of the Gandhi Shikshan Bhavan and past student—teachers of the institution. The sample consisting of 406 persons, comprising 135 Gandhi Shikshan Bhavan trainees of preservice batches of 1980-81 and 1981-82, 121 Gandhi Shikshan Bhavan alumni working in schools, 114 teachers in schools who passed the B.Ed. from other colleges, 22 principals of schools interviewed, eight professors from Gandhi Shikshan Bhavan College, six founder-members of Gandhi Shikshan Bhavan. The data were collected from records, documents, reports and old diaries. Other tools employed in this study were a questionnaire, an interview schedule, an opinionnaire and correspondence. The documents were carefully analysed to find out the philosophy, history and the growth-pattern of different departments of Gandhi Shikshan Bhavan. The data were analysed by using appropriate statistics.

The main findings of the study were: 1. The study traced the beginning of Gandhi Shikshan Bhavan from its early days, its progress, growth and its achievement. 2. At every stage Gandhi Shikshan Bhavan had deviated in curriculum, methods of teaching, and examination pattern from those prescribed by the university. GSB had built a strong edifice for itself with its own ideas and resources. 3. GSB had been a pacesetter in many areas of the teacher education programme and the school set-up. Teachers from GSB used child-centred methods of teaching to a greater extent than others did. 4. Dropouts were given vocational training. 5. The Gandhian ideology was strengthened by the involvement of students in community work, socially useful productive work and cultural programmes. 6. An attempt was made to identify and use each one's special talents, research mindedness and social intelligence. 7. Seminars, discussions and workshops were organized within the premises where active participation was encouraged. 8. Staff members contributed more and more to the growth of the institution. 9. During the experiment on life-long education, a lot of work was done by the faculty on continuous evaluation of trainees.

1084. KALYANPURKAR, S., *The Effect of Microteaching on the Teaching Competence of Inservice Teachers and its Impact on Pupils' Attainment and Pupils' Liking*, Ph.D. Edu., DAVV, 1986

The objectives were (i) to study the effect of microteaching (MT) training on the development of selected skills, viz., probing questioning (PQ), reinforcement (RE), explaining with example (Ex), and stimulus variation (SV), in in-service teachers, (ii) to study the effect of MT training on the development of general teaching competence (GTC) of in-service teachers, (iii) to study the effect of MT training on the development of general teaching competence (GTC) of in-service teachers, (iii) to study the effect of MT treatment on pupil's attainment and pupil's retention (test-wise and educational objectivewise), and (iv) to study the effect of MT treatment on pupil's liking (SL) for their teachers. The hypotheses were: (1) There would be no significant difference between post-test mean skill scores of the experimental and control groups when adjusted for the respective pretest skill scores. (2) There would be no significant difference between the post-test mean GTC scores of the experimental and control groups when adjusted for pretest GTC scores. (3) There would be no significant difference between the adjusted means of the attainment scores of the experimental and control groups when adjusted for DIQ, VI class scores, and SL scores while using each covariate separately. (4) There would be no significant difference between the adjusted means of retention scores of the experimental and control groups when adjusted for DIQ, VI class scores and SL scores, while using each covariate separately. (5) There would be no significant difference between the means of the post-test pupil's liking scores of the experimental and control groups when adjusted for the pretest pupil's liking scores.

The sample included 36 teachers and their 720 pupils from 17 schools. The in-service teachers with a minimum of two years teaching experience in teaching general science to VII standard pupils through the Marathi medium, in Marathi-medium schools in Nagpur, and who were willing to participate in the experiment, formed the final sample. Twenty pupils of each teacher, participating in this experiment, were included in the

sample. The pretest post-test control experimental group design was employed in this study. Thirty-six teachers were randomly assigned to the two groups—the experimental group and the control group. Each group consisted of 18 in-service teachers. Microteaching training was the treatment. The general teaching competence was measured with the help of General Teaching Competence Scale developed by Passi and Lalitha. The inter-observer reliability coefficients ranged from 0.85 to 0.91. The factorial validity was established. Pupils' liking was measured by administering the Student Liking Scale developed by Malhotra and Passi. The test–retest reliability coefficient was 0.92 and the concurrent validity coefficient was 0.81. Raven's Standard Progressive Matrices were used to obtain a measure of pupils' mental ability score. The test–retest reliability coefficient varied from 0.83 to 0.93. The data were analysed with the help of analysis of covariance.

The findings were: 1. Microteaching treatment had a positive significant effect on the development of skills, viz., PQ, RE, EX, and SV, when the post-test mean scores of the respective skills for experimental and control groups were adjusted for the pretest scores of the respective skills. 2. MT treatment had a positive significant effect on the development of GTC, when the post-test GTC means of the two groups were adjusted for pretest GTC scores. 3. MT treatment had a positive significant impact on pupils' attainment as well as on pupils' retention in the attainment tests when the respective means were adjusted separately for the three covariates, namely, DIQ, VI class scores, and pre-SL scores. 4. MT treatment had positive significant impact on pupils' liking for their teachers when the means of the two groups were adjusted for pretest SL scores.

The implications are: 1. MT should find a place in inservice-teacher education programmes. 2. The procedure of MT training should consist of general orientation in MT technique, discussion of the skill to be practised on the basis of provided relevant material, demonstration of the use of the skill in simulated conditions, discussion on the performance in the context of material and observation, practice of the skill by the teacher in simulated conditions followed by regular teaching in the school as per schedule which yields opportunity to utilise the acquired skills in classroom situations. 3. The educational institutions like, SIEs, extension departments of colleges of education concerned with inservice teacher training should follow the spaced pattern of skill training. 4. The teachers who are already in service should be encouraged by the headmasters to undergo MT training.

***1085.** KAMALA, A., *Perceptions of Polytechnic Faculty regarding the Practice of Dictation of Notes,* TTTI, Madras, 1987

The objectives of the study were (i) to obtain the opinions of teachers on different aspects of dictation of notes, (ii) to identify the extent of the practice of dictation of notes, and (iii) to identify reasons which compelled teachers to dictate notes.

A questionnaire was designed to elicit the views of teachers serving in different polytechnics in Andhra Pradesh. The sample consisted of 60 teachers chosen randomly from eight different institutions. Among them 38 were from engineering disciplines and the rest non-engineering subjects.

The major findings were: 1. Teachers preferred to dictate notes as they felt that it provided good support to students to learn better. 2. Twenty-three out of 60 teachers whose responses were surveyed indicated that they were in the habits of note dictation even when they were through the course of explanation during a lesson. 3. The main reason for dictation of notes seemed to be non-availability of adequate reference materials for the students. 4. Teachers liked this practice to use classtime better and make instruction more effective.

1086. KATIYAR, B.L., *Personality Traits and Attainment of Skills through Microteaching,* Ph.D.Edu., BHU, 1982

The main objectives of the investigation were (i) to find out the differential personality factors of high, average and low achievers in the skills of reinforcement, explaining and stimulus variation, (ii) to develop 16 PF personality profiles of high, average and low achievers in the skills of reinforcement, explaining and stimulus variation, and test their pattern similarity (iii) to find out the relationships between 16 personality factors and gain scores in the skills of reinforcement, explaining and stimulus variation, and (iv) to develop regression equations for the prediction of skill acquisition scores for the skills of reinforcement, explaining and stimulus variation.

The sample comprised 65 male and 65 female student-teachers studying in the Department of Educa-

tion, Banaras Hindu University, for their B.Ed. degree. Acquisition of teaching skills was measured with the help of Skill Appraisal Guides developed by the investigator. Cattell's 16 PF Questionnaire (Hindi version by Kapoor) was used for measuring personality traits. Mean, SD, t-test, profile matching pattern similarity coefficient, product moment coefficient of correlation and multiple regression analysis were used in the analysis of the data.

The major findings of the study were: 1. The high achievers in the skill of reinforcement were significantly more surgent, enthusiastic and happy-go-lucky and more apprehensive and guilt prone than the low achievers. 2. The high achievers in the skill of explaining were significantly more surgent, having more suspecting jealousy, and were more conservative and more group dependent than the low achievers. 3. The high scores in the skill of stimulus variation had significantly higher ego-strength and more shrewdness in comparison with that of the low achievers. 4. On the whole, on the basis of the personality profiles and pattern similarity coefficients, it was not possible to differentiate between high, average and low achieving groups in these selected skills. 5. The 16 PF scores covered 18.88 per cent, 25.64 per cent and 19.67 per cent of the total variance in the three selected teaching skills, respectively. 6. Multiple regression analysis indicated that surgency, dominance, exacting will power and intelligence, optimally helped the acquisition of the skill of reinforcement. 7. Acquisition of the skill of explaining was optimally helped by suspiciousness, affectothymia, tender mindedness, sensitiveness, self-sufficiency, resourcefulness, high ergic tension, being tensed, apprehensiveness, self-reproaching, exacting will power, being socially precise, surgency and imaginativeness. 8. The skill of stimulus variation was optimally helped by self-sufficiency, suspiciousness, affectothymia, and imaginativeness.

Many personality traits play an important role in the acquisition of teaching skills. Most of the traits are of the dynamic category. Therefore, a training programme will prove fruitful in the better acquisition of these skills. Personality factors possess a good deal of predictive value. Hence, a personality test may prove to be helpful for the selection and admission of teacher trainees.

1087. KAUL, S., *Personality Factors, Values and Interests among the Most Accepted and Least Accepted Secondary School Female Teachers of Mathura District,* Ph.D. Psy., Agra U., 1977

The objectives of the study were (i) to construct a teacher acceptance scale, (ii) to identify personality factors that differentiated between most accepted and low accepted teachers at secondary school level, (iii) to identify the values that differentiated most accepted teachers from less accepted teachers, (iv) to study the interests that differentiated most accepted teachers from least accepted teachers, and (v) to interpret and analyse personality factors, value, and interests which were not common in the most accepted and less accepted teachers.

The high acceptance and low acceptance scale was administered to 2000 girl students so as to identify highly accepted, moderately accepted and lowly accepted teachers. The sample consisted of 241 teachers. Of these, 72 were highly accepted, 86 moderately accepted and 83 lowly accepted. These three groups were matched on age, academic qualification and training. Personality was assessed with the help of the 16 PF Questionnaire developed by Cattell. The Allport Vernon Study of Values adapted by R.K.Ojha was used to measure values of teachers. The split-half reliability ranged from 0.58 to 0.71. Interests were measured with the help of Chatterjee's Non-Language Preference Record. Data were analysed with the help of the t-test.

The findings were: 1. More outgoingness demoted group acceptance. Reservednees promoted group acceptance. Intelligence promoted group acceptance. Assertiveness demoted acceptance. The more conscientious, more tender minded, and more relaxed were better accepted by their class students. 2. Highly accepted teachers differed in theoretical value from moderately and lowly accepted teachers. Theoretical value did not differentiate moderately accepted teachers from lowly accepted teachers. Values like economical, aesthetic, social, political and religious did not differentiate significantly female teachers on the continuum of high acceptance and low acceptance. 3.Craft pursuit demoted acceptance. Interest in fine arts, science medicine agriculture, the outdoors, sports, literature and house hold matters did not significantly differentiate female teachers on a continuum of high and low acceptance.

*1088. KAUR, BALBIR, *An Investigation into Dimensions of Teacher-Effectiveness as Perceived by Secondary School, College and University Students,* Ph.D.Edu., HPU, 1983

The objectives of the study were (i) to explore the dimensions of teacher-effectiveness in the subjects of science, English, Hindi, mathematics, and social science, at three

levels of education separatelly, (ii) to discover the differences, if any, in the judgement of teacher-effectiveness in science, English, Hindi, mathematics, and social science, separately, and (iii) to find out if the perception of teacher-effectiveness in each of the subjects varied from level to level. The hypotheses of the study were: (1) Teacher-effectiveness will be characterized by a pattern of multiple dimensions rather than a single or specific dimension. (2) The pattern of dimensions characterizing an effective teacher will differ from subject to subject, namely, among science, English, Hindi, mathematics, and social science. (3) The pattern of dimensions characterizing an effective teacher of a subject will vary at secondary school, college, and university levels; (4) There may be some dimensions common among subjects and among levels; however, the overall patterns of dimensions will be different for subjects and levels.

The study involved the descriptive survey method of research. It was also developmental in nature as the growth in students' perception of teacher-effectiveness in each subject was observed as they moved from school to university through college. The comparison was cross-sectional. The sample for the study comprised 1500 students (100 at each level in each subject) drawn from HP University, Shimla, and various schools and colleges of Himachal Pradesh. The semantic-differential technique was used for measuring perception of teacher-effectiveness. The data were analysed factorially for extracting the dimensions of teacher-effectiveness in the subjects of science, English, Hindi, mathematics, and social science.

The number of factors varied between 14 and 20 for different subjects at different levels. These factors pertained to different cognitive and affective characteristics of teachers, styles of teaching, designing of teaching materials, interaction with students, etc.

1089. KAUR, D., *An Investigation into the Sociometric Structure of Secondary School Teachers as studied with their Students' Likings for Them and analysed with some Psychometric variables,* Ph.D. Edu., Utkal U., 1985

The objectives of the study were (i) to make a comparative study of the sociometric structure of teachers of various secondary schools, (ii) to study the students' likings for teachers in relation to their sociometric status amongst their colleagues, (iii) to analyse teachers' sociometric status with their motives for joining the teaching profession, job satisfaction, profile of personal values and their effectiveness in teaching, and (iv) to conduct factor analysis of the variables involved in the study.

The sample of the study consisted of 259 students, 90 teachers and nine principals of nine higher secondary schools located at Bhubaneswar. The tools used for data collection were A Sociometric Test for teacher–teacher relationships (Anand), a Sociometric Test for the pupil–teacher relationship (Anand), an Inventory of Motives of teachers for joining the teaching profession prepared by the investigator, a Job Satisfaction Scale (Anand), Allport, Vernon and Lindzey's Test for Study of Values, Anand's Checklist for checking characteristics of teachers by students, and a checklist for principals to check the characteristics of teachers developed by the investigator. The rank difference correlation, t-test, and different descriptive statistical techniques were used for analysis of data.

The findings of the study were: 1. The sociometric structure of teachers amongst their colleagues was far from satisfactroy and varied from school to school. 2. The relationship existing amongst the male and female teachers in schools was very poor. 3. There was poor relationship amongst the teachers and the students. 4. However, the sociometric status of a teacher amongst his colleagues was closely associated with his status among his pupils. 5. The sex and sociometric status of the teacher were not found to be associated with his or her effectiveness. 6. Only 55–60 per cent of the teachers were motivated for the teaching job and were satisfied with it. 7. Teachers' sociometric status among their colleagues was found to be negatively associated with their theoretical values and positively associated with their religious and economic values. 8. A teacher's status among his colleagues was attributed to 25 per cent of the independent variables, such as his theoretical values, status amongst his pupils, economic values, motive for joining the profession and his social values.

1090. KHAN, A.H., *Effectiveness of Microteaching Technique in terms of Students Achievement,* Ph.D. Edu., Avadh U., 1985

The objectives of the study were (i) to examine the effectiveness of microteaching technique in the acquisition of certain teaching skills, viz., the skills of introducing a lesson, probing questions, illustrating with examples, using black-board, and achieving closure in real classroom situations, and (ii) to assess the effectiveness of

microteaching technique in terms of students' achievement pertaining to their comprehension of the English language.

The study was conducted in simulation as well as in real classroom situations using a non-equivalent control group design for both the pilot and the final phases. The sample consisted of 30 (10 for pilot and 20 for final study) male student-teachers of the B.Ed. class offering English as one of their teaching subjects from teacher-education departments of two affiliated colleges of Gorakhpur University, and 250 (50 for pilot and 200 for final study) students of class VII of three practising schools of those two teacher-education departments situated in rural areas. The tools of the study were a self-made achievement test of English language comprehension, the Baroda General Teaching Competency Scale, observation schedules and evaluation pro-formas for each skill, and an audio-tape recorder. Chi-square and t-test were the main statistical techniques used for testing the hypotheses.

The major findings of the study were: 1. Student-teachers treated with the technique of skill-based microteaching were found to be more effective in General Teaching Competency then those trained in the traditional method of teaching English. 2. Microteaching technique had proved itself to be a more effective teacher-training technique than the traditional method when subjected to factorial analysis of variances. 3. Each of the five skills depicted significant improvement in the case of microteaching when compared on the basis of the data of post-teaching sessions of both the methods under study. 4. The analysis of data demonstrated significantly higher effectiveness of microteaching technique in the academic achievement of students in real classroom settings.

The educational implications of the study are: (1) Results would remove various inhibitions of all concerned about teacher-education in general and microteaching in particular, being out of date and having no practical relations with day-to-day teaching. (2) It would help in reducing the time normally taken in practice-teaching and would ensure better academic achievement on the part of the pupil. (3) The findings would go a long way to complete the picture of microteaching which had been taken only as a significant effective technique of teacher-education quite irrespective of its effects being positively carried over to 'within classroom' situations, especially in terms of students' achievement.

***1091.** KHAN, S., *A Comparative Study of Personality Characteristics of Physical Education Teachers and General Education Teachers,* Ph.D.Edu., Nag.U., 1987

The purpose of the study was to evaluate and compare the personality characteristics of physical education teachers and general education teachers in the following areas: (i) home adjustment, (ii) health adjustment, (iii) social adjustment, (iv) emotional adjustment, (v) occupational adjustment, (vi) general adjustment, (vii) neuroticism, (viii) medical fitness, and (ix) motor fitness. The major hypothesis was that physical education teachers were socially, emotionally and occupationally more adjustable, physically more fit and mentally more healthy (free from tension and neuroticism) than general education teachers.

The sample for the study consisted of 300 randomly chosen teachers from selected districts of Jammu and Kashmir State. Out of these 300 teachers, 150 belonged to physical education and 150 to general education category. The tools used for data collection included, (i) Bell's Adjustment Inventory (Adult Form), (ii) Kundu's Neurotic Personality Inventory, (iii) A Medical Fitness Scale constructed by the researcher, and (iv) The JCR Test. A 2×2 factorial design was employed for the study; t-test and F-test were the statistical techinques used for the final inferential analysis.

The findings were: 1. On the whole physical education teachers were found significantly better adjusted, socially, emotionally, occupationally, and also with respect to health as well as home adjustment than the general education teachers. 2. The neurotic tendency among the general education teachers was significantly more predominant than among physical education teachers. 3. More than 50 per cent of the physical education teachers failed to maintain even normal physical fitness. 4. There was negligence about physical fitness even among the physical education teachers as among general education teachers.

1092. KHANNA, P., *A Study of Personality Patterns of Successful (Effective) High School Teachers of Aligarh District,* Ph.D.Edu., Agra U., 1985

The main objectives of the study were (i) to identify the successful (effective) teachers, and (ii) to find out the personality patterns of the successful (effective) teachers of high school classes. The following hypotheses

were considered by the researcher: (1)There are different personality patterns of successful and unsuccessful teachers. (2) There is a definite impact of teachers personality on their student perception. (3) There are definitely significant differences in the achievement of the students of the successful and unsuccessful teachers.

The tools used were R.C. Deva's Teacher Rating Scale, the Students' Perception of their Teachers Scale by Sorenson and the 16 PF Test by Cattell. The students of different institutions of Aligarh District were asked to rate their class teachers on Deva's Teachers Rating Scale, and Students' Perception of their Teachers Scale. The principals of different institutions were approached to rate their teachers' effectiveness and performance on a three-point scale. The scores obtained by the individual teachers on the two scales were added and to these scores the scores of principals' ratings were also added to give a composite score to an individual teacher. The mean and the standard deviation of the distribution of the scores were calculated. Students ratings for individual teachers on the two teachers' rating scales were tabulated and weighted for comparative study. Most prominent traits of successful and unsuccessful teachers on both the scales were located and ranked accordingly. Students' levels of performance were rated for successful, average and unsuccessful teachers in order to determine the impact of teachers' personality on students' performance. Traits of successful and unsuccessful teachers were also analysed with the help of the Sixteen Personality Factors Test of Cattell. A sample of 500 teachers was taken for the study. Each teacher under study was rated by 30 students. The t-test, critical ratio and coefficient of contingency were calculated to determine the consistency between teachers' levels of success and the levels of performance of their students.

Following were the findings: 1. The successful teachers had traits which were positively helpful and valuable for the mental health of the individual whereas unsuccessful teachers had traits which tended to lead the person to a kind of maladjustment. 2. High school students were quite sensitive and receptive to the prominent personality traits of their teachers. 3. There was a definite impact of teacher's personality on their students' perception. 4. There was a close relationship between the level of effectiveness of teachers and the levels of achievement of their students. 5. Successful teachers were very helpful in raising the level of achievement of the students and also their overall educational standard.

In the selection of teachers for high school classes care should be taken to study their personality with appropriate personality tests. The successful teachers in the faculties of arts and science possess relatively different traits of personality. This fact should be kept in mind while recruiting teachers for different faculties.

1093. KUDESIA, U.C., *A Study of the Teaching Aspects as viewed by the Polytechnic Teachers of Induction Programme (12.11.85 to 13.12.85), TTTI,* Bhopal, 1986

The objectives of the study were (i) to provide general feedback to the trainees for improving their teaching skills, (ii) to investigate which items/aspects of teaching were adopted correctly/incorrectly or partly correctly by teachers during presentations, (iii) to find out effective ways of teaching as viewed by trainees belonging to different disciplines, and (iv) to find out the opinions of trainees based on self-perception and others' observations about their teaching.

The study was conducted with 41 subjects who were working as teachers in different polytechnics of Maharashtra, Gujarat and Madhya Pradesh. All of these subjects had little teaching experience and all of them attended a 26-day intensive training programme at the TTTI, Bhopal. At the end of this training programme a teaching practice session was organized in which each teacher-trainee selected a topic of his choice to teach in a simulated situation. This practice was given to them using the CCTV system for providing individual and general feedback to all the trainees. An observation schedule and a self-perception pro-forma were used to collect the relevant data. The observation schedule contained 15 items and the observers were requested to rate their observations in respect of the teaching of teacher trainees on a three-point scale, i.e. correct, partly correct or incorrect. The self-perception pro-forma was also prepared on the same lines, having the same items of teaching, as they were framed and arranged in an observation-schedule. The objective of the self-perception pro-forma was to collect the views of those teachers who had presented their lessons for video recording on the basis of their own perception about their own teaching skills. The data were analysed by computing the percentages and t-values.

The findings of the study were: 1. Most of the perceivers were of the opinion that teaching methods selected by the teacher trainees were according to the suitability of the mental status of the students and the

nature of the subject-matter. Aids like overhead projectors and transparencies were used at relevant places. Teachers' voice was clear and audible to all the students. The assignments given by the teachers to the students were not based on the principle of individual differences. 2. Both the perceivers and observers were agreed that planning of the lessons was on proper lines. Their views were different regarding other items of teaching. 3. observers from all the disciplines, viz. civil, electrical, mechanical and general, were of the opinion that teachers' voice was clear and audible. However, the perceivers belonging to the civil discipline reported that the instruction of lessons given by the teacher-trainees was partly effective and interesting and the students could partly prepare themselves for new learning. They were partly satisfied by the planning of lessons, whereas perceivers belonging to general disciplines were of the opinion that the trainees had summarized the main points of the lessons partly. The same views were reported by the perceivers belonging to electrical, mechanical and general disciplines about the expressions and gestures of the trainees, the pace of presentation of information and the assignments given to the students. 4. Regarding different aspects of teaching, viz introduction, presentation, method and media, communication and summarization, the trainees perceived themselves to be the most competent in the use of different methods and media, followed by introduction of lessons, presentation, communication and summarization. The observers found their colleagues equally competent in two aspects of teaching, viz., introduction of lessons and use of methods and media, and least competent in summarizing the lessons. 5. No significant differences were observed in the self-perception of trainees and observation of observers with respect to the competence of trainees in different aspects of teaching. 6. No significant differences were observed in the perception of teacher-trainees belonging to different disciplines with respect to different aspects of teaching. Similar was the case with observers belonging to different disciplines. 7. The main aspects considered to be effective ways of teaching were that the objectives of the lesson should be stated clearly, the introduction of the lesson should be effective and interesting, the planning of the lesson should be on proper lines, the organization and presentation of the subject-matter should be systematic and logical, examples and illustrations used during teaching should be relevant to the content, the selected teaching method should be suitable to the mental status of students, the teacher should use the media at relevant places, chalk-board work should be developed systematically and properly, the teacher's voice should be clear and audible, the teacher's expressions and gestures should be appealing, the teacher should motivate students' participation in the lesson, students should take interest in the lesson, the pace of presentation of information should be satisfactory, summarization of the main points of the lesson should be done properly and assignments should be given to students on the basis of individual differences.

1094. KUDESIA, U.C., *Consolidated Report on Identification of Community Polytechnic Staff Learning Needs related to Technology Transfer,* TTTI, Bhopal, 1984

The objectives of the study were (i) to find out the number of community polytechnics that had thorough knowledge of and skills in different projects, activities and services to initiate and to teach others, (ii) to study the community polytechnics that had some knowledge and skills in different projects, activities and services but not adequate to initiate programmes, and (iii) to identify the community polytechnics that had no knowledge or skills in different projects, activities and no desire to know more about them.

Two different check-lists on projects, activities and services were prepared and the teachers of the five community polytechnics were required to complete them. All of these teachers attended a planning and review workshop for community polytechnics at Bhopal. They represented two polytechnics of Madhya Pradesh, two of Maharashtra and one of Gujarat.

The findings of the study were: 1. Of the 165 projects identified, polytechnics were found to have thorough knowledge of only a few. Some of the polytechnics even had no knowledge and skill in any of the projects, services or activities. 2. Only one polytechnic had thorough knowledge and skill to initiate and teach 20 per cent of the projects, services and activities. 3. In general, polytechnics were found to initiate mostly activities related to community services and least often activities related to the manufacturing of exiting items and developing new and appropriate technology. 4. Polytechnics were found highly competent to teach others in projects, activities and services related to technical services; they had some knowledge related to manpower training and development programmes, and minimum knowledge related to the manufacturing of existing items and de-

veloping new and appropriate technology. 5. The major learning needs of polytechnics were in the areas of productive activities, technical services, community development, manpower training and development programmes, manufacturing of exiting items, and developing new and appropriate technology. 6. The total learning needs of the polytechnics were found to be very high. They were highly desirous to learn more about different technologies. 7. There were very few items of technology in which polytechnics had a thorough knowledge and skills to transfer to others.

1095. KUMAR, A., *A Study of the Operational Problems of Secondary School Teachers in Bihar,* Ph.D. Psy., Bhagalpur U., 1985

The main objective of the study was to construct a check-list of teachers working in the secondary schools of Bihar.

A Problem Check-list consisting of 405 items covering major areas of operational problems, viz., methods and curriculum, working conditions of the teachers, students and discipline, persons in authority, peers and staff, the community, personal, social, and professional role, was developed. The items were to be answered with reference to intensity of feeling in teachers as well as their frequency of occurrence in day-to-day school work. A random sample of 500 graduate male secondary school teachers (100 from each of the five training colleges of Bihar) was drawn. Age, sex, educational qualification, experience, designation and status of the teachers were controlled. A priority list of top-scoring problem items of the check-list from all the areas was singled out for immediate attention and their redressal. Area-wise short priority lists were also determined. Test–retest reliability and validity of the check-list were established.

The major conclusions were: 1. The check-list possessed a fairly high degree of reliability. It was also valid. 2. Out of 405 items, 194 were more frequent and 199 were intense items. Seventy five items were both frequent and intense. 3. Financial, administrative and personal problems stood in forefront.

1096. KUMAR, K., *et al., Motivation of B.Ed. Correspondence Course Students,* NCERT, 1986

The objectives of the study were (i) to study the motivations of the selected group for taking up the Summer School cum Correspondence Course (SSCCC) of the NCERT for the B.Ed. degree, (ii) to find out the immediate and long-term goals of the selected group after obtaining the B.Ed. degree, and (iii) to study perceptions of students regarding the operation of different course inputs.

The tools employed for data collection were Mukherjee's Achievement Motivation Measure, 'Who am I', with split-half reliability of 0.87, and a Likert-type Attitude Scale prepared by the project staff with split-half reliability of 0.97 and a questionnaire. The sample of the study included 273 B.Ed. SSCCC students of the NCERT of 1979-80 session (Ajmer 37, Bhopal 27, Bhubaneswar 67 and Mysore 142). Data were collected through direct administration of tools. Descriptive statistical techniques and 'F'-test were used for analysis of data.

The major findings of the study were: 1. The teachers were motivated for teaching because of their liking for it and ambition to become teachers; the high esteem given to the teaching profession by the community; and for earning a livelihood. The male respondents had given higher priority to the high esteem in which the community held the teaching profession, whereas the women respondents' major consideration was their liking and ambition to become teachers. 2. The student-teachers joined the SSCCC because the SSCCC was financially suited to the needs of in-service school teachers, to improve professional competence and to qualify for promotion. 3. The level of achievement motivation of school teachers pursuing the SSCCC programme was similar to that of those who joined the full-time B.Ed. degree programme and no difference was observed between the men and women groups on this account. 4. The SSCCC group showed a more favourable attitude towards correspondence education than the full-timers. The men SSCCC students expressed a more positive attitude than women SSCCC students. 5. Students suggested modifications in the training system in terms of making it more responsive to students' needs. 6. They expressed the need to heve more printed lessons, to make the regional languages the medium of instruction, to place more emphasis on teaching methods during the summer school, to have a regular teaching faculty for the SSCCC programme instead of inviting educationists of the region to teach at the summer school, and to adjust the timing and duration of the summer school to suit the convenience of the trainees. 7. The time taken by the tutors in returning evaluated assignments was

viewed by the student respondents as 'too long'. Adequate instructions regarding the assignments were not provided to the students. 8. The use of radio and television programmes for problem-solving sessions was found favourable to most of the students. 9. Activities conducted during the summer school period were viewed as necessary inputs and a large majority of student-teachers considered these activities as useful in resolving their difficulties, and as contributing positively to their course-performance.

1097. KUMAR, N., *Job Analysis of Secondary School Teachers,* Ph.D. Edu., BHU, 1982

The main objectives of the study were (i) to identify the important jobs of scondary school teachers as perceived by teachers, teacher educators and principals, (ii) to identify the jobs performed by secondary school teachers as perceived by teachers, teacher educators and principals, (iii) to find out the relationship between the jobs expected and the jobs performed by secondary school teachers as identified by teachers, teacher educators and principals, (iv) to find out the important competencies required by the secondary school teachers to perform their jobs successfully, in the opinion of teachers, teacher educators and principals, (v) to find out the difference among the perceptions of teachers, teacher educators and principals concerning the important jobs expected of secondary school teachers, (vi) to find out the differences among the opinions of teachers, theacher educators and principals concerning the relative amount of time spent on the performed jobs of secondary school teachers, and (vii) to find out the differences of opinion among different groups of teachers on the relative amount of time spent on the jobs performed by secondary school teachers.

The study followed a descriptive method. The tool used in the study was the Teacher Job Analysis Questionnaire (TJAQ) prepared by the investigator. The sample of 350 individuals was drawn randomly from the population of teachers, principals of secondary schools and teacher educators of training colleges of Varanasi city. The jobs of the teachers and the important competencies were identified by using factor analysis. The relationships between the two factor structures were determined by using analysis of congruency. Multivariate simple analysis of variance was used to determine the significance of difference between the opinions of different groups.

The findings were: 1. The important jobs expected and performed by the teachers, and as identified by the teachers, principals and teacher educators included general jobs (e.g. telling pupils about their mistakes; telling parents about the pupils' absence from class; writing reports of pupils' conduct in school, etc.), organizational jobs, instructional and managerial jobs, cocurricular jobs, guidance work, demonstration, preparation of progress reports, library work, register work, fee collection and admission work, home assignment, preparing the school time-table, and dealing with emotionally disturbed pupils. 2. Five teacher competencies were found as important for the secondary school teachers to perform their jobs satisfactorily and successfully, in spite of different opinions of teachers, teacher educators and principals. They were general teacher competence, competence in dealing with children, competence in organizing learning materials, competence in evaluation, and competence in working with the community. 3. The teachers, teacher educators and principals differred significantly in their opinion on the relative amount of time spent on the jobs performed by the secondary school teachers.

1098. LALITHA, M.S., *Effectiveness of a Strategy of Training for Integrating Teaching Skills on Teaching Competence of Student Teachers,* Dept. of Post-Graduate Studies and Research in Education, Mys. U., 1981

The main objective of the study was to compare the effectiveness of the experimental strategy (experimental treatment) with no specific strategy (control treatment) for training in integration of teaching skills in terms of teaching competence of student teachers.

The study employed a pretest, post-test control group design with pretest scores and teachers' attitudes as covariates. Sixteen student teachers of a teacher training college constituted the sample for the study. The covariates, namely, teacher attitudes and classroom performance in terms of teaching competence were measured prior to the experiment for all the student-teachers included in the study. The treatments were given in simulated situations followed by real school situations. The teaching competence was measured employing, (1) a General Teaching Competence Scale (GTCS) which measured teaching competence in the use of various specific teaching skills, and (ii) the Indore Teaching Competence Scale (ITCS) which measured

teaching competence in integrating various teaching skills.

The following were the major findings: 1. There was no significant difference between the two treatment-groups after training for integration of teaching skills in simulated conditions in terms of teaching competence measured on both GTCS and ITCS adjusted for initial differences in teacher attitudes and pre-performance on GTCS and ITCS. 2. After training for integration of teaching skills in simulated conditions followed by real school conditions, the experimental group was better than the control group in terms of teaching competence measured on GTCS adjusted for initial differences in teacher attitudes and pre-performance on GTCS. There was no such difference between the groups in terms of teaching competence measured on ITCS adjusted for initial differences in teacher attitudes and pre-performance on ITCS. 3. After training for integration of teaching skills in simulated conditions, the experimental group had made greater mean gains (significant at 0.05 level) than the other group on teaching competence measured on GTCS adjusted for initial differences in terms of teaching competence measured on ITCS. The same results were obtained even after the entire training for integration of teaching skills (in simulated followed by real school conditions). But the difference in GTCS gains between the groups was still more distinct (significant at 0.01 level).

1099. LS'VERNE, M.R., *A Study of Some of the Personality Components of Creative Student Teachers in relation to their Competence towards Teaching*, Ph.D. Edu., Luc. U., 1985

The study was designed to compare high, medium and low creative student-teachers on three dimensions of creativity and total creativity in terms of certain personality components, sex, teaching competence and achievement levels.

The sample consisted of 210 B.Ed. students randomly selected from four educational institutions in Lucknow. Data regarding creativity were collected with the help of the Torrence Tests of Creative Thinking. For assessment of personality characteristics the Multivariate Personality Inventory and 16 PF were administered to the student-teachers. A Teacher Effectiveness Scale was administered to get an idea about their effectiveness as teachers and division scored by them in practice teaching was taken as the criterion of their performance as teachers.

The main findings of the study were: 1. The F ratios for the effect of fluency were significant for dominance, reserved *vs* outgoing, humble *vs* assertive and toughminded *vs* tenderminded. 2. The F ratios for the main effects of flexibility were significant for ego ideal, dominance, sober *vs* happy-go-lucky and group-dependent *vs* self-sufficient. 3. The F ratios for the effect of originality were significant for self-confidence, humble *vs* assertive and sober *vs* happy-go-lucky. 4. The Fratios for the effect of total creativity were significant for empathy, self-confidence, reserved *vs* outgoing, sober *vs* happy-go-lucky and toughminded *vs* tenderminded. 5. The F ratios for interaction of sex and total creativity was significant for neuroticism, self-confidence and reserved *vs* outgoing. 6. Personality factors distinguishing the low total creativity group from the medium total creativity group were self-confidence, toughminded *vs* tenderminded and sober *vs* happy-go-lucky. 7. Personality factors distinguishing the low total creativity group from the high total creativity group were self-confidence, sober *vs* happy-go-lucky and toughminded *vs* tenderminded. 8. Personality factors distinguishing the medium total creativity group from the high total creativity group were pessimism, empathy, conservatism and experimenting.

***1100.** MALIK, J.S., *A Comparative Study of Personality Factors and Learning Environments of Successful and Unsuccessful Science Teachers in selected Schools of Rajasthan*, Ph.D. Edu., M. Sukh. U., 1984

The major objectives of the study were (i) to identify successful and unsuccessful science teachers on the basis of criteria evolved by the investigator, (ii) to compare the learning environments of successful and unsuccessful science teachers as perceived by them and their students, (iii) to compare the personality factors of successful and unsuccessful science teachers, (iv) to find out the interrelationship between personality factors of science teachers, their success in teaching and the learning environment as perceived by the science teachers themselves and their students, and (v) to find out the factor pattern associated with science teaching.

The study was confined to 72 higher secondary schools located in seven major cities of Rajasthan. Initially 205 science teachers with a minimum experience of three years were selected. The student sample consisted of 3450 science students. In order to measure

teaching success of science teachers, a Science Teaching Success Rating Scale was constructed by the investigator. Besides this tool, a bio-data form and a Hindi version of Learning Environment Inventory were adopted.

The findings were: 1. Some personality factors were significantly related with teaching success which was positively correlated with intelligence, emotional stability, tendermindedness, suspiciousness, self-sufficiency, placidity and relaxedness. 2. Successful science teachers had clarity of goals and their students found less difficulty with class work than the students of unsuccessful science teachers. 3. Teaching success was positively correlated with dimensions of formality, goal direction, satisfaction, democracy, diversity and cliqueness. 4. Teaching success was negatively correlated with dimensions of friction, difficulty, apathy and disorganization. 5. The classroom atmosphere of unsuccessful science teachers was full of tension, quarrelling among students, confusion in class activities, lack of affinity with classwork, and there was favouritism. 6. Some significant correlation, either positive or negative, was found between the classroom learning environment and personality factors. 7. Personality, learning environment, concomitants of teaching success (physical environment, democracy, goal direction, satisfaction, formality), age and experience were some of the factor patterns associated with science teaching.

1101. MALIK, S., *Personality Correlates of Real and Ideal Self-Concept of Teacher Trainees,* Ph.D. Psy., Agra U., 1978

The objectives were (i) to find out the relationship between real and ideal self-concepts of teacher trainees, (ii) to find out the relationship of the real and ideal self-concept with some selected dimensions of personality of teacher-trainees, (iii) to find out the relationship between the teacher-trainees' attitude towards the teaching profession and their real and ideal self-concept. The hypotheses were: (1) There exists a positive relationship between real and ideal self-concept of teacher-trainees. (2) There is a positive relationship between real and ideal self-concept of teacher-trainees and certain dimensions of personality. (3) There exists a positive relationship between self-concept (real and ideal) of teacher-trainees and their attitudes towards teaching. (4) There exists a positive relationship between attitude and certain dimensions of personality with regard to real and ideal self-concept of teacher trainees. (5) There exists a negative relationship between self-ideal discrepancy and attitudes of teacher trainees towards teaching profession. (6) The differences between secondary level and elementary level teacher-trainees with regard to their real self-ideal self, attitudes and certain personality dimensions are significant.

The sample consisted of 432 teacher-trainees. It represented secondary level teacher-trainees as well as elementary level teacher-trainees. They also represented urban as well as rural areas and were randomly selected. The Self-Concept Inventory was developed by the investigatior. The test–retest reliability coefficients ranged from 0.56 to 0.74. Personality was measured with the help of the 16 PF Questionnaire developed by Cattell and adopted in Hindi by S.D. Kapoor. The Attitude Scale was developed by the investigator. The split-half reliability coefficient was 0.75. SES was measured with the help of the SES Scale (Rural and Urban) developed by S.P. Kulshreshtha. Data were analysed with the help of t-test and factor analysis.

The findings were: (1) Teacher trainees' self-concept consisted of various characteristics, namely, *vikasunmukh, yathasthiti, sanskaar, chitt, uttejna,* and *swarthi,* which they valued differently. 2. Emotional stability, venturesome, self-controlled, conservatism of temperament, adaptable, confident and relaxed were the personality variables that were found associated with the real self of the teacher-trainees, whereas bright, emotional stability, conscientious, venturesome, shrewd, self-controlled, socially group-dependent, adaptable, confident and relaxed were the personality characteristics that were found associated with their ideal self. 3. Self was a unitary concept and could not be split into parts. 4. Self was a segment of personality. 5. Shrewdness was the only personality variable that characterised the self-concept of teacher-trainees. 6. None of the identified personality factors, except the self-concept factor, contributed to the attitude of teacher trainees. Teacher-trainees low in their self-ideal discrepany tended to be emotionally stable and adaptable. 7. Elementary level-teacher trainees differed significantly from secondary level teacher-trainees with regard to their age, real self, ideal self, attitude, personality factors like sociability, bright, venturesome, sensitive, suspecting, insecure and high ergic tension. The former were higher on sociability, venturesomeness, sensibility, suspiciousness, insecurity, and excitability and the latter on brightness.

*1102. MATHUR, S., *Attitudes of Teachers towards Creative Learning and Teaching*, Ph.D. Edu., Agra U., 1987

The objectives of the inquiry were (i) to study attitudes of teachers of the prehigher secondary school stage towards creative learning and teaching, (ii) to make a comparative study of attitudes of teachers of prehigher secondary school stage, i.e. primary and junior high school teachers towards creative learning and teaching on the basis of age, sex, teaching experience and academic disciplines, (iii) to study attitudes of teachers of the higher secondary school stage towards creative learning and teaching, (iv) to make a comparative study of attitudes of teachers of the higher secondary school stage towards creative learning and teaching on the basis of age, sex, teaching experience and academic disciplines, (v) to study attitudes of teachers of the posthigher secondary school stage towards creative learning and teaching, (vi) to make a comparative study of attitudes of teachers of the posthigher secondary school stage, i.e. university teachers, towards creative learning and teaching on the basis of age, sex, teaching experience and academic disciplines, (vii) to make a comparative study of attitudes of teachers at prehigher secondary, higher secondary and posthigher secondary school stages towards creative learning and teaching to ascertain the effect of educational stages on their attitudes, and (viii) to make a comparative study of attitudes of teachers of the prehigher secondary, higher secondary and posthigher secondary school stages towards creative learning and teaching formed on the basis of age, sex, teaching experience, and academic disciplines to ascertain the effect of educational stages on their attitudes.

In order to collect the requisite data for the study, a two-stage design was used to select a sample of 600 teachers, including 200 prehigher secondary, 200 higher secondary, and 200 posthigher secondary teachers of Agra city to mirror the attitudes of the population of teachers of various stages towards creative learning and teaching. Every major group was further classified into minor groups on the basis of age, sex, teaching experience and academic disciplines. In this study, the scale developed by Torrance and Phillips was used to measure attitudes of teachers towards creative learning and teaching. The scale (revised edition) contains 50 items; 25 concerning creative learning and another 25 concerning creative teaching on a five-point scale. These items were fairly free from cultural biases. The items were given in the original form in English. Hindi version of these items was also added, along with the English version, by the researcher on the basis of experts' opinions about their suitability and efficacy in Indian conditions, specially for Hindi-speaking populations. Percentages, significance of percentage differences, means, standard deviations and 't' values were computed to verify the hypotheses.

The following conclusions were arrived at: 1. By and large, teachers of prehigher secondary, higher secondary and posthigher secondary stages tended to have favourable attitudes towards creative learning and unfavourable attitudes towards creative teaching. 2. Age, sex, teaching experience and academic disciplines did not tend to affect the attitudes of teachers of prehigher secondary, higher secondary and posthigher secondary stages towards creative learning and teaching. Only teaching experience tended to affect the attitudes of teachers of the higher secondary stage towards creative teaching. 3. The teachers at the posthigher secondary stage tended to have a more favourable attitude towards creative learning and teaching than teachers at other stages. 4. The teachers of the prehigher secondary stage tended to have more unfavourable attitudes towards creative learning and teaching than those of teachers of other stages. 5. By and large, educational stages tended to affect the attitudes of teachers of various groups formed on the basis of age, sex, teaching experience and academic disciplines towards creative learning and teaching.

1103. MEHTA, G.L., *A Study of Role Conflicts of Teachers*, Ph.D. Edu., MSU. 1985

The major objectives of the study were (i) to identify potential role conflict situations as perceived and experienced by secondary school teachers, (ii) to study relationships between teachers' characteristics (age, experience, professional status, etc.) and overall levels of perceived and experienced role conflict, (iii) to find out relationships, if any, between perceptions and experience of role conflicts and the experience of worry felt by teachers, (iv) to examine critically the relationship between overall levels of perceived and experienced role conflict and job satisfaction felt by teachers, and (v) to investigate the relationship between teachers' overall levels of perceived and experienced role conflict and types of schools in terms of location.

The sample of teachers (393) was selected using the

stratified random sampling method from among 20 aided high schools and intermediate colleges of Deoria district. The tools used for data collection were a Role Conflict Questionnaire developed by the investigator, an information sheet and the Job Satisfaction Scale of S.P. Anand. Biserial *r*, point-biserial *r*, critical ratio and the chi-square test were used to arrive at conclusions.

The major findings were: 1. There were 33 different situations in six role areas, viz., socio-economic, organizational, citizenship, personality, disciplinary, professional. 2. Teachers teaching in rural schools and teachers having a linkage with professional associations had a higher level of role conflict perceptions as compared to teachers teaching in urban schools and teachers having no linkage with professional associations respectively. 3. There was no significant relationship between role conflict perceptions and any one of the five variables—teaching experience, number of dependents, sources of additional income, professional status, and origin as related to present place of working. 4. The relationship between role conflict perceptions and age, location of schools and linkage with professional associations was found to be significant. 5. Age, teaching experience, number of dependents, sources of additional income, location of schools, linkage with professional associations did not bear significant relationship with the degree of overall role conflict experienced. 6. High school teachers experienced a higher level of role conflict than lecturers of intermediate colleges. 7. Teachers of aided high schools were found to perceive and experience higher role conflict than teachers of government and minority schools. 8. Minority school teachers and government school teachers did not differ significantly in their role conflict perceptions and experiences. 9. Teachers having a high level of overall role conflict perceptions and experiences were found to have a low level of job satisfaction as compared to teachers with a low level of overall role conflict perceptions and role conflict experiences. 10. The difference between mean worry scores of teachers perceiving and experiencing a high level of overall role conflict as compared to teachers perceiving and experiencing a low level of overall role conflict was found to be significant. Teachers perceiving and experiencing a higher level of worry had more role conflict than those who perceived and experienced a low level of role conflict.

The study has some important implications for the educational authorities and management. The state departments of education, management associations and teachers associations should work cooperatively to avoid situations which would give rise to role conflict among teachers. The teacher-education institutions should work intensively at the pre-service and in-service level to enable teachers to perceive their role in the context of problems of development. The educational authorities should attempt to strike a balance between the teacher's need for autonomy and his accountability to reduce role conflict situations.

1104. MEHTA, R.D., *An Investigation into the Change in the Attitudes and Values of Teacher Trainees with respect to Some of Their Personality Variables*, Ph.D. Edu., Del. U., 1985

The objectives of the inquiry were (i) to study the relationship of extraversion (E), psychoticism (P), neuroticism (N) with (a) change in attitude towards teaching as a profession (ATP), (b) change in attitude towards child control (ACC), (c) change in attitude towards classroom discipline (ACD), (d) change in attitude towards classroom instruction (ACI), (e) change in attitude towards teacher-pupil relations (ATPR), (f) change in theoretical value (Th), (g) change in economic value (EC), (h) change in aesthetic values (AS), (i) change in social values (SO), (j) change in political value (PO), (k) change in religious value (Re), and (ii) to study the main effects along with interaction of extraversion (E), psychoticism (P), and neuroticism (N) on ATP, ACC, ACD, ACI, ATPR, Th, EC, AS, SO, PO, and Re.

The study followed a pretest post-test experimental design. The treatment consisted of a one year teacher training programme as organized by the Department of Education, Delhi University. A sample of 375 students was selected from two consecutive sessions (1981-82 and 1982-83) of B.Ed. students of the Department of Education, Delhi University. A sample of 184 students selected from the session 1981-82 and 191 students from session 1982-83. These sample subjects were administered the following tools: (i) the Teacher Attitude Inventory, (ii) The Value Scale having six areas, viz., theoretical, economic, aesthetic, social, political and religious values, and (iii) Eysenck's Personality Questionnaire. The data so collected were analysed with the help of correlation and a three-way factorial design ($3\times3\times3$) of analysis of variance. The three levels of the three independent variables, extraversion, psychoticism and neuroticism, were formed on the basis of low (lowest 25 per cent) middle (middle 50 per cent), and high (upper 25 per cent) individuals of the sample subjects.

The findings of the study were: 1. The impact of the teacher training programme in the CIE (Department of Education) was such that a significant positive change in attitudes towards teaching took place in all the sub-groups of subjects, and the maximum positive change took place in the sub-group of high extraversion, with low psychoticism and low neuroticism. 2. The interaction effect of extraversion, psychoticism and neuroticism was non-significant in producing any significant change in the said attitudes, viz., attitude towards child control, attitude towards classroom discipline, attitude towards classroom instruction and attitude towards teacher–pupil relations. 3. The impact of the teacher training programme was such that theoretical, aesthetic and political values changed negatively as a result of the effect of extraversion, psychoticism and neuroticism.

1105. MISHRA, S., *A Study of Social Mobility among Teachers (with reference to the Primary, Secondary, College and University Teachers of Gorakhpur City),* Ph.D. Edu., Gor. U., 1987

The objectives of the study were (i) to determine factors responsible for mobility among teachers, e.g. caste, education, economic condition, merit, etc., (ii) to find out which type of social mobility, vertical or horizontal, was more liked by the teachers, and (iii) to determine how far mobility affected social change.

A questionnaire on social mobility among the teachers containing questions on educational qualification, income and occupation of family members, working conditions, future prospects of promotion, etc. was prepared by the researcher. The sample consisted of 152 primary school teachers, 400 secondary school teachers, 72 college lecturers, 20 university professors, 65 readers and 65 lecturers. The teachers were selected through a purposive sampling method.

The study revealed that better working conditions, locality—from rural to urban, better income and higher cadre were the main factors responsible for mobility among teachers.,

1106. MISHRA, A., *Growth of Teacher Education for Women and Problems Thereof (with special reference to U.P.),* Ph.D. Edu., Gor. U., 1986

The objectives of the study were (i) to prepare a resume of the history of teacher education in the country, (ii) to study the growth of such institutions in UP, (iii) to enquire into the numerical growth of students and teachers in the institutions of female teacher education, and (iv) to ascertain how far the financial assistance to such institutions had grown.

The researcher divided the study in three dimensions: (i) teacher training at the primary level; (ii) teacher training at the secondary level; (iii) the problems faced by female teacher educators in their institutions. First, the researcher visited the departmental examinations' office, Allahabad, and prepared a list of BTC institutions and data regarding the history of this course. In all, there were 56 such institutions. Secondly, she enquired about number of such institutions with the help of the university offices to which they were affiliated and the number came to 26. Thirdly, she visited the National Archives at Allahabad and Lucknow and culled details from primary sources such as reports of committees and commissions.

The sample consisted of 56 BTC institutions and 26 secondary teacher colleges. The tools consisted of a questionnaire containing six sections to collect information regarding problems from teacher educators, an interview schedule for principals and heads of colleges, and a questionnaire for BTC teachers. In addition to these, the researcher visited a number of institutions for primary training and all the institutions for higher training to make a first-hand study. Descriptive statistics were used for data analysis.

The major findings of the study were: 1. There was a steady growth in the number of training institutions for women, specially in post-independence India. The last teacher education department for women was opened in 1973. A study of the number of books in the library, furniture, building and staff revealed that the investment of grants on these items had also grown. Examination results, both in the theory papers and practicals, also showed improvement. 2. Regarding teacher education at the primary level, the findings showed that a number of programmes had been launched in the past and, with the march of time, they had been amalgamated under a new nomenclature, finally leading to the emergence of the BTC courses. 3. Regarding problems at the higher level, it was found that the staff were confronted many difficulties arising out of the grip of private managements and local political pressures with regard to examinations and admission. They had also some problems with building accommodation. Government colleges had no such problems, except the problem of transfer and stagnation. At the BTC stage,

women teacher educators suffered from scarcity of living quarters, water-supply and personal insecurity. In the institutions located in the interior, there was no regular electric supply.

1107. MISRA, M., *A Study of Meaning in Life, Stress and Burnout in Teachers of Secondary Schools in Calcutta*, Ph.D. Edu, MSU, 1986

The objectives of the inquiry were (i) to study if teachers varied in the degree of overall meaning in life and if they showed a trend toward low or high meaning, (ii) to identify important sources of meaning in the personal and professional life of teachers and to investigate if teachers varied in the degree of meaning derived from these sources, (iii) to find out the relationship, if any, among the different measures of meaning in life, (iv) to identify the main sources of stress in teaching and to investigate if teachers varied in the extent of experienced stress, (v) to study if teachers varied in the extent of perceived burnout, and (vi) to study the relationships between stress and burnout, meaning in life and stress, and meaning in life and burnout in teachers.

The tools used for data collection were Moholick's (1969) Purpose in Life Test, Maslach and Jackson's (1981) Inventory for Study of Burnout, and a scale and interview schedules prepared by the investigator for measurement of stress and other background variables. The sample comprised 345 teachers from 15 secondary schools and an in-service teacher population of three teacher training institutions in Calcutta. Survey and case study techniques were followed in the conduct of the study. Descriptive and non-parametric statistical techniques were used for analysis of data.

The findings of the study were: 1. Meaningfulness of life of the teachers was quite high according to their own perception. 2. Meaning in professional life was derived primarily from psychic rewards obtained from task-related outcomes and relationships with students. 3. All the measures of meaning in life, namely, self-reported meaning in life, sources of meaning in life, and sources of meaning in teaching had a positive relationship with meaning of life. 4. The relationship between stress studied through test and stress reported by teachers was highly significant. 5. Age difference was significant with regard to stress of teachers. 6. The sample teachers had a lower degree of burnout. 7. Sex difference was significant on the burnout variable. 8. Stress was positively related to burnout with regard to emotional exhaustion and depersonalization. 9. There was a negative relationship between meaning in life and stress and stress variables measured by tests as well as self-reporting items. 10. A comparatively low level of meaning in life was identified among the sample teachers.

1108. MISTRY, T.C., *Need Achievement, Job Satisfaction, Job Involvement as a Function of Role Stress, Locus of Control and Participation in Academic Climate: A Study of College and Secondary Teachers*, Ph.D. Psy., Guj. U., 1985

The investigation was an attempt to fill some of the gaps in the existing field of knowledge regarding job satisfaction, job involvement and n-achivement as outcome variables of locus of control, motivational climate, participation in academic climate and various types of role stresses the teaching population faced.

In the study, six different research tools were employed to collect the data: the satisfaction–dissatisfaction Employer's Inventory developed and standardized by Pestonjee, used to assess job satisfaction; the Social Relation Inventroy developed by Rotter and adapted by Hasan, used to assess the internality–externality dimensions of personality, a "Your feelings about your role" scale developed by Pareek, used to measure the extent of role stress, a Motivational Analysis of Organizations (MAO) questionnaire developed by Pareek, used to assess organisational academic climate, a Psychological Participation Index developed and standardized by Pestonjee, used to assesss the extent of psychological participation, and a General Inventory prepared for the study to gather general information about age, tenure, socio-economic condition, etc. and information pertaining the job. Two hundred and two subjects were selected from colleges and secondary schools of Ahmedabad. Multiple regression analysis was carried out to estimate the contribution of various independent variables to three dependent variables—job satisfaction, job involvement and n-achievement.

Major findings were: 1. No significant relationships were observed between locus of control and various dimensions of job satisfaction. 2. The climate of academic motivation was found to be significantly associated with such dimensions as job satisfaction, involvement as well as overall satisfaction. 3. The climate of control was found to be negatively correlated with on-the-job aspects of job satisfaction and with total job satisfaction. 4. The climate of dependency had no effect on var-

ious aspects of job satisfaction and job involvement. 5. Job involvement was found to be significantly and positively related with different aspects of job satisfaction. 6. Self-role distance was found to be significantly but negatively correlated with all the dimensions of job satisfaction. 7. Inter-role distance, role-stagnation, role-ambiguity, role-overload, role-inadequacy and overall indices of role-stress had been found to be negatively associated with all but social relations demensions of job satisfaction.

*1109. MOHAN RAO, C.N.S., *An Evaluation of the Factors that Affect the Teacher Morale in School Setting*, Ph.D. Edu., And. U., 1985

The objective of the study was to make an evaluation of the various factors that affected teacher morale. The hypotheses examined were: (1) Professional factors such as dynamism, avocational activities, work-load and recognition affect teacher morale. (2) School environmental factors, viz., human relations, academic facilities and physical facilities influence teacher morale. (3) Of the factors relating to professional growth and factors relating to school environment, the school environment factors affect teacher morale. (4) Teaching done through the adoption of the latest techniques of teaching elevates teacher morale. (5) The personal characteristics of the teacher affect teacher morale. (6) Active participation in school programmes affect teacher morale. (7) Satisfaction with teaching improves teacher morale. (8) Good human relations, viz., relations with pupils, colleagues, superiors, non-teaching employees and parents, affect teacher morale. (9) Academic facilities, such as availability of teaching aids, library facilities, laboratory facilities, etc. improve teacher morale. (10) Effective classroom management results in better teacher morale.

The study employed the normative survey method of research. The total sample included 400 teachers working in secondary schools of Srikakulam, Visakhapatnam, and East Godavari districts of Andhra University. The stratified sampling technique was employed. Six variables, viz., sex, educational qualifications, designation of a teacher, teaching experience, nature of school management and locality were considered for drawing the sample. A Secondary School Teacher Morale Opinionnaire—I (SSTMO-I) was constructed on the lines of the Likert method of summated ratings. This tool measured ten factors, viz., satisfaction with teaching, service conditions, fringe benefits, teaching load, recognition, personal characteristics, avocational activities, change proneness, academic improvement and sharing of responsibilities. The rational equivalence reliability was worked out. It was 0.942. Another tool, viz., a Secondary School Teacher Morale Opinionnaire—II (SSTMO-II) was developed to measure ten factors, viz., school facilities (physical), school facilities (academic) relation with pupils, rapport with colleagues, rapport with headmaster, relations with non-teaching employees, relations with parents, classroom management, student performance assessment and participation in school programmes. The rational equivalence reliability coefficient of this tool was 0.952. The statistical techniques of central tendency, variability, skewness, kurtosis, t-ratio, ANOVA and correlation were employed for the analysis of the data.

Some of the major findings were: 1. Six factors, viz., academic improvement, change proneness, avocational activities, teaching load, recognition and personal characteristics, which belonged to the major factor of professional growth, influenced teacher morale. 2. Factors such as sharing of responsibilities, service conditions, satisfaction with teaching, and fringe benefits had no marked effect on teacher morale. 3. Factors relating to professional growth revealed that academic improvement, change proneness and avocational activities influenced teacher morale. 4. Teaching load, recognition, personal characteristics of the teacher, influenced teacher morale to some extent. 5. Five factors, viz., rapport with colleagues, school facilities (academic), relations with parents, rapport with headmaster, and classroom management, which belonged to the major factor of school environment, influenced teacher morale. 6. Factors such as student performance assessment, relations with pupils, school facilities (physical), participation in school programmes, relations with non-teaching employees, had no marked effect on teacher morale. 7. Factors relating to school environment revealed that the maintenance of good human relations with colleagues, parents and the immediate superior affected teacher morale in the school setting. 8. Academic facilities provided in the school for effective teaching influenced teacher morale. 9. Of the two categories of factors, viz., factors relating to professional growth and factors relating to school environment, the factors relating to school environment had a marked influence on teacher morale. 10. There was a moderate relationship between the factors relating to professional growth and the factors relating to school environment which influ-

enced teacher morale. 11. The male teachers were of the opinion that the factors relating to professional growth influenced teacher morale more than factors relating to school environment, whereas, female teachers expressed the reverse opinion. 12. Change-proneness like adaptation to innovative classroom practices and adoption of latest techniques of teaching influenced teacher morale. 13. There was no significant difference in the opinions expressed by teachers with different qualifications, working under different managements and localities with varied experience, on the factors relating to professional growth and factors relating to school environment.

1110. MOHANTY, S.B., *A Study of Student Teaching Programmes in Colleges of Education with special reference to Innovation,* Ph.D. Edu., MSU, 1984

The objectives of the study were (i) to study the provisions of student teaching programmes in colleges of education in respect of objectives, pre-practice teaching preparation, practice teaching, supervision, evaluation, school/college cooperation, resources and innovation, and (ii) to make case studies of innovations in student teaching programmes.

The study was conducted on the population of all the 19 teacher-training colleges of Orissa State. All the principals (100 per cent) and 118 (75 per cent) of the lecturers of these teacher-training colleges were the respondents of the study. The investigator prepared two questionnaires, one for principals and the other for lecturers, and one observation schedule, one interview schedule and one proforma. Data were collected by mail as well as through personal visits to the teacher-training institutions. The responses to the questionnaires were analysed through percentages and the data collected through other tools were analysed qualitatively.

The findings of the study were: 1. Training in techniques of observation, maintenance of classroom discipline and organization of functions and festivals were found in all colleges. 2. The manner in which criticism lessons were held was not proper. 3. Various methods of teaching were not used in teaching lessons. 4. The practice-teaching programme stressed delivery of lessons and not other activities expected from a student-teacher. 5. Supervisors did not observe lessons completely. They rarely discussed their observations in lesson-plan journals with the trainees. 6. The evaluation was of doubtful validity as no evaluation criteria were explicitly stated. 7. School–college cooperation was found poor in almost all institutions under study. 8. The colleges lacked qualified method masters. 9. The lecture method of teaching was in vogue. Microteaching and team supervision of criticism lessons were the only two innovations practised in three colleges. 10. In all respects, the functioning of government institutions was better than that of private institutions.

1111. MUKHERJEE, D.P., *Reading Disabilities (Misutterances in Oral Reading) of Student-Teachers—Their Identification and Remediation, Dept. of Edu.,* Visva Bharati, 1983

The objectives of the study were (i) to identify the peculiar misutterances in oral reading of the student-teachers undergoing training, and (ii) to evolve effective treatment for remediation as best as possible.

A graded series of diagnostic tests were constructed on the basis of the common disabilities experienced in successive teaching sessions, with reference to the following sub-skills involved in reading: word recognition, identification of intra-word-phoneme order, identification of intra-sentence-morpheme order, production of utterances with standard pause, stress and accents and recognition and recall of word-meaning association for meaningful reading. The tests were tried out on a sample of 50 student-teachers identified as disabled in oral reading by the language teachers of their respective institutions.

The peculiar misutterances that were identified from the diagnostic tests were as follows: 1. Disability in visual perception while discriminating actual utterances of words having almost similar graphical structures but different meanings, and thereby proving that morpheme–grapheme–meaning association had not yet been established in the reader, and secondly discriminating almost similar graphemes of conjucts having distinctly different pronunciation. 2. Successive occurrence of a particular consonant in a word caused disability in pronouncing it correctly and thus in pronunciation one was almost dropped or smoothered down to the level of the preceding or succeeding vowel sound. 3. In the case of consonants with vowel signs, sometimes they were pronounced as *e* in bed, met, red, and sometimes as *-a-* in bad, mad, sad. Misutterance was observed in either case. 4. In Bengali standard utterance palatal *Sha* is usually pronounced, and

in some conjucts starting with dental *sa* the pronunciation maintains its dental character. But some readers showed misutterance in discriminating the aspirants in pronunciation, producing dental *sa* everywhere. 5. When in two successive words, two or more conjucts or simple letters occurred, one unvoiced and one voiced, the voiced was influenced by the unvoiced or vice versa. 6. When in a single word several conjucts with different phonemic characters occurred, many readers failed to pronounce the word distinctly, keeping the correct phonemic discriminations, and as a result some conjoint phonemes were mispronounced, either following the line of preceding conjucts or of later ones, or assuming the character of simple phonemes. 7. When the same consonant or any of the first four consonants of *a varga* occurred simultaneously twice or thrice in a word or a phrase, the reader failed to produce all the phonemes in their correct form and the former one was followed by similar phonemes or plain vowel sounds. 8. Remedial treatments were: (i) Construction of graded reading materials incorporating scrupulously selected phonemes, words, clauses, and sentences and their use in teaching. (ii) The student-teacher having disability in some or other particular area was involved in an experimental situation and asked to read the lessons meant for remediation of his disabilities slowly and carefully and his readings were tape-recorded; after his reading, the recorded lessons were replayed and the trainee was asked to listen to the readings attentively. (iii) A prerecorded model reading of the text in standard pronunciation was played to the reader and he was asked to identify his misutterances and rectify his misutterances through successive drilling sessions. He was again asked to read the lesson and his reading was tape-recorded, and it was played back to him. The model utterance was played again as and when necessary. The reader was then asked to read freely some prose passages from graded materials selected from different books written in Bengali, both in chaste and standard, colloquial style. The reading was recorded and analysed latter to find out the improvement in reading ability achieved by the treatment.

1112. NAIK, V.V., *A Comparative Study of the Effect of Microteaching and Conventional Approaches of Teacher Training upon Pupils' Achievement, Pupils' Perception and General Teaching Competence of Preservice Student Teachers*, Ph.D. Edu., Bom. U., 1984

The objectives of the study were (i) to study the differential effect of microteaching and conventional teacher training approaches in relation to the achievement of pupils, (ii) to study the pupils' perception of student-teachers trained through microteaching and conventional teacher training approaches, and (iii) to study the differential effect of microteaching and conventional teacher training approaches in relation to the general teaching competence of student teachers. The main hypotheses of the study were: (1) There was no significant difference in the gain scores of achievement of pupils taught by the student teachers trained through the microteaching approach and those trained through the conventional teacher training approach. (2) There was no significant difference in the scores of the pupils' perception of the student-teachers trained through microteaching and conventional teacher training approaches. (3) There was no significant difference in the gain scores of general teaching competence of student-teachers trained through microteaching and conventional teacher training approaches.

The study employed an experimental research design and used comparative methods. The design envisaged two groups of student-teachers and pupils, one serving as the experimental and the other as the control group. The microteaching training was given to the experimental group and the conventional teacher training was given to the control group. The method of purposive, incidental and multi-stage sampling was used for the selection of the sample. The sample consisted of 644 student-teachers and 620 eighth standard pupils. Equal weightage was given to experimental and control groups. The data were collected by means of questionnaires and lessons. The tools employed in this study were Evaluation Schedules, a General Teaching Competence Scale, Raven's Standard Progressive Matrices and Ahluwalia's Teacher Attitude Inventory. These tools were used on student-teachers. The tools used for pupils were the Deo-Mohan Scale for Achievement Motivation, Jogavar's Socio-Economic Status Scale, the California Study Methods Survey, the Non-Verbal Test of Intelligence, the Scholastic Aptitude Test, Sharma's Anxiety Scale, Mathew's Student Liking Scale (Modified), an Achievement Test in Physics and an Achievement Test in Chemistry. The last two were prepared by the investigator. The data were analysed by using critical ratio, analysis of variance, factor analysis and correlational techniques.

The major findings of the study were: 1. For total gain in achievement in physics, the experimental group scored significantly higher than the control group. The

results were not significantly different for gain in the achievement in chemistry, and physics and chemistry together. 2. The results did not show significant differences between the experimental and control group when tested for gain in knowledge and understanding objectives for both subjects taken together or separately. 3. The experimental group scored significantly higher than the control group when tested for gain in application objective in physics, and physics and chemistry together. 4. The control group scored significantly higher when tested for the pupils' total perception of student-teachers in physics, and physics and chemistry together. No significant difference was found between both the groups for chemistry 5. The control group scored significantly higher than the experimental group when tested for pupils' perception of student teachers' skill of questioning, explaining and reinforcement in physics, and physics and chemistry together. 6. The experimental group scored significantly higher on general teaching competence than the control group. 7. Gain in general teaching competence significantly correlated with gain in achievement in physics as well as chemistry. 8. Gain in general teaching competency significantly correlated with perception in physics as well as chemistry.

The major educational implications were: (1) It was difficult for a student-teacher to isolate skills as other skills interfered while practising one of them. Hence, instead of single skill practice, clusters of skills should be practised. (2) Subject-specific skills should be practised rather than core skills. (3) A unit to be taught during a 40-minute period should be given to a student-teacher throughout microteaching lessons.

1113. NAQVI, K.V., CHOPRA, K., KAPUR A., *Teachers in Higher Education: Mobility and Inbreeding*, NIEPA, New Delhi, 1984

This study attempted to highlight the basic characteristics pertaining to mobility, inbreeding and retention at university and college levels.

Mobility was studied in the light of variables like universities/colleges, subjects, sex, social status, nature of posts (temporary/permanent), teaching experience, and age. Inbreeding and retention were also studied in the context of the same variables. The sample comprised 2144 university and 6306 college teachers. This was a descriptive survey where the data were collected through a questionnaire.

The major findings were: 1. The overall mobility of university teachers was of a higher order than that of college teachers. 2. Taking cognizance of both horizontal and vertical mobility, 52 per cent of university teachers and 42 per cent of college teachers were found to be mobile. 3. The main component of total mobility was horizontal mobility (33 per cent in case of university teachers and 31 per cent in case of college teachers). Among university teachers, professors were most mobile whereas hardly any such discrepancy was noticeable among college teachers. 4. The differential in overall movement of college and university teachers was largely accounted for by difference in vertical mobility which, in case of upward movement from lecturers to readers, was 15 per cent for university teachers and 5 per cent for college teachers. 5. Among subjects, maximum overall movement was recorded for medical personnel followed by those teaching arts and commerce while the least at the university level was recorded for engineering teachers. Among college teachers, maximum mobility was recorded in arts subjects, followed by science subjects. For college teachers teaching medicine, it was the lowest (35 per cent). 6. Female teachers in universities and colleges were less mobile than male teachers. 7. A high mobility of 58.32 per cent was seen among the scheduled tribes at the university level, followed by the non-scheduled castes. 8. Tenure-wise, overall mobility was highest among temporary hands both for university and college teachers. 9. Mobility was seen to be increasing with teaching experience and age in the case of university and college teachers. 10. Among college teachers, population settlements of the lowest and the highest order showed lower overall mobility compared to middle sized towns. 11. An in-migration of employees of other professions into the teaching profession indicated that, at the university level, 18.33 per cent of the teaching faculty came from other professions. 12. Most of the university teachers moved on their own initiatives. Only 16 per cent moved because of transfer. 13. About 49 per cent of the 2144 university teachers felt that inbreeding did not help the department to improve while about 37 per cent felt the reverse. About 45 per cent of the BHU and AMU teachers felt that inbreeding was good and an equal percentage thought it was bad. On the other hand, about 48 per cent and 66 per cent of the members of faculty of state and professional universities respectively were against inbreeding. The picture differed from subject to subject. More males were against inbreeding and more females were for inbreeding. Scheduled caste and scheduled tribes were primari-

ly weighted in favour of inbreeding. Again, teachers in the age-group 21–30 years were more favourably inclined towards inbreeding than those above 35 years of age. 14. Inbreeding appeared to be highest in the field of engineering and lowest in social sciences and medicine. 15. Some of the factors considered to be predominantly important in increasing retention were, (i) making emoluments of teachers comparable to those of All-India Services, (ii) providing housing and medical facilities, (iii) availability of library and laboratory facilities.

1114. NATARAJAN, S., *A Competency Based Programme in Teacher Education Curriculum*, Ph.D. Edu., Madras U., 1984

The major objectives of this investigation were (i) to study the relative efficacy of competency-based teacher education in the pre-service education programme of secondary school teachers, (ii) to identify factors influencing competency achievement such as social status, economic status and level of education, and (iii) to find out the relationship between an individual's self-esteem and competency achievement.

Competencies were spelled out in behavioural terms for the units in the elective subject, 'Institutional Planning and Administration', of the B.Ed. course of the Madras University, and these were designed to identify both knowledge and performance competencies. Knowledge competencies consisted of knowledge about concepts, knowledge about application of concepts and knowledge about specific examples about those applications. The competency list was validated by a panel of five educationists. For the experimental study, all the students of two government colleges of education at Pudukottai and Orathanad, numbering 200 were involved. They were male students in the age group 21–26. Five treatment groups with 40 student-teachers in each group were formed by random selection. The first group received instruction through the traditional lecture method with occasional dictating of notes. The second group learnt through small group discussions that were pre-planned. Source materials were supplied. The third group mastered the subject-matter through the conduct of seminars followed by discussions, the researcher or one of the student-teachers moderating the whole session. The fourth group was engaged in directed self-study, supported by a resource centre and weekly discussions led by the researcher. The last group studied by means of the self-instructional modules that were based on a competencies approach. Students were permitted to proceed at varying speeds. The actual experiment lasted for five months. Validated criterion-referenced tests were used for pretests as well as post-tests for all the groups. The criterion-referenced tests were based on identified explicit competencies. To find out the relationship between an individual's self-esteem and achievement, Rosenberg's Self-Esteem Scale was used. A check-list was utilized to find out the social and economic backgroup of the students and their general educational level with subject specialization. At the end of the experiment, the participants' attitude to the programme was ascertained through a five-point scale. An attitude scale was also used to study the attitude of student-teachers towards the teacher-preparation programme.

The major findings of the study were: 1. Competency-based instruction proved suitable for teaching selected units in Institutional Planning and Administration. 2. The seminar method seemed to be an effective method as it compared favourably with the competency-based approach. 3. The lecture method was effective as a group method. 4. Directed self-study did not compare well with other methods. 5. There was a significant relation between self-esteem and acquisition of competencies. 6. Attitude towards teaching methods had a favourable correlation with acquisition of competencies. 7. The study proved that teacher education programmes could be made more effective through a competency-based approach.

1115. OAK, A.W., *A Critical Study of Microteaching Techniques with a view to Suggest Improvement in its Implementation in Colleges of Education*, Department of Post-graduate Education and Research, SNDT U., 1986

The objectives of the inquiry were (i) to study the opinions of training-college teachers about microteaching in the light of their experience while guiding and observing lessons, and (ii) to study effective teachers' teaching in their classrooms.

The sample consisted of training college teachers teaching different subject methodologies and 20 experienced and effective teachers teaching different subjects who were chosen by an incidental sampling method and on the basis of the opinions of their headmasters about their teaching. Teaching was observed with the help of

an observation sheet specially prepared, keeping in view the objectives of the study. The obtained data were analysed by using percentage of time spent on various activities by the teachers.

The major findings of the study were: 1. While training the science student-teachers, activities such as teacher talk, questioning, BB work, and demonstration should be taken into account in preferential order. 2. Mathematics teachers needed training, in order of priority, in activities such as explanation, questioning, and BB work. 3. In the case of teaching of mother-tongue, the order of priority was teacher talk, reading/recitation, and questioning.

1116. PANDEYA, P., *Personality Profiles of Student-Teachers.* Ph.D. Edu., DHSGVV, 1983

The objectives of the study were (i) to prepare and draw up the personality profiles of B.Ed. student-teachers in general, (ii) to find out the differences in the personality profiles of male and female student-teachers, (iii) to discover age differences in the personality profiles of student-teachers, (iv) to assess the differences due to teaching experience in the personality profiles of student-teachers, (v) to understand the differences in the socio-economic status and the personality of student-teachers, (vi) to determine the nature of the managerial set-up of an institution and personality of students receiving B.Ed. training therein, and (vii) to determine the differences between direct and departmental student-teachers in terms of personality.

The sample of the study consisted of 150 student-teachers admitted to four teacher training colleges affiliated to Sagar University, during the session of 1980-81. One of these colleges was managed by the university, the second by the government, third by the Army and the fourth by private management. The age of the sample ranged from 20 to 41 years. Of these 70 were males and 80 were females; 79 were direct and 71 departmental student-teachers. The tools employed for data collection were the Cattell's 16 PF Questionnaire Form A translated in to Hindi by Kapoor and the Socio-Economic Status Scale Forms A and B (Urban) developed by B. Kuppuswamy. Mean, critical ratio and chi-square were used to analyse the data and draw conclusions.

The findings of the study were: 1. The student-teachers in general were found to possess the personality profiles as A, B−, C−, E, F−, G, H+, I, L, M, N, O, Q_1, Q_2, Q_3, and Q_4. 2. The male student-teachers were observed as possessing A, B−, C−, E, F−, G, H+, I+, L, M, N+, O, Q_1, Q_2, Q_3+ and Q_4−, while their female counterparts had A, B−, C−, E, F−, G−, H, I, L+, M, N, O, Q_1, Q_2+, Q_3+, and Q_4−. Male group scored significantly higher on factors E, H, M, and Q_3 than the female group, whereas, female group outscored males on O, Q_2 and Q_4 factors of personality. 3. The personality profile of B.Ed. students in the age group of 20 to 30 years was: A, B−, C−, E, F, G−, H+, I, L, M, N, O, Q_1, Q_2+, Q_3− and Q_4−; between the age group of 31 to 40 years it was: A, B−, C−, E, F−, G, H+, I+, L, M, N+, O, Q_1, Q_2−, Q_3+ and Q_4; and above 40 years, it was A, B−, C, E−, F, G, H+, I+, L, M, N+, O−, Q_1, Q_2, Q_3+ and Q_4−. Significant differences were observed on factors B and Q_4 between the age groups of 20 to 30 years and 31 to 40 years, in favour of the latter. 4. The student-teachers having less than five years of teaching experience had A, B−, C−, E+, F−, G, H+, I+, L, M, N, O, Q_1, Q_2, Q_3 and Q_4−, while those who had more than five years of teaching experience had A, B−, C, F−, G, H+, I+, L, M, N+, O, Q_1, Q_2, Q_3 +, and Q_4− as their dominant personality factors. 5. The student-teachers of high (I grade) socio-economic status (SES) had A, B−, C, E, F−, G, H+, I, L, M, N, O, Q_1, Q_2, Q_3+, and Q_4−; the student-teachers of above-average (II grade) SES had A, B−, C−, E, F−, G, H+, I, L, M, N, O, Q_1, Q_2, Q_3+, and Q_4−, the student-teachers of average (III grade) SES had A, B−, C−, E+, F−, G−, H+, I, L, M, N, O, Q_1, Q_2, Q_3+ and Q_4−; and those of low SES (IV grade) had A, B−, C−, E, F−, G, H, I, L+, M, N, O, Q_1, Q_2+, Q_3 and Q_4− as their personality factors. Subjects of high SES differed significantly from those of average SES on factors B and N; those of low SES differed significantly from those of high SES on factor A; and the subjects belonging to above average SES differed significantly from those with average and low SES on N and A factors of personality. 6. The teacher-trainees of the university-managed institution had A, B−, C, E, F−, G, H+, I, L, M, N, O Q_1, Q_2+, Q_3+ and Q_4− factors; the student-teachers of the government-managed institution had A, B−, C−, E, F−, G, H, I, L, M, N, O, Q_1, Q_2, Q_3+ and Q_4− factors; the student-teachers of the Army-managed institution had A, B−, C, E, F, G, H+, I+, L, M, N+, O,−, Q_1, Q_2, Q_3+ and Q_4− factors and those of privately managed institution had A, B−, C−, E+, F−, G−, H+, I−, L+, M, N, O, Q_1, Q_2+, Q_3+ and Q_4− as their personality factors. The student-teachers studying under different managements differed significantly on

factors B, C, I, N, O, and Q_4 of personality. 7. The direct student-teachers were found to have A, B−, C, E, F−, G−, H+, I, L+, M, N, O, Q_1, Q_2+, Q_3+, and Q_4 as their personality factors, while the departmental student-teachers had A, B−, C−, E, F−, G, H+, I+, L, M, N+, O, Q_1, Q_2, Q_3+ and Q_4− as personality factors. The subjects of these two categories differed significantly on factors B, M, O, Q_2 and Q_4 of personality. 8. In each and every case, factors B, F, and Q_4 were found in minus points except in one case, i.e. factor F which was found on an average for subjects 41 years age and above.

*1117. PAREEK, R.C., *A Study of Secondary School Teachers' Perceptions of Their Own Roles and Students' Perceptions of Their Teachers' Classroom Behaviour,* Ph.D. Edu., M. Sukh. U., 1985

The main objectives of the study were (i) to identify the expected and perceived roles of secondary school teachers, (ii) to identify their classroom behaviour as perceived by their students, and (iii) to find out the differences among the expected roles and the actual roles of teachers on the basis of age-group, sex, teaching field and teaching experience.

The study adopted a descriptive survey method. The data were collected from the teachers and students of government and higher secondary schools of the three major cities of Rajasthan. The study used teacher made test for data collection.

The main findings of the study were: 1. More than 6 per cent of the students—belonging to different socio-economic groups, sex, place of living, level of intelligence and adjustment did not possess desirable aesthetic, economc, religious and political values. 2. Intelligence was an important factor in determining social values. 3. The percentage of rural students holding religious values was very high. In the low and average category as well as among urban students, the highest percentage of those holding low values was 48.28. 4. The students belonging to lower, middle and higher socio-economic groups did not differ significantly in their social as well as religious values. But a significant difference was found in their aesthetic, economic, political and moral values. 5. Boys reflected better social, economic and religious values than girls, whereas girls did better in aesthetic values than boys. 6. Students belonging to superior intelligence were found better in their aesthetic and moral values than students of average groups. The students belonging to average intelligence were more religious than those belonging to superior intelligence.

1118. PASSI, B.K., *SINGH, L.C., and SANSANWAL, D.N., Adapting Training Strategy and Studying Effectiveness of Different Variations in Components of Training Strategy for Concept Attainment Model/Inquiry Training Model in terms of Understanding, Competence, Reactions and Pupil Liking, Dept. of Education,* DAVV, 1986 (NCERT financed)

The objectives of the study related to CAM were (i) to compare the competency in the beginning of coaching in school of student-teachers belonging to E_1, E_2 and E_3 groups, (ii) to compare the competency at the end of coaching in school of student-teachers belonging to E_1 E_2 and E_3 groups, (iii) to compare the reactions towards CAM of student-teachers (as practising teachers) belonging to E_1, E_2 and E_3 groups, (iv) to compare the willingness to implement the model of student-teachers belonging to E_1, E_2, and E_3 groups, and (v) to compare the reactions towards the selected model by school students taught by student-teachers belonging to E_1,E_2 and E_3 groups. The objectives of the study related to ITM were, (i) to compare the competency at the end of coaching in school of student-teachers belonging to E_1 and E_2 groups, (ii) to compare the reactions towards ITM of student-teachers (practising teachers) belonging to E_1 and E_2 groups, (iii) to compare the willingness to implement the model of student-teachers belonging to E_1 and E_2 groups, and (iv) to compare the reactions towards the selected model by school students taught by student-teachers belonging to E_1 and E_2 groups.

The study employed the pretest–post-test, single-group design. Student-teachers were trained to master CAM/ITM in college-based treatment. Two types of sample, one of student-teachers and the other of pupils was employed in the study. There were 321 student-teachers belonging to ten different institutions from Pune, Indore, Delhi, Bhopal, Jaunpur, Sultanpur, Ambala, Dhule and Cuttack. The school pupils taught by these 321 student-teachers were more than 2500. These pupils belonged to different age groups, SES background, and medium of instruction. The class-size varied from 20 to 60. The dependent variables were teaching competency, reaction of pupils, and willingness to implement models. The tools used for CAM/ ITM were a teaching

analysis guide, reaction scale, and willingness scale for the implementation of models. The data were analysed by employing ANCOVA, t-test, and content analysis.

Some of the major findings related to CAM were: 1. The student-teachers of E_1, E_2 and E_3 groups attained differential competency in the beginning of coaching in school. The student-teachers of the E_2 group had significantly higher competence in the beginning of the coaching stage as compared to those of the E_1 and E_3 groups. On the other hand, both E_1 and E_3 groups had competency in the beginning of the coaching stage to the same degree. 2. The student-teachers of E_1, E_2 and E_3 groups attained differential competency at the end of coaching in the school. The mean competency score on Teaching Analysis Guide (TAG) of the E_3 group was significantly lower than that of E_1 and E_2 groups. On the other hand, the E_1 and E_2 groups attained competency to the same degree. 3. Student teachers of E_1, E_2 and E_3 groups had favourable reactions towards CAM. 4. The student-teachers of the E_3 group had higher willingness in comparison to those of the E_1 and E_2 groups but the willingness of the E_3 group was neutral. On the other hand the E_1 and E_2 groups had equal but negative willingness towards CAM. 5. Students taught by E_3 group had significantly higher favourable reactions towards CAM as compared to those taught by the E_1 and E_2 groups. On the other hand, the students taught by E_1 and E_2 groups of student-teachers had equally unfavourable reactions.

Some of the major findings related to ITM were: 1. The student-teachers of both E_1 and E_2 groups taught through ITM had equal competency. 2. The student-teachers of both E_1 and E_2 groups had equally favourable reactions towards ITM. 3. The student teachers of E_1 and E_2 groups were not willing to implement the model to the same degree. 4. The school students had unfavourable reactions to the same extent.

1119. PASSI, B.K., SINGH, L.C., and SANSANWAL, D.N., *Implementing Training Strategies and Studying Effectiveness of Different Variations in Components of Training Strategy for Concept Attainment Model/ Inquiry Training Model in terms of Understanding, Competence, Reactions and Willingness of Student Teachers, Dept. of Educastion*, DAVV, 1986 (NCERT sponsored)

The objectives of the study for Concept Attainment Model (CAM) were (i) to compare the understanding of student-teachers belonging to the standard model treatment group (E_1), the group having variation in peer practice feedback (PPF) (E_2), and the group doing PPF in pairs (E_3, (ii) to compare the competency in the beginning of PPF of student-teachers belonging to E_1, E_2 and E_3 groups, (iii) to compare the competency at the end of PPF of student-teachers belonging to E_1, E_2 and E_3 groups, and (iv) to compare reactions towards CAM of student-teachers (as trainee learners) belonging to E_1, E_2 and E_3 groups. The objectives of the study for Inquiry Training Model (ITM) were, (i) to compare, the understanding of student-teachers belonging to the standard model treatment group (E_1) with the group having variation in PPF (E_2), (ii) to compare the competency in the beginning of PPF of student-teachers belonging to E_1 and E_2 groups, (iii) to compare the competency at the end of PPF of student teachers belonging to E_1 and E_2 groups, and (iv) to compare the reactions towards ITM of student-teachers (as trainee learners) belonging to E_1 and E_2 groups.

The study employed pretest and post-test parallel groups design. The experimental group (E_1 employed standard model treatment (SMT). The treatment included discussion of the concerned model. Demonstration and PPF were other essential components of the treatment. The parallel groups employed modification to the standard treatment of the first experimental group. The modifications introduced were either in theory or demonstration or PPF or coaching. The sample was drawn from 16 different secondary teacher training institutions from various parts of the country. In all, a sample of 321 student-teachers representing different experimental groups having CAM treatment was drawn. Regarding ITM a total sample of 42 student-teachers was drawn. The tools developed at Indore in 1985 were translated in regional languages and were as follows: Bruce Theory Checkup for CAM/ITM, Indore Theory Checkup for CAM/ITM, Reaction Scale for CAM/ITM, and Teaching Analysis Guide for CAM/ITM. Data were analysed by employing ANCOVA with Bruce Theory Checkup as the covariate. ANOVA and t-test were employed for studying the reactions of student-teachers.

Some of the major findings related to CAM were: 1. The student-teachers belonging to E_1, E_2 and E_3 groups had differential understanding of the theoretical aspects of CAM. More specifically, the student-teachers belonging to the E_2 group had significantly higher understanding of theoretical aspects of CAM as compared to student-teachers of E_1 and E_3 groups. On the other hand,

student-teachers of E_1 and E_3 groups had understood the same theoretical aspects of CAM to the same extent. 2. The student-teachers belonging to E_1, E_2 and E_3 groups had differential model competency. More specifically, the E_2 group was significantly higher than the E_1 and E_3 groups in the beginning of PPF. The E_1 group was significantly higher in competency than the E_3 group. 3. The student-teachers belonging to E_1, E_2 and E_3 groups had differential competence at the end of the PPF. More specifically, E_2 had attained higher competence in comparison with the E_1 and E_3 groups. On the other hand the E_1 and E_3 groups attained competence to the same extent at the end of PPF. 4. the student-teachers (as trainee learners) belonging to E_1, E_2 and E_3 groups had higher favourable reaction towards CAM as compared to the E_3 group. On the other hand, both E_1 and E_2 groups had equally favourable reactions.

Some of the major findings related to ITM were: 1. The student-teachers of E_1 as well as E_2 groups understood the theoretical aspects of ITM to the same extent. 2. The student-teachers of E_1 and E_2 groups attained competence in ITM to the same degree in the beginning of PPF viewing after demonstrations and having understood the theory. 3. The student-teachers of the E_1 group attained significantly higher competence at the end of PPF as compared to student teachers of the E_2 group. 4. The student-teachers (as trainee learners) of both E_1 and E_2 groups had equally favourable reactions towards ITM.

The educational implications are: (1) A student-teacher should reasonably distribute his practice teaching by judiciously selecting models from the four families. The present emphasis on the Herbartian model should soon be replaced by evenly distributed efforts over the selected models. This would require an improvement and wider distribution of lesson plan guides, lesson plan formats and work-sheets, and other guide materials. It is obvious that the examiners of practice teaching should appreciate these new strategies of teaching, otherwise no teacher-education institution and student-teacher would take the initiative. (2) For the implementation of models of teaching, the staffing pattern in teacher education should be changed significantly. The master teacher-educator should prepare a variety of video models and PPF in quadros in the college and peer-pair feedback in school practice will weed out non-functional elements in the present training system.

1120. PATIL, G.G., *A Differential Study of Intelligence, Interest and Attitude of the B.Ed. College Students as Contributory Factors towards Their Achievements in the Compulsory Subjects*, Ph.D. Edu., Nag. U., 1984

The objectives of the study were (i) to find out the effect of sex, academic qualification and experience on the achievement of trainees in compulsory subjects for the B.Ed., (ii) to find out the relationship between sex, academic qualification and experience and intelligence, interest and attitude of B.Ed. pupil-teachers, and (iii) to study the relation between intelligence and achievement, interest and achievement, and attitude and achievement of B.Ed. pupil-teachers.

The total sample was of 500 pupil-teachers, both male and female, experienced and inexperienced, and graduate and postgraduate pupil-teachers of colleges of education affiliated to Nagpur University. The tools used were the PSM Verbal Intelligence Test by Dani, Teacher Attitude Inventory by Ahluwalia, and Interest Inventory, adopted from the Devon Interest Inventory. To analyse the data, mean, standard deviation, standard error, critical ratio, coefficient of variation, analysis of variance, coefficient of correlation, partial and multiple correlation and the multiple regression equation were used.

The major findings were: 1. There was no significant difference between the achievements of male and female, graduate and postgraduate, and inexperienced and experienced pupil-teachers in four compulsory subjects. 2. There was a significant difference between the scores of male and female and inexperienced and experienced pupil-teachers in respect of intelligence but no significant difference in intelligence was found between graduate and postgraduate teachers. 3. Male and experienced pupil-teachers appeared more intelligent than female and experienced pupil-teachers. 4. In the case of interest, there was a significant difference between male and female and inexperienced and experienced pupil-teachers. Female and experienced pupil-teachers were more interested in teaching than male and inexperienced pupil-teachers. But there was no significant difference between graduate and postgraduate pupil-teachers. 5. There was a significant difference between the scores of male and female, inexperienced and experienced pupil-teachers regarding attitude. Female pupil-teachers had a more favourable attitude than male pupil-teachers and experience played a great role in the development of a favourable attitude towards the teaching profes-

sion. But it seemed that there was no significant difference between graduate and postgraduate pupil-teachers regarding attitude towards the teaching profession. 6. The correlations between intelligence and achievement ($r=0.31$), interest and achievement ($r=0.11$), and attitude and achievement ($r=0.16$) were positive and significant at .01 and 0.05 level of significance. The correlation between intelligence and achievement was higher than the correlation between interest and achievement and also that between attitude and achievement.

1121. PILLAI, J.K., MOHAN, S., *Why Graduates Choose to Teach, A Survey, Dept.* of Education, MKU, 1985

The objectives of the study were (i) to identify factors influencing graduates to choose teaching, (ii) to find out whether the same factors continued to influence or there were changes in the ordering of factors after they undertook training , (iii) to find out whether the same factors continued to influence students year after year in the same order or whether there was any shift, (iv) to examine whether there was any difference in the factors in terms of sex, and (v) to examine whether there was any difference in the factors in terms of level of study.

The survey was conducted both at the beginning and at the end of the course during the three-year period 1982-83, 1983-84 and 1984-85. A check list was prepared listing the factors that usually influenced students to choose teaching. The sample comprised 975 students in 1982-83, 1332 students during 1983-84 and 1558 students during 1984-85. In all, women constituted 60 percent of the sample.

Major findings of the survey were: 1. The main motivators, in order of importance which influenced graduate students to choose teaching were liking for working with young people , opportunity of service to mankind, and teaching considered as a noble and dignified profession. 2. There was no impact of training on the ranking of their choices according to the 1983 survey . The survey of 1984 revealed that students gave first rank for the item, 'teaching is a noble and dignified profession'. In 1985, students at the beginning of the course gave second rank to this item but at the end of the course it was pushed to third rank. the influence of training had been more negative. 3. The item, 'liking to work with young people' moved from third position to first position in 1985. 4. Neither sex nor level of education had any significant impact on factors which influenced people in choosing to teach. 5. As a result of trend analysis, it was seen that there was some variation among men and women as well as among postgraduates and graduates in assigning ranks to the most important factors. postgraduates were influenced more by the belief that teaching would give them an opportunity to use initiative and imagination and a life-long opportunity to learn. Women were influenced by the sentiment of service to mankind more than men. 6. Items like possibility of earning extra money through private tuition and prospect of security of service, pension benefits, etc. received the lowest position from all categories of respondents, irrespective of sex and level of education. 7. Former teachers did not inspire their students to take up teaching. 8. Training did not have much impact on the trainees in instilling values of dignity and nobility of profession.

***1122.** PILLAI, G.S., *An Appraisal of Teaching of Evaluation in Colleges of Education,* Dept. of Education, MKU, 1983 (MKU financed)

The major objectives of the study were (i) to find out the depth of content received by the student-teachers of the B.Ed. programme under different subjects, (ii) to find out the importance given to 'evaluation' in the B.Ed. programme, (iii) to appraise the syllabus content on 'evaluation' for the different subjects for the B.Ed. course, and (iv) to suggest ways and means for effective teaching of evaluation in colleges of education. The hypotheses formulated for the study were: (1) There will be no significant difference between the mean achievement in evaluation of the student-teachers of different subjects in Madurai Kamraj University. (2) There will be no significant difference between mean achievements in evaluation of the student-teachers of different colleges of education in Madurai Kamraj University. (3) There will be no significant difference between the mean achievement under different aspects of evaluation of student-teachers of Madurai Kamraj University.

An achievement test was developed. Content analysis of B.Ed. question papers and the B.Ed. syllabus were done. The trainees were interviewed. For the study, four types of samples were identified. There were nine colleges of education affiliated with the Madurai Kamraj University. All these colleges were included in this study. The total number of student-teachers selected for this study was 470.

The major findings of the study were: 1. Among the nine colleges of education studied, St Xavier's College of Education, Balayamkottai, scored the highest mean

achievement in evaluation and the Dr Alagappa Chettiar Training College, Karaikudi, scored the lowest mean score in evaluation during the academic year 1982-83. 2. Student-teachers of various colleges of education differed significantly in their achievement in evaluation. 3. Among the six optional subjects offered, in the colleges of education, the student-teachers of English topped in scoring achievement in evaluation. 4. The course on evaluation was given significant importance in the university first semester examinations. 5. Among the five aspects studied in evaluation, the student-teachers achieved best in two aspects of evaluation, viz., types and techniques of evaluation. They were poor in the construction of tests, characteristics of testing and the aims of evaluation. 6. The performance of mathematics student-teachers in evaluation was significantly superior to that of student-teachers in history and Tamil.

1123. PILLAY, G.S., *Student Research in the Department of Education—A Self Analysis,* Dept. of Education, MKU, 1987

The objectives of the study were (i) to estimate the research projects so far completed in the department of education for M.Ed. and M.Phil degrees with regard to their areas, purposes, nature of variables, geographical location, methods used, tools used, and subjects, (ii) to find out the significant difference if any on any of the above factors, and (iii) to make suggestions for future focussing of attention.

The following hypotheses were formulated for the study: (1) Uniform attention has been given to different areas of educational research. (2) Uniform attention has been given to the four different purposes in the research attempts made. (3) Probability and non-probability variables received uniform attention. (4) Uniform distribution of geographical location is found in the studies undertaken. (5) Different methods of educational research received uniform attention from the researchers. (6) Different tools of educational research are uniformly selected by the researchers.

For a majority of cases, the copies of the theses were available in the department. When the thesis copy was not available the departmental records were consulted. With the help of theses copies and other official records, bibliographical cards were prepared for all the M.Ed. and M.Phil. dissertations. These cards and the actual theses available were the data sources. Percentages and chi-square were used for data analysis and drawing conclusions.

The following findings have been derived from the study: 1. There were 39 M.Ed. theses and 25 M.Phil. theses submitted through the Department of Education till May 1986. 2. The M.Ed. theses were more in the primary and secondary levels of education whereas the M.Phil. theses were more in higher education and secondary education. 3. There was a significant difference between the areas of education selected by the M.Ed. and M.Phil. research students. 4. Determination of status of variables was the major purpose of study both for M.Ed. and M.Phil. students. Next in rank comes the prediction of variables. Determination of causes occupied the third position and description occupied the last rank. 5. There was a significant difference between the purposes of studies taken up by M.Ed. and M.Phil. students. 6. There was no significant difference between the number of studies taking up probability and non-probability variables among the M.Ed. and M.Phil. theses. 7. Nearly 85 per cent of the students had been educated in Madurai, taking samples of Madurai district alone. There were two M.Phil and one M.Ed. dissertation which had a comparative sample and study. 8. Among the different methods of research adopted, nearly 40 per cent were classified under experimental nature, 28 per cent of studies were survey, 11 per cent were of case studies, three per cent were historical studies and other explorative studies account for 18 per cent. 9. Tests occupied the first place among the tools used for data collection (42.19 per cent). Questionnaires occupied the second place. 10. Subjects like Individualized Instruction and Language Teaching received more attention from the M.Ed. students whereas Economics or Education, Politics of Education, History of Education, Philosophy of Education and Psychology of Education received more attention from M.Phil. students. 11. Students of different courses, teachers and parents formed the controlled factors studied under higher education. In secondary education, the controlled factors were students of varied classes, heads of institutions, textbooks and certain subject teachers. In primary education, elementary classes, teachers of primary schools and primary education curriculum were the controlled factors studied.

***1124.** PRABHUNE, P.P., *A Critical Study of the Effects of Using Self-learning and Discussion Methods of Instruction and Objective Assessment Tools, Measuring Higher Level Intellectual Skills and Abilities as Teaching Devices, on the Development of Learners' Scientific Attitude and Problem Solving Skills,* Ph.D. Edu., Poona U., 1984

The objectives of the study were (i) to develop objective assessment tools measuring higher level intelligence skills and activities and also steps in the scientific method, (ii) to develop other material necessary for instruction and assessment, (iii) to use this material as a self-instructional teaching device and also as a stimulus to group discussion, (iv) to measure the changes produced in students with respect to the use of the scientific method, higher mental abilities and knowledge of the subject matter of given experiments in psychology, and (v) to test specific hypotheses with respect to some method variables such as using the material for self-instruction as also for group discussion.

Tools developed for instruction and evaluation: A series of experiments in psychology were written in the form of objective, selection-type test items. Each item measured some higher ability above knowledge. The sequence of writing test items was in correspondence with steps in the scientific method. A note on the scientific method and also on the expected higher level behavioural outcomes at each stage of the scientific method was prepared for the use of students. Students selected for the experiment had to use the self-learning method and discussion method. The tools developed for the evaluation of student performance were, (i) pre-test and post-test to measure higher abilities, (ii) pre-test and post-test to measure scientific attitude, and (iii) post-test to measure content area at the knowledge level. The researcher used the pre-test post-test control group design. B.Ed. students, numbering 70, 35 each in the experimental and control group, all from a college of education, formed the sample.

This study contributed to the development of instructional material and the use of self-learning and the discussion method of teaching. The instructional material was effective in self-instruction.

1125. PRABHUNE, P.P., MARATHE, A.H., and SOHANI, C.R., *An Experimental Study to Measure the Effect of Microteaching Skills and Different Strategies of Feedback on the Student-Teachers' Performance with respect to Teaching*, SIE, Maharashtra, 1984

The objectives of the study were (i) to study the effect of practice of certain microteaching skills on the student-teachers' performance with respect to teaching, (ii) to study the efficacy of the three different strategies of feedback on the student-teachers' performance with respect to teaching, and (iii) to offer suggestions to improve the existing microteaching programme.

The independent variables of the study were different strategies of giving feedback to the student-teachers, during microteaching cycles such as feedback by college supervisor, listening to their own audiotaped lessons and feedback by self and peers. The pretest-post-test control group design was used. The variables controlled in the study were skills of microteaching, number of cycles for practising skills, orientation, criteria for observation of the lessons and duration of the training. Twenty-four student-teachers were selected randomly out of 130 student-teachers of the SNDT College of Education, Pune. This sample was divided into three groups. The student-teachers practised the skill of explanation, skill of questioning, skill of stimulus variation and skill of probing questioning. The observation schedule prepared by the SNDT College was used for data collection. Analysis of variance was used for analysis of data.

The major findings of the study were: 1. The gain in the pre-test and post-test scores was statistically significant; therefore, it was inferred that the practice of microteaching skills was effective in the improvement of the student-teacher's performance with respect to teaching. 2. The differences between the means of the three groups taking three different treatments of feedback were not found to be statistically significant. 3. All the three strategies of providing feedback were equally effective. 4. The routine strategy of giving feedback by college supervisor could be continued in the training through microteaching.

1126. PRASAD, P., *Aspirations, Adjustment and Role Conflict in Primary and Secondary School Teachers*, Ph.D. Psy., Bhagalpur U., 1985

The main purpose of the research was to study the aspirations, adjustment and role conflict of school-teachers and also to analyse the effects of sex of teachers and levels of schools on these dimensions. The main hypothesis was that male secondary, female secondary, male primary and female primary groups of school-teachers would not differ significantly in their aspirations, adjustment and role conflict. Eighteen subsidiary hypotheses were also examined.

Four hundred schoolteachers (100 male secondary, 100 female secondary, 100 male primary and 100 female primary) working in different schools of

Bhagalpur town were selected, adopting the stratified random sampling technique. The four groups were matched in respect of age, and experience. Three scales for measuring educational, vocational and financial aspirations and role conflict inventories (six independent tools, viz., Perceived Role Conflict Inventory, Self Role Expectation Inventory, Role Performance Inventory, Other's Role Expectation Inventory I, II and III) were developed, and used along with a Personal Data Sheet and Saxena's *Vyaktitva Parakh Prashnawali* (Adjustment Inventory). By the administration of role-conflict inventories three indices (perceived role conflict, self-role conflict and role-expectation conflict) were developed.

The major conclusions were: 1. Mean educational aspiration levels of the four groups of teachers were quite high. Secondary school teachers and female teachers manifested higher educational aspiration than primary and male teachers, respectively. 2. The vocational aspiration level of teachers was closely linked with level of schools. 3. Teachers' financial aspirations after one, three and five years showed a gradual rise. 4. Adjustment of teachers was related to their sex and not with the level of their schools. Males adjusted better than females. 5. Primary and secondary teachers were almost similar in their total adjustment. They differed in specific areas of adjustment. Mean adjustment of four groups was quite high. 6. All the four groups suffered from role conflict. Secondary school teachers scored significantly higher than primary school teachers on all the three role-conflict indices. Males and females carried almost equal amount of role conflict. Three indices of role conflict were valid.

1127. PRATAP, D., *The Effectiveness of Microteaching for Development of Skill Specific to the Teaching of Modern Mathematics,* Ph.D. Edu., Pan. U., 1982

The objectives of the study were (i) to find out whether there were teaching skills specific to teaching of modern mathematics at the secondary stage, (ii) to find out whether microteaching had an advantage over the conventional student teaching in developing skills specific to modern mathematics, (iii) to find out whether the microteaching group had superiority over the conventional student-teaching group in using learnt teaching skills in an integrated form in the normal classroom setting, and (iv) to find out whether, in conditions of present day schools, it would be worthwhile to analyse the models of developing instructional materials and make a rational choice for developing such materials for skills specific to the teaching of modern mathematics.

The study was conducted in three phases: identification of teaching skills, development of instructional material, and study of the effectiveness of microteaching and conventional student teaching for developing skills specific to teaching of modern mathematics at the secondary school stage. For the first phase, a sample of 47 and 48 researchers and teacher-educators respectively was taken. The subjects were asked to identify skills specific to the teaching of modern mathematics through a questionnaire. In the second phase, instructional materials for three skills selected for the purpose were developed in the form of a handbook by following the research and development approach. In this phase, for first field testing and second field testing, the sample comprised 27 and 28 persons (teacher educators, research fellows and in-service teachers) respectively. In the third phase, a sample of 22 student-teachers who opted for teaching mathematics was selected. They were divided into two equal groups designated as control and experimental groups. The control group was oriented in conventional student teaching. The experimental group was given microteaching orientation. After this orientation, the experimental group delivered three lessons on each skill in a microteaching setting. The control group too was observed in three lessons for each of the three skills. During experimentation, the tools used were an observation pro-forma for skill of developing problem-solving ability, an observation pro-forma for skills of formulating mathematical models, and an observation pro-forma for the skill of using the blackboard, the Modern Mathematics Teaching Competence Scale, the Ahluwalia Teacher Attitude Scale, and the Indore Teaching Assessment Scale. The data so collected were analysed with the help of the Wilcoxon Rank Sum Test and analysis of covariance.

The findings of the study were: 1. Eight skills specific to the teaching of modern mathematics were identified by analysing teaching tasks into various sub-tasks and inferring the various teaching behaviours required to perform the task. These skills were skills of developing problem-solving ability, formulating mathematical models, using a black-board, handling mathematical instruments, appreciation, analysis, application and performance of mathematical operations. 2. Microteaching had an advantage over conventional student teaching for development of skills specific to teaching of modern mathematics. 3. Neither

microteaching nor conventional student teaching had any impact on the attitude of student-teachers towards teaching. 4. The student-teachers trained through microteaching attained a higher level of competence to teach modern mathematics at the secondary stage than those trained through conventional student teaching. 5. The student-teachers of the microteaching groups had a higher level of ability to use the learnt skills in an integrated form in a normal classroom setting than the control group had.

The study has its implications for student-teachers who can make us of handbooks for developing specific skills in themselves, for teacher educators to make use of specific skills for specific subjects for developing teaching competence among student-teachers, and for researchers to identify different skills in different subjects.

***1128.** PUROHIT, Z.N., *An Experimental Study of the Effect of Microteaching and Interaction Analysis Feedback on Classroom Performance and General Teaching Competence of Pre-service Language Teachers,* Ph.D. Edu., Jod. U., 1987

Major objectives of the study were, (i) to ascertain the effect of microteaching feedback on attitude towards teaching, general teaching competence, classroom performance of teachers, (ii) to study the impact of interaction analysis feedback on attitude towards teaching, general teaching competence and classroom performance and classroom verbal behaviour of teachers, (iii) to compare the effectiveness of microteaching and interaction analysis feedback, (iv) to examine the influence of microteaching, interaction analysis feedback and the traditional approach on pupil achievement, and (v) to develop certain teaching skills among student-teachers through feedback techniques.

The experiment was conducted on 120 student-teachers offering Hindi as their teaching subject. Beside, a sample of 600 students of classes VI, VII and VIII was selected to study the effect of feedback. The data were collected with the help of the Teacher Attitude Inventory (TAI) developed by S.P. Ahluwalia, classroom performance ratings, observation of classroom verbal interaction, achievement tests in Hindi, students' perception of teachers and microteaching observation schedules. Data were analysed by applying descriptive statistics and employing the t-test for observing the significance of differences.

The major findings of the study were: 1. Microteaching feedback helped significantly in the classroom performance of language teachers. 2. There was no significant difference in microteaching feedback and interaction analysis feedback in bringing about attitudinal change. 3. Both microteaching feedback and interaction analysis feedback produced highly significant gains in pupil achievement. Gains in the case of interaction analysis were higher. 4. Microteaching helped in the development of various instructional skills. Microteaching feedback appeared to invite more pupil response than interaction analysis feedback. 5. The interaction analysis group of student-teachers appeared to seek more pupil initiation than the microteaching group of student-teachers.

1129. RADHA, K.V., *A Comparative Study of the Personality Characteristics of High and Low Success Science Teachers in Teacher Training,* Ph.D. Edu., Ker. U., 1984

The main objectives were (i) to compare the four contrasted teaching success groups (the high success and the low success, and the very high success and the very low success), with respect to each of the personality variables for unselected and equated groups (equated for intelligence; intelligence and age; intelligence, age and sex), (ii) to explore the association between 'teaching performance in science' and each of the personality variables, for the whole sample, (iii) to compare the personality factor structures of the four contrasted teaching success groups with respect to the personality variables used in the study and (v) to develop a prediction equation with 'teaching performance in science' treated as the dependent variable and any two of the most predictive variables treated as independent variables. The main hypothesis was that each of the independent variables of the study (selected personality variables) will exert a significant influence on the dependent variable (teaching performance in science).

The sample for the study comprised 537 student-teachers, of whom 258 were specializing in teaching of physical science and 279 in teaching of natural science. The sample was stratified further on the basis of sex and area of residence. The tools used were the Kerala Socio-personal Adjustment Scale, the Kerala Masculinity–Femininity Scale, the Kerala Introversion–Extraversion Scale, the Kerala Manifest Anxiety Scale, the 'Kerala self-concept Scale—all prepared by

A.S. Nair. Other tools used were the Scale of Attitude towards Academic Work (A.S. Nair and Mercy Abraham), Test of Scientific Attitude (A.S. Nair and Sobhana Devi), Rating Scale for Evaluation of Lesson Plan for Student-Teachers (A.S. Nair), the Kerala Group Test of Intelligence (A.S. Nair and C. Anandavalli Amma), and a General Data Sheet. The statistical procedures adopted were testing the differences between means for large independent groups, large dependent samples and small dependent samples, the product moment co-efficient of correlation, multiple and partial correlations, multiple regression equations, and factor analysis.

The main conclusions were: 1. Two variables, scientific attitude and personal adjustment, differentiated significantly between the unselected contrasted teaching success groups; three variables, introversion–extraversion, scientific attitude, and personal adjustment, differentiated significantly between the contrasted teaching success groups when equated for intelligence, and intelligence and age; and four variables, introversion–extraversion, scientific attitude, personal adjustment, and attitude towards academic work, differentiated between contrasted teaching success groups when equated for intelligence, age and sex. 2. When equated for intelligence, six of the nine personality variables showed significant correlations with teaching performance in science. The variables were personal adjustment, scientific attitude, introversion–extraversion, attitude towards academic work, science interest, and social adjustment. The estimation of common variance showed that the highest percentage of overlap was between personal adjustment and teaching performance. 3. Five orthogonal factors were obtained for each of the four contrasted teaching success groups. 4. Comparison of the factor structures of the four contrasted teaching success groups indicated the presence of similarities as well as dissimilarities. 5. A prediction equation was obtained with personal adjustment and scientific attitude as the predictor variables for predicting teaching performance.

The findings of the studies will help to extend theoretical knowledge about teaching and to employ the associated personality variables for practical purposes like, (a) prediction of teaching success and prediction techniques for selection of teachers either for teaching service or for pre-service preparation, and (b) providing an empirical basis for identifying the personality variables to be developed through teacher training or to be emphasized in teacher training meant for preparing science teachers.

1130. RAI, G., *A Study of the Self-concept of the Prospective Teachers*, Ph.D. Edu., BHU, 1983

The objectives of the inquiry were (i) to study the nature and extent of self-concept of prospective teachers, (ii) to study sex, rural–urban, religious and caste differences in the self-concept of prospective teachers, (iii) to study the relationship of self-concept with intelligence and adjustment, and (iv) to predict self-concept on the basis of intelligence and adjustment scores.

The study was conducted with a normative survey design on a sample of 603 prospective teachers drawn from seven teacher-training institutions of Varanasi. The data were collected with the help of Joshi's Group Test of General Mental Ability, Sexena's Adjustment Inventory and a Teacher Self-concept Scale constructed and standardized by the investigator. For analysing the data and drawing conclusions mean, SD, t-test, analysis of variance, coefficient of correlation and multiple regression analysis were used.

Some of the important findings were: 1. The self-concept of prospective teachers was positive. 2. Female, unmarried, post graduate and Hindu prospective teachers had significantly better self-concept than their male, married, graduate and non-Hindu counterparts respectively. 3. The relationship between self-concept, adjustment and intelligence was positive and significant. 4. The investigator found by calculating Multiple R and setting a prediction equation that self-concept could be very well predicted from an individual's intelligence and adjustment score.

1131. RAJ, T., *A Study of the Organisation and Administration of Student Teaching Programmes in the Secondary Teacher Education Institutions*, Ph.D. Edu., Agra U., 1984

The purpose of the study was to provide an adequate description of the present status of student teaching programmes in teacher training colleges in the northern region of India. The objectives of the study were (i) to determine the current organizational and administrative practices in the student teaching programmes, (ii) to study the current supervisory practices in the student teaching programmes, (iii) to ascertain the preparation of the student before going into actual student teaching

experience, (iv) to determine the current duties of the person in charge of student teaching, the college supervisor, and the cooperative teacher of the cooperating school, (v) to identify innovative concepts in the student teaching programme, (vi) to explore the most desirable features of the student teaching programme, (vii) to explore the most undesirable features of the programme, (viii) to obtain opinions of teachers in charge of secondary student teaching for the improvement of the present programme, and (ix) to make recommendations for the improvement of student teaching programmes.

Statistical techniques such as percentage, frequency, measures of central tendency and chi-square test were used. A representative sample of 80 out of 186 secondary teacher education institutions of the nothern region of India was taken for the study.

The findings of this study were: 1. The nature of the organization and administration of student teaching programmes showed considerable diversity in terms of practices. 2. The recommendations of several expert committees, seminars, conferences, study groups and commissions regarding the qualitative improvement of student teaching programmes had not been implemented in the teacher training institutions so far. 3. In general, pre-student-teaching experiences provided to students by the teacher training institutions were not sufficient in terms of skills and techniques of teaching required in the classroom situation. 4. Many institutions had audio-visual materials and equipment available with them but were not utilizing them properly. 5. In a majority of institutions the title of the person looking after the student teaching programme was 'Incharge of Student Teaching'. These persons devoted about 20 per cent of their time for the student teaching programme. Consequently, they could not attend to many important duties related to the organization and administration of the student teaching programme required of the 'Incharge of Student Teaching'. 6. In general, the 'Incharge of Student Teaching,' the college supervisor, and the cooperating teacher held adequate academic and professional qualifications. 7. The majority of institutions assigned 20 student-teachers to each college supervisor.

***1132.** RAJAMEENAKSHI, P.K., *Factors Affecting Teaching Competency of B.Ed. Trainees in Teaching Physical Science*, Ph.D. Edu., Madras U., 1988

The major objectives of the study were (i) to identify factors that affected the teaching competence of B.Ed. trainees, (ii) to assess the teaching competencies of B.Ed. students using appropriate tools, and (iii) to make differential and correlational studies between teaching competence and various factors.

A survey was conducted on 610 students of colleges of education in Tamil Nadu under the category of physical science and 1500 school pupils. The data were obtained with the help of a questionnaire, self-evaluation scale and pupils' evaluation scale for measuring teaching competence of B.Ed. students. In order to study the effect of demonstration skill on teaching competence, 20 B.Ed. students were selected and divided into two groups of ten each. The experimental group was exposed to microteaching in the skill of demonstration and, later, the teaching competence of both the groups was measured. The effect of microteaching was also studied on a group of 50 students by using the pretest–post-test design. The student teaching marks of B.Ed. students were collected from all the colleges. The obtained data were analysed with the help of suitable statistical techniques, viz., mean, SD t-test and correlation.

The major findings of the study were: 1. Pupils' evaluation scores were accumulated at the higher end of scores (80–95), self-evaluation scores were between 50 and 85, and professors' scores ranged from 45 to 65 with regard to the teaching competence of B.Ed. students. 2. It was found that training in the skill of demonstration and microteaching significantly increased teaching competence. 3. The type of management, the time of admission to the B.Ed. course and the teacher–pupil ratio were the factors that affected the mean teaching competence of B.Ed. trainees in almost all colleges of education in Tamil Nadu. 4. Female teacher trainees, teachers who taught in girls schools, teacher trainees who got a first class in degree examinations, and teacher-trainees with higher socio-economic status scored significantly higher in teaching competency than others. In all the three methods of evaluation, the analysis revealed that there was a negative correlation between age and teaching-competence scores.

***1133.** RAM GOPAL, *A Study of Role Conflict and Its Effect on Role Performance of Extrovert and Introvert Senior Secondary School Teachers of Delhi University*, Ph.D. Edu., Mee. U., 1987

The objectives of the study were to find ou- (i) the role

performance of extrovert and introvert school-teachers with regard to their high and low role conflict, (ii) the difference between the high and low role conflict groups of extrovert school-teachers, (iii) the difference between the high and low role conflict groups of introvert school-teachers, (iv) the difference between teacher's role conception and principal's expectation of teacher's role of extrovert and introvert school-teachers, (v) the difference between the teacher's role conception and friends expectation of the teacher's role of extrovert and introvert school-teachers, (vi) the difference between a teacher's role of conception and students' expectation of teacher's role extrovert and introvert school-teachers, (vii) the difference between a teacher's role conception and a teacher's role performance of extrovert and introvert schoolteachers, and (viii) the difference between principals' students' and friends expectations of a teacher's role of extrovert and introvert school teachers.

The sample of the study consisted of 200 teachers selected from 20 schools of two zones of the north district of the Delhi Administration. The tools used in the study were (i) the locally prepared Teacher's Role Conception Inventory, (ii) the locally prepared Principal's, Friends' and Students Expectation of Teacher's Role Inventory, (iii) the locally prepared Teacher's Role Performance Inventory, (iv) the Maudsley Personality Inventory adopted by Jalota and Kapoor. The data were analysed with the help of t-test.

The findings of the study were: 1. The extrovert teachers who had high role conflict demonstrated poor role performance as compared to those extrovert teachers who had low role conflict. 2. The high role conflict resulted in poor performance and low role conflict resulted in better role performance among introvert teachers. 3. The extrovert school-teachers were not equally affected by the role conflict persisting in their schools. 4. The introvert school teachers differed significantly with regard to their high and low role conflict group. 5. The extrovert and introvert school teachers having high role conflict did not differ with regard to their role performance. 6. The performance of extrovert teachers did not differ significantly from the role performance of introvert school teachers with regard to their low role conflict. 7. The extrovert school-teachers differed significantly in their own expectation of teachers' behaviour and the principal's role as expected by them. 8. The introvert teachers differed significantly with regard to their teacher's role conception and principal's expectation of teacher's role. 9. The extrovert and introvert teachers did not differ significantly with regard to their teacher's role conception and friend's expectation of teacher's role. 10. The extrovert and introvert teachers did not differ with regard to their role conception and students' expectation of teacher's role. 11. The extrovert and introvert teachers differed significantly with regard to their teacher's role conception and teacher's role performance. 12. The extrovert and introvert teachers differed significantly with regard to their principal's, and friends' expectation of teacher's role.

1134 RAMACHANDRA RAO, V., *Relative Effectiveness of Two Models of Teacher Preparation at the Primary Level in Karnataka*, Ph.D. Edu., Kar. U. 1987

The objectives of the study were to investigate if there were significant differences on (i) self-perception, student perception, teaching profession perception and instructional goal perception, (ii) lesson observation scores (planning, execution, closing, teacher and total), and (iii) head masters' ratings (content competence, methods of teaching, ability to get along with students and staff, participation in cocurricular activities and total) of the products of the two models.

Two hundred teachers, 100 with PUC (Edu.) qualification and 100 with TCH qualification, working in primary schools constituted the sample. A self-perception scale developed by the investigator using scientific procedure and three other perception scales developed by Patter and Majagi were used for the collection of perception data. The consistency coefficient of the self-perception scale was found to be 0.798 ($n=200$). It was also found to have content validity. Classroom teaching performance of subjects was assessed by observing their lessons, using a lesson observation schedule developed specifically for the purpose. Inter-rater reliability of the schedule was found to be 0.93 ($n=40$). The rating scale prepared at the Regional College of Education, Mysore, was used for obtaining ratings of the teachers' work from the head-masters of schools. ANCOVA and t-test were employed for the analysis of data.

The findings of the study: 1. The two groups of teachers did not differ significantly on self-perception, teaching profession perception and instructional goal perception. 2. The perceptions of the PUC (Edu.) group about the students were more positive compared with those of their counterparts from the TCH group. 3. The two

groups did not differ significantly in respect of lesson planning, lesson execution, lesson closing and overall assessment of teaching. 4. The two groups did not differ significantly on the ratings made by headmasters on all the four aspects of teachers' work in the school. Thus the PUC (Edu.) model of teacher preparation appeared to be more effective in promoting student perception.

1135. RAO, R.B., *A Study of Inter-relationship of Values, Adjustment and Teaching-Attitude of Pupil-Teachers at various Levels of Socio-Economic Status,* Ph.D. Edu., Avadh U.,1986

The objectives of the study were (i) to study the values (V), adjustment (AD), and teaching-attitude (TA) of pupil-teachers (PT) at various levels of socio-economic status (SES), (ii) to find out the inter-relationship among V, AD, and TA of pupil-teachers at various levels of SES, (iii) to find out the significant differences among the various SES groups with special reference to V, AD, and TA, and (iv) to extract the various factors on the basis of different variable measures through tests of V, AD, and TA.

The investigation was a normative survey. The sample consisted of 500 pupil-teachers (367 male and 133 female) of the B.Ed. class, randomly selected from ten affiliated colleges, having B.Ed. classes, of Avadh University. The tools of the study were: the Personal Values Questionnaire (PVQ) by Sherry and Verma; Adjustment Inventory for College Students (AICS) by Sinha and Singh; the Teacher Attitude Inventory (TAI) by Ahluwalia, and the Socio-economic Status Scale (SESS) by Kuppuswamy. The collected data were tabulated and analysed using suitable statistical techniques.

The findings of the study were: 1. The factors that emerged out of factor analysis of five adjustment, six attitude and ten value variables in order of merit were Adjustment, Attitude, Citizenship, Aesthetic, Health and Hedonistic. 2. In home adjustment (HAD) the female PTs of the total SES group were significantly better than male PTs. The upper SES group was significantly better than the upper-lower, upper-middle and lower-middle SES groups in this context. 3. The correlations of the total SES group, along with its sub-groups, revealed that adequate and effective HAD promoted better adjustment in emotional, educational, health and social areas, and inculcated an attitude conducive towards classroom teaching, child-centred practices among pupils and teachers to a significant level. 4. In health adjustment (HEAD) MPTs of the upper-lower SES group were significantly better. None of the SES groups showed significant differences in HEAD. 5. The correlational inferences revealed that defective HEAD disturbed adjustment in other areas to a significant extent and also hindered development of knowledge value, and attitudes towards the profession, teachers, students, and educational process. 6. In total as well as upper-middle, and upper-low SES groups, MPTs were significantly better in social adjustment (SAD). Only upper-lower SES group showed significantly better adjustment in this context than the upper-middle group. 7. The correlational inferences indicated a significant positive relationship between SAD and home, health, emotional and educational adjustments. Improper SAD hindered an effective and favourable attitude towards the teaching profession, teachers, classroom-teaching, the educational process and pupils. Amicable SAD promoted proper growth of democratic, knowledge, aesthetic and health values significantly. 8. MPTs had better emotional adjustment (EAD) than EPTs but the differences were significant in total and upper-middle SES groups only. Differences between the SES groups were not significant in EAD. 9. Correlations revealed that impaired EAD adversely affected home, health, social and educational adjustments. It also retarded proper functioning and adequate development of attitudes conducive to effective teaching. It significantly disrupted proper procurement of knowledge value. 10. None of the sex differences in educational adjustment (EDAD) emerged as significant. Upper SES group showed significantly better EDAD than other SES groups. 11. Correlational inferences indicated that adequate EDAD tended to help very significantly the adjustment in other areas. Its inadequacy impaired sound attitudes and knowledge value significantly. 12. In total and upper-lower SES groups the MPTs had a significantly favourable attitude towards teaching profession (ATTF). In all SES groups the mean-differences were not significant. 13. Correlational inferences tended to reveal that favourable ATTF could be acquired through knowledge and social values supported by adequate adjustments along with a favourable attitude towards teachers. 14. No significant sex differences were observed in attitude towards classroom teaching (ATCT). The upper SES group had significantly more favourable attitude than the lower-middle SES group in this context. 15. Correlations revealed that adequate adjustment in home, health, social, emotional and educational areas, adequate knowledge value along with a conducive attitude to-

wards teachers, teaching profession, the educational process, child-centred practices and pupils definitely played key role in promoting amicable ATCT. 16. No significant sex differences were observed in attitude towards child-centred practices (ATCP) . No SES group differences were found significant in this context. 17. Correlational inferences indicated that for proper ATCP, one should foster adequate adjustments and high regards for social, knowledge and aesthetic values. 18. In the upper-lower SES group MPTs had a significantly better attitude towards the educational process (ATEP) than FPTs. In this context, no significant SES group differences were observed. 19. Correlations indicated that adequate adjustments, high regard for knowledge, social and aesthetic values, and favourable attitude in other attitude components facilitated proper upbringing of ATEP to a significant extent. Negative values like economic, hedonistic, power and family prestige, when overweighed in the value-system, had a deterring effect on it. 20. Only in the upper-lower SES group, did MPTs have a significantly higher attitude towards pupils (ATP) than FPTs. No SES group differences were found significant in this context. 21. Correlations revealed that proper adjustments in all areas, favourable attitude towards other attitude components, high regards for social, knowledge and asthetic values, and curtailment of over-weights already placed upon hedonstic, power and economic values, promoted desirable ATP. 22. With respect to attitude towards teachers (ATT), no significant sex differences were found in various groups. No significant SES group differences were observed in this context. 23. Correlations revealed that proper adjustments, amicable attitude towards other attitude components, higher weightage attached to positive values and lowering of negative values promoted ATT. 24. In the total SES group, democratic, social, knowledge, health and aesthetic values were the plus points while the rest of the values in infatuated state hindered effective teaching. Adequate adjustment in home, health, social, emotional and educational areas, and a conducively favourable attitude towards teachers, pupils, child-centred practices, educational process and the teaching profession significantly induced positive values in pupil-teachers.

The educational implications of the study are: 1. The findings point out the values, adjustment and attitudes of an efficient teacher which have usability for teachers in the making. 2. The findings can be used to make a selection battery for choosing future teachers. 3. Field psychologists can make teacher-job-profiles and help the training colleges in effective, efficient and impartial selection of pupil-teachers.

1136. SARAN, S.A. *Study of Teacher's Attitude towards Teaching Profession and Certain Personality Variables as Related to their Level of Education and Amount of Experience,* Ph.D. Psy. Agra U., 1975

The hypotheses were: (1) Attitude towards teaching profession is positively related with interest in literary matters, level of adjustment, need of achievement, need of abasement, need of autonomy, need of endurance, and level of education. (2) Positive relationship exists between level of education and adjustment, level of education and need of abasement, level of education and need of achievement, level of education and need of autonomy, level of education and need of endurance, teaching experience and adjustment, teaching experience and need of abasement, teaching experience and need of achievement, teaching experience and need of autonomy, and teaching experience and need of endurance.

The sample consisted of 1000 teachers from four western districts of U P. Of these, 510 were male teachers and 490 female teachers. Chatterjee's Non-Language Preference Record, Vyaktitva Parakh Prashnavali, and the Edward Personal Preference Schedule was used for collecting data. The data were analysed with the help of correlations.

The findings were: 1. The attitude of teachers towards the teaching profession was positive. 2. Interest was positively related with attitude towards the teaching profession. The teachers who held a positive attitude showed more interest in literary and mechanical fields, while teachers with negative attitude showed more interest in the field of agriculture and sports. 3. Adjustment and attitudes were not directly related to each other. 4. The needs of achievement, abasement, endurance, and autonomy had hardly any influence in the formation of attitude towards teaching profession. 5. Attitude towards teaching profession was not positively related to experience in the teaching profession as well as age. 6. Level of education was positively related to degree of attitude towards the teaching profession. 7. Level of education had no relationship with home adjustment and social adjustment. It was negatively related with health adjustment. Emotional adjustment and college adjustment were positively related with level of education. 8. Teaching experience and adjustment were

not significantly related. 9. Needs of achievement and abasement were closely related to the level of education. 10. The amount of experience and need of achievement were positively related to each other. Need of abasement was positively related to the amount of experience. The needs of autonomy and endurance showed no relationship with amount of experience.

1137. SCERT, ANDHRA PRADESH, *Evaluation of Inservice Training Programme for Primary Teachers in the Selected Government and Aided Teacher Training Institutions*, 1981

The objectives of the study were (i) to evaluate the administrative aspect of the function of the science teaching course for primary teachers, (ii) to evaluate the academic aspect, that is, the schedule of work and activities acquired during the in-service training programme, and (iii) to study the relevance of the course content to the objectives of the in-service training programme.

The sample of the study consisted of 500 primary school science teachers who attended the in-service training programme in government and aided teacher-training institutes in the twin cities of Hyderabad and Secunderabad. The sample also included 100 key personnel who were attached to the programme as coordinators, principals and teacher educators. In the study, three types of tools were used. The first was a questionnaire for key personnel to assess the training course. The second was a questionnaire for primary school teachers to assess the training programme with respect to administration, course content and activities organized during the course. The third tool was an observation schedule to observe the various types of activities organized during the training programme.

The findings of the study were: 1. The key persons of the course felt that (a) adequate staff was not there, (b) individual attention was not possible in the course, (c) science consultants were not provided, and (d) there were no books through which modern concepts could be developed. 2. The participants felt that (a) there was too much interference from the deputy education officers, (b) the headmasters were reluctant to send them to in-service training programmes, (c) there was a lot of paper work which had to be completed for attending the training programme. 3. The participants felt that the training programme was good and helped in developing knowledge about new concepts in science. 4. The participants felt motivated to implement most of the teaching strategies taught during the course. 5. The participants felt that skills to be used during classroom teaching were not adequately practised during the training programme. 6. Adequate stress was laid on the learning of concepts in science rather than teaching of the concepts. 7. The teacher educators laid more stress on pupil participation in the classes. 8. The laboratory techniques employed during the training programme were quite useful but could not be practised in the schools. 9. According to the participants, the teacher educators laid great stress on using environmental resources during teaching science but were not able to use the resources themselves. 10. The participants had the feeling that the course had high academic value but it was not possible to implement many of the acitivities because of the heavy syllabus in the primary classes. 11. The key personnel felt that the teachers who were invited to the in-service training programme did not have adequate knowledge of science. 12. Both key persons and participants felt that the budget was not enough for the training programme.

1138. SEETHARAMU, A.S., and USHA, M.N., *Pre-primary Teacher Education—A Survey*, ISEC, Bangalore, 1984

The objective of the study were (i) to survey the physical facilities available in institutions which trained teachers at pre-primary level, (ii) to draw profiles of trainees and teaching staff in those institutions, (iii) to study the academic programmes and evaluation practices adopted by those institutions, and (iv) to examine the financial status and problems of institutions.

The data were collected through an institutional schedule. The study covered 33 institutions out of which 18 responded to the schedule.

The major findings were: 1. A majority of the institutions were located in district/taluka headquarters in an urban area. These were non-residential in nature and mostly trained women candidates as most of the teachers at pre-primary level were women. 2. The state government had no responsibility for pre-primary education in the state, hence all the teacher training institutions were unaided and managed by private bodies. 3. The medium of instruction in institutions was Kannada, which was not only the regional language but also popular at the lowest level of education. A few institutions had Urdu, Marathi and English as the medium of instruction. 4. A majority of the institutions reported

that they had adequate physical facilities such as classrooms, amenities such as water, electricity, sanitation and space for outdoor activities. 5. There was a mismatch between sanctioned strength and actual intake in the case of half of the institutions studied. The rest had either adequate or excess of intake. 6. The average drop-out rate was 4.83 and outcome of successfully trained candidates worked out to 60. 7. The age range of trainees was from 16 to 35 years. The majority of them were in the range of 20–25 years. 8. Trainees mostly had the SSLC as their minimum qualification and most of them had no experience in teaching. 9. While admitting trainees to institutions a reservation policy for SCs/STs was strictly adhered to by managements. 10. A majority of the institutions had trained teaching staff, but only a few of them had training in nursery education/childhood education. Staff with other types of teacher training such as TCH, B.Ed. and M.Ed were working in these institutions. 11. Most of the teaching staff were employed on a full-time basis. Part-time teachers were also working in institutions for subjects like craft, drawing, physical education, music, etc. 12. Academic programmes in institutions comprised regular lecture classes and practice in teaching work at regular intervals. Sometimes block practice teaching was also followed. 13. A majority of the institutions provided a minimum two demonstration lessons for trainees. Other than the prescribed programmes, institutions provided for physical education, craftwork, drawing and music, besides first aid classes, citizenship camps, study visits and educational tours. 14. Facilities such as audio-visual aids and library facilities were available in most of the institutions. 15. Evaluation practices were carried out by institutions as prescribed by the State Department of Education. 16. A detailed analysis of the financial status of the institutions revealed that their sources of income were fees collected from trainees and management contribution. The expenditure on equipment, library and instructional materials was meagre. The institutions mostly spent a major portion of their revenue on salaries of teachers.

1139. SEETHARAMU, A.S. and MANVIKAR, SHARADA, *Secondary Teacher Education—A Status Survey,* ISEC, Bangalore, 1986

This is a status study of institutions of teacher training at secondary level and the status of teacher educators working therein. The 'institutional' status in terms of physical facilities, admission procedures and finance, 'individual' status of teacher educators in terms of personal, social, economic and professional status were investigated.

The study covered teacher training institutions and staff working therein which came under the purview of Bangalore University. Even though the universe of the study comprised 17 colleges and 158 teacher educators, responses could be obtained from only 11 institutions and 76 staff members working therein. The survey canvassed two schedules—one for institutions and the other for teacher educators in these institutions. The data obtained were reported in terms of frequencies and percentages.

The major findings were: 1. Most of the institutions were located in Bangalore city and the majority of them were non-residential in nature, with a strength of 100 or less. 2. Most of the institutions were run independently except three which formed a part of chain of institutions run by a centralized management. 3. The criteria adopted by institutions for admission of candidates were varied. The most popular factors were class/division secured by students at qualifying examinations, teaching experience, subjects studied at degree or at postgraduate level, marks secured by students in specific subjects, and socio-economic background. The policy of reservation of seats for SCs and STs was adopted in most of the institutions. 4. Most of the institutions were run in their own buildings and had adequate facilities of demonstration-cum-practice teaching schools attached to them or cooperating schools nearby. 5. Library facilities were better in aided institutions as compared to those in unaided institutions. 6. The receipts and expenditure of aided institutions were much higher than those of unaided institutions. Some of the institutions collected capitation fee. 7. The output (out-turn) of students from aided institutions was better than that of unaided institutions. There was wastage and sub-standard output in unaided institutions. 8. The unaided institutions mostly attracted unmarried women which was not so in aided institutions which had mostly married male members on the staff list. This indicated that unaided institutions had unmarried women working on a consolidated salary. This trend was of recent origin since unaided institutions were mostly started during the 1980s. 9. That work-load for staff was greater in unaided institutions was indicated by the number of teaching periods, number of lessons to be supervised, etc. 10. Schemes such as the Triple Benefit Scheme for staff were not in vogue in most of the institutions. 11. The

staff of the institutions mostly belonged to forward castes. The staff belonging to other caste groups was meagre in number. 12. Most of the teachers were male members and hailed from families of agriculturists or teachers. 13. Most of the staff were postgraduate degree holders in education. One-third of the teachers possessed master's degree in other subjects too. A few were doctorate degree holders. Significant differences were found amongst staff in aided and unaided institutions. 14. The number of staff members having teaching experience at school level and experience in guiding students was meagre. 15. The work-load for staff members ranged between three periods to eighteen periods per week. Supervision of leassons ranged between 200–500 lessons per year. 16. The salary status of teachers in aided institutions was better than those in unaided institutions: It ranged from Rs 900/- for teachers in aided institutions to Rs 700/- in unaided institutions. 17. Facilities available for teachers in aided institutions were much better than those available for staff in unaided institutions. 18. The wealth status of teachers was limited in terms of gadgets possessed, income through agricultural lands and amount of gold and silver possessed. 19. Most of the teachers belonged to Karnataka state and were Hindus; a majority of them were Brahmins. 20. Only a few staff members had attended seminars/ conferences at state level.

1140. SHAH, M.M., *A Survey of Management of Student Teaching in India*, CASE, MSU, 1986 (MSU financed)

The major objectives of the study were (i) to conduct a survey of objectives of student teaching programmes, admission criteria, and criteria for allocation of methods to the trainees in teacher training colleges of India, (ii) to study the organization of student teaching programme, and (iii) to gather information regarding innovative practices in the student teaching programmes adopted by different teacher education institutions.

The sample of the study included 46 secondary teacher training colleges of 13 states of the country. The investigator used a questionnaire for data collection. The data were collected by mail from the institutions under study. Out of 150 teacher training colleges contacted by post, 46 returned the filled in questionnaire. The data were analysed in percentage form.

The study revealed: 1. A majority of the institutions favoured the objectives of development of competence in traineess to teach on the basis of accepted principles of learning and teaching. 2. The minimum admission criteria of half of the institutions were second class in any school subject at graduate level; the rest insisted on post-graduation. 3. In most of the institutions interviews were conducted for selecting the students for admission. 4. Around 80 per cent of the institutions allocated the methods to the trainees on the basis of the subjects they offered at graduation level. 5. Demonstration lessons were used for orientation of trainees in most of the cases. 6. The overall picture was not impressive in regard to criticism lessons. 7. Most of the institutions did not pay much attention to the content of the lessons. The lessons were evaluated through observation, value judgement and evaluation pro-forma. 8. Unit planning and evaluation were used for preparation of lesson plans in most of the cases. In around 46 per cent of the institutions, model lesson plans were used for preparation of lesson plans. 9. A large number of institutions favoured block practice teaching. 10. Most of them had suggested the use of both internal and external evaluation. 11. There was no common pattern followed on weightage given to different aspects of practice teaching. Regarding the final evaluation, a team of supervisors evaluated the traineees performance in almost all institutions. 12. Around one-third of them used the seminar method of teaching. Only eight per cent provided training in the preparation of film strips. Rare use of CCTV and VTR was the common feature in teaching learning situations.

***1141.** SHARMA, A.K., *Effects of Different Microteaching Settings on the Development of Probing Questioning Skill and Verbal Classroom Interaction*, Ph.D. Edu., Mee. U., 1986

The study was designed to find out the effects of a progressive increase in teach period, number of pupils, and a simultaneous increase in teach period and number of pupils on the development of probing questioning skill and verbal classroom interaction between student-teacher and pupil. The hypotheses formulated were: (1) A progressive increase in the duration of teach period from five to twelve minutes during microteaching had no influence on the development of probing questioning skill and on verbal classroom interaction. (2) A progressive increase in the number of pupils from five to twelve has no influence on the development of probing questioning skill and on verbal classroom interaction.

(3) A simultaneous progressive increase in the teach period and number of pupils has no influence on the development of probing questioning skill and on verbal classroom interaction.

The study was conducted in two phases over 120 student-teachers of NAS College, Meerut. The sample was classified into three experimental groups, viz., Hindi, Sanskrit and Science, with an equal number of students in each. In the first phase, the three main groups were divided randomly into eight equal subgroups of five subjects in each. In the second phase, the subjects were divided randomly into ten equal subgroups of 12 subjects each. All groups of subjects were entrusted two experimental variables of five minutes teach period and 12 minutes each period. The pretest post-test control group design was adopted in the study. Intelligence was controlled using Standard Progressive Matrices (Raven). The dependent variable was assessed using the Observation Schedule (Passi) and Classroom Interaction Category System (Flanders). Wilcoxon's matched pair signed ranks and one-way analysis of variance were used to analyse data.

The findings of the study completely supported all the three null hypotheses. Besides the following conclusions were drawn: 1. It was preferable to use the standard method of microteaching teach period for developing probing question skill. 2. Exercise with reinforcement of the probing question skill behaviour was conducive to the growth of a teaching skill. 3. Praising, encouraging, accepting or using pupils' ideas, questioning and lecturing were found to be significantly influenced by microteaching treatments. 4. Incidence of lecturing, the only one among the three direct behaviours, decreased in consequence of the application of microteaching treatment. 5. Microteaching influenced indirect teacher behaviour positively whereas direct teacher behaviour was negatively influenced by microteaching. 6. Pupils talk response was influenced positively by microteaching treatment.

1142. SHARMA, K.K. and BHATTACHARJEE, R., *A Comparative Study of the Effect of the Summative Model of Integrating the Skills upon Teaching Competence of Student Teachers*, Post-Graduate Training College, Shillong, 1980

The objective of the project was to compare the effectiveness of integrating the five teaching skills through the 'summative model' upon scores on the Indore Teaching Competence Scale (ITCS) and the General Teaching Competence Scale (GTCS). The hypothesis was that there would be no significant difference in the mean scores on ITCS and GTCS groups trained for integration of skills through the 'summative model' and the control group.

In all, 20 student teachers (for the academic year 1979) were selected from one training college in Shillong. They were divided into two equal groups (experimental and control). The groups were equated in terms of sex, age, qualifications, teaching subjects (method subjects), experience and Ahluwaliah's Teacher Attitude Inventory Scores. Five teaching skills (probing questions, reinforcement, stimulus variation, explaining and illustrating with examples) were selected and the experimental group of trainees was imparted adequate training in integrating the five selected teaching skills through the 'summative model'. A pretest–post-test parallel group design was followed. Pretreatment and post-treatment observations were made for both experimental and control groups by using GTCS and ITCS. The significance of difference between the means of gain scores of both the groups was found out by applying the t-test.

The study revealed that the experimental group did significantly better than the control group, since t-values in all the cases were significant. The hypothesis was rejected.

The significant educational implication is that the 'summative model' of integrating teaching skills might be used as a training technique in the teacher training colleges.

1143. SHARMA, K.K., and BHATTACHARJEE, R., *A Comparative Study of the Effect of the Additive Model of Integrating the Skills upon Teaching Competence of Student Teachers, Extension Service Department*, Post-Graduate Training College, Shillong, 1982

The objective of the project was to compare the effectiveness of integrating five teaching skills through the 'additive model' and that of the control group upon scores on the Indore Teaching Competence Scale (ITCS) and the General Teaching Competence Scale (GTCS). The hypothesis was: There is no significant difference in the mean scores on ITCS and GTCS between groups trained for integration of skills through the 'additive model' and the control group.

Twenty student-teachers (1981-82) of one training college in Shillong were selected and divided into two equal groups, which were equated in terms of sex, age, qualifications, teaching subjects (method subjects), experience and Ahluwaliah's Teacher Attitude Inventory Scores. Five teaching skills (probing questions, reinforcement, stimulus variation, explaining and illustrating with examples) were selected, and the experimental group trainees were given adequate training in integrating five selected teaching skills by adopting the 'additive model'. A pretest–post-test parallel group design was followed. Pre-, post-simulated and post-treatment observations were made for both experimental and control groups by using GTCS and ITCS. The significance of difference between means of gain scores of both the groups was found out by employing t-test.

The study revealed that when mean gain scores were compared the experimental group gained significantly more than the control group at all the stages. The null hypothesis was rejected.

1144. SHARMA, R.C., *A Survey of Untrained Teachers in Rajasthan*, SIERT, Rajashtan, 1981

The objective of the study was to identify untrained teachers area-wise and according to the type of management.

The sample was selected on the basis of the size and the representative character of districts and especially those with a large number of untrained teachers. Dungarpur, Bikaner, Jaipur, Bharatpur and Barmer districts were included in the sample. The basis of the study was the statistical data available on 30 September, 1980. The data were collected by the researchers of the State Institute of Education. Information about the untrained teachers was supplied in a pro-forma by district education officers. The tools used for this purpose were an information pro-forma and an interview schedule. Mean and percentages were used to analyse data.

The findings were: 1. The percentages of untrained teachers in primary and upper primary schools for urban areas in 1979-80 and 1980-81 were 5.6 and 5.55 and 3.07 and 4.97 respectively; the percentages of female teachers were 7.13 and 6.93 and 2.17 and 3.2 respectively; for private institutions these were 4.68 and 5.15 and 2.96 and 4.31 respectively; for Panchayat Samitis they were 5.18 and 4.96. The highest percentage (10.66) of untrained teachers was in primary schools in the year 1980-81 and the lowest (4.1) in upper primary schools of Panchayat Smitis. 2. They were untrained because they had been given appointments on condition that they would get themselves trained but had not yet done so.

***1145.** SHARMA, R.C., *Teaching Aptitude, Intellectual Level and Morality of Prospective Teachers*, Ph.D. Edu., M. Sukh. U., 1984

The objectives of the study were (i) to find out aptitude, intellecutal level and morality of prospective teachers, (ii) to compare these factors between male and female teachers, and (iii) to compare teachers of different disciplines in relation to these factors.

The sample of the study included 412 student-teachers who were studying in ten teachers' colleges of three universities of Rajasthan. The Teaching Aptitude Test, Group Mental Ability Test and self-made Teachers' Morality Test were used for data collection.

The findings were : 1. About 75 per cent of student-teachers were below average in aptitude and intellectual ability. 2. An insignificant difference was found in teaching aptitude ability in sex-wise and discipline-wise comparison. 3. A positive correlation was found between teaching aptitude, intellectual level and morality of prospective teachers.

***1146.** SHARMA, R.D., *An Experimental Study into the Effect of Variation of Model Presenter on Teaching Competence of Teacher-Trainee*, Ph.D. Edu., Mee. U., 1985

The objective of the study was to find out the effect of a model presenter on teaching competence of student-teachers. The null hypotheses formulated to be tested were : (1) The teaching competence of the composite group (male and female) of student-teachers, male student-teachers and female student-teachers was not significantly affected due to variation of model presenter. (2) Teaching competence of student-teachers was not significantly affected by their sex when trained by a model presenter of lower age level as well as middle age level. (3) The teaching competence of the male student-teachers trained by a model presenter of lower age level did not differ significantly from those trained by a model presenter of middle age level. (4) The teaching competence of the male student-teachers trained by a model presenter of middle age level did not differ signifi-

cantly from that of the female student teachers trained by a model presenter of lower age level.

A pretest–post-test single group design was employed in the present study. A sample of 22 student-teachers was divided into groups G_1 and G_2 equally with respect to sex and general teaching competence. G_1 received the model presenter of lower age level while G_2 received the model presenter of middle age level. The two groups received training in simulated conditions in the five teaching skills, viz., questioning, response management, reinforcement, explaining and illustrating with examples adopting microteaching technique. The tools used to collect data were the Baroda General Teaching Competence Rating Scale and the Rating Scale of Attitude Microteaching (Indore University). The data were analysed using Mann-Whitney's 'U' test and t-test.

The major findings of the study were : 1. The model presenter of lower age level proved more effective in developing teaching competence in the trainees than the model presenter of middle age level. 2. The lower age level model presenter was more effective in developing a positive attitude towards microteaching in the female trainees. 3. All the student-teachers retained their training effect and no significant difference between the model presenters of lower and middle age level could be found.

1147. SHARMA, V.S., *Teachers in the School of Backward Areas of Rajasthan : Shortage and Supply,* SIE, Rajasthan, 1976

The study aimed at (i) finding out the teacher–pupil ratio in the backward areas of Rajasthan, (ii) finding out the number of teachers teaching science and mathematics in the schools of backward areas of Rajasthan, and (iii) making the Education Department, Rajasthan, aware of the number of teachers needed in the backward areas of Rajasthan.

Out of the 25 districts of Rajasthan, only 16 were included in the study. The figures of the last three sessions, i.e., 1973-74 to 1975-76 were the basis of the study. The ideal ratio was 1:40. The districts selected for the study were the ones declared backward by the government of Rajasthan. In all, 235 schools from 16 districts were selected by the stratified sampling method. A normative survey method was employed. A school information pro-forma was used to collect the data. Mean and percentage were calculated for analysis.

The findings were: 1. The teacher–pupil ratio was less than the one prescribed by the Education Department of Rajasthan. 2. The shortage of first grade teachers was negligible. 3. The percentage of vacant posts of second grade teachers ranged from 1.96 to 2.4 and that of third grade teachers from 4.68 to 6.87. 4. In 44 to 51 per cent of the institutions, one or two posts were vacant. 5. The average shortage of science teachers was one or more in 15.5 to 20.4 per cent schools and it was the same in the case of mathematics teachers in 21.3 to 25.5 per cent of the institutions. There was shortage of Sanskrit teachers in 17.5 per cent of the schools. 7. The average shortage was found to be two per school. 8. In girls upper primary schools the shortage of mathematics teachers (female) ranged from 39.4 to 54.5 per cent and of science teachers between 39.4 and 51.5 per cent. 9. In nine per cent of girls secondary schools there was a shortage of mathematics, science and Sanskrit teachers. 10. To get these vacant posts filled, 77 headmasters of upper primary schools wrote 291 times and personally contacted the appointing authority 134 times. The result was that 39 posts were filled. 11. The main reason for these posts lying vacant was that teachers were not appointed in time. 12. There were problems like lack of means of travel, housing facilities, illness of teachers and their availing of maternity leave.

1148. SHUKLA, P.C., *A Comparative Study of Personality Characteristics of Innovative and Non-innovative Teachers and their Pupils' Creativity,* Ph.D. Edu., All. U., 1984

The objectives were (i) to identify innovative and non-innovative teachers from some selected primary schools, (ii) to assess the personality characteristics of innovative and non-innovative teachers, (iii) to find out the differences and similarities in personality make-up between innovative and non-innovative teachers (male and female), (iv) to find out the differences in innovativeness due to age, remuneration, experience and rural–urban belongingness, (v) to find out the difference in creativity of pupils taught by innovative teachers and pupils taught by non-innovative teachers.

The sample consisted of 650 primary school teachers (326 males and 324 females). The primary schools were of all kinds. Another sample of 600 pupils taught by these teachers was also taken. The Sociometric Ques-

tionnaire, Principals' Rating Scale and Self-rating Scale were used for data collection. The test–retest and split half reliability coefficients for the Self-rating Scale were 0.78 and 0.82, while for the Principal's Rating Scale they were 0.71 and 0.78 respectively. The 16 pF Questionnaire and Non-verbal Test of Creative Thinking by Baqer Mehdi were also used. The critical ratios were calculated.

The findings were: 1. Urban teachers were more innovative than rural teachers. Male urban teachers were more innovative than male rural teachers. Similarly, female urban teachers were more innovative than female rural teachers. 2. Sex differences were not observed to be significant causative factors as regards innovativeness of teachers. 3. Teachers having less teaching experience were found to be more innovative. 4. Only a partial relationship was discerned between the age of the teacher and his innovativeness. 5. A not very clear relation was observed in different salary groups of teachers and their innovativeness. 6. Non-innovative teachers were found to be reserved, detached, critical, cool, less intelligent, dull, tending towards trauma and tension, frustrated, excitable, and restless. Innovative teachers were found to be emotionally stable, calm and mature, assertive independent, self-assured, happy-go-lucky, impulsive, lively, gay, enthusiastic, more venturesome, socially bold, spontaneous, trusting, imaginative, shrewd, calculating, placid, experimenting, analytical, free-thinking, inclined towards relaxation and composure. 7. The pupils of innovative teachers were found to be higher on creative thinking score than the pupils of non-innovative teachers.

1149. SHUKLA, R.P., *A Study of the Effect of Transaction Training on Classroom Behaviour of Science Student Teachers*, Ph.D. Edu., MSU, 1985

The objectives of the study were (i) to provide transaction training to a group of science student-teachers based on analysis of classroom transactions, (ii) to study the significant difference on classroom behaviour patterns of student-teachers between pretest and post-test stages, and (iii) to study the feasibility of transaction training in teacher-training programme.

Twelve science student-teachers studying for the B.Ed. in the Gandhi Smarak Degree College, Samodhpur, UP, constituted the sample of the study. The experiment was conducted in science classes of VII and VIII of an inter college of UP. A simple pretest post-test single group experiment was executed. The study was organized in three phases: (i) theoretical orientation about transaction training, (ii) practice in the use of transaction categories in simulation, and (iii) practice in the use of learnt skills in a real classroom situation. For measurement of teacher behaviour, observation tool based upon the analysis of classroom transactions category system developed by Roy Harrid (1975) was used. The t-test was used for finding out significant difference between pretest and post-test on different variables.

The study revealed: 1. The student-teachers trained through transaction training scored higher on teacher response positive, teacher question open, teacher direction, pupil response open, pupils response closed, pupil information, and pupil question than at the pretest stage. 2. The trainees scored lower on teacher information, teacher does not direct, silence and disruption aspects at the post-test stage than at the pretest stage. 3. The trainees trained through transaction training improved their verbal teaching behaviour in the classroom significantly compared to their previous behaviour at pre-treatment stage.

The study highlighted that the analysis of classroom transactions technique, as a training tool as well as an assessment technique, is practicable in teacher-education programme. It should be used in teacher-training programmes with proper guidance and practice.

1150. SIDHU, P.S., *A Follow-up Study of Secondary School Teachers Trained through Different Approaches*, Ph.D. Edu., DAVV, 1983

The major objectives of the study were to examine the differential effects of types of training and teaching experience and their interaction on, (i) the general teaching competence of teachers, (ii) their attitude towards teaching, (iii) their perception of their teaching effectiveness, (iv) pupils' perception of the teaching effectiveness of their teachers, (v) the perception of peers about their teaching effectiveness, and (vi) the perception of the heads of the institutions about their teaching effectiveness.

At the laboratory stage, the sample comprised 98 B.Ed. student-teachers. At the follow-up stage 74 student-teachers of the laboratory stage formed the sample. Those who had less than six months of experience were grouped as novices whereas those who had more than six months and less than two years of experi-

ence were termed as probationers. The novices were observed only on the General Teaching Competence Scale. In all, 260 pupils formed the sample of pupils; 156 teachers formed the peer group. Twenty-five heads of schools formed the sample of heads. The tools used were the Cattell Culture Free Intelligence Test, the General Teaching Competence Scale by Passi and Lalitha, the Ahluwalia Teacher Attitude Inventory, a Pupils Rating Scale for Teachers, a Self-rating Scale for Teachers and Peers, and a Heads Rating Scale for Teachers. All the rating scales were developed by the investigator. The treatment consisted of training through the microteaching approach and the conventional training approach. Descriptive statistics were used for data analysis. Product–moment correlation, t-test and F-test were used for hypothesis testing.

The major findings were: 1. The microteaching approach was found superior to the conventional training approach in terms of development of general teaching competence in the teachers. 2. Probationer teachers were found to be superior to novice teachers in terms of development of general teaching competence. 3. The interaction between training and teaching experience did not influence significantly the development of general teaching competence in the teachers. 4. The teachers belonging to microteaching group developed a significantly more favourable attitude towards teaching in comparison with those belonging to the conventional training group. 5. The probationer teachers attained significantly more favourable attitude towards teaching than novice teachers. 6. There was a significant interaction effect due to training and teaching experience on the attitude of teachers towards teaching. The probationer teachers under microteaching treatment showed the most favourable attitude, whereas the novice teachers under conventional treatment showed the least favourable attitude towards teaching. 7. There was no significant effect of training on the self-perception of the teachers about their own teaching effectiveness. 8. Teaching experience did influence significantly the self-perception of the novice and probationer teachers with regard to their teaching effectiveness. 9. The interaction effect due to training and teaching experience did not effect significantly the self-perception of the teachers about their teaching effectiveness. 10. There was no significant effect of training on the perception of pupils about the teaching of the teachers belonging to the microteaching group and conventional training group. 11. Teaching experience did influence significantly the perception of pupils about novice and probationer teachers with regard to their teaching. 12. The interaction effect due to training and teaching experience did not influence significantly the perception of pupils about teachers regarding their teaching. 13. There was a differential effect of training on the perception of the peers. The teachers belonging to microteaching group were found to be significantly superior in their teaching as compared to the conventional group as perceived by peers. 14. The teaching experience of novice and probationer teachers did not have significant effect on the perception of peers with regard to their teaching effectiveness. 15. The interaction due to training and teaching experience did not influence significantly the perception of peers about teachers regarding their teaching effectiveness. 16. There was no significant effect of training on the perception of the heads of schools about the teaching effectiveness of their teachers. 17. The teaching experience of novice and probationer teachers did not influence significantly the perception of the heads of schools with regard to their teaching effectiveness. 18. The interaction effect due to training and teaching experience did not influence significantly the perception of the heads of the schools about the teaching effectiveness of teachers.

The implications were: 1. The student-teaching programme should be restructured. Microteaching should be introduced. 2. Instructional materials for different skills in the form of printed booklets should be prepared. 3. Principals and teacher educators should be oriented in the new techniques of classroom interaction analysis, simulation, role playing and feedback. 4. Certain mechanisms should be created which should aim at providing constant diagnosis and remedial help to probationers as and when required. 5. The microteaching technique may be applied as a diagnostic treatment for those in-service teachers who have lost enthusiasm for teaching and who have less favourable attitudes towards teaching.

1151. SIERT, Rajasthan, *Teacher Education at Primary Level in Rajasthan*, 1966

The main objective of this survey was to have a global picture of the primary teacher training institutions in the state.

In the state of Rajasthan, there were 63 BSTC training institutions in 1969. Of these, 47 were under government and 16 under private management. Thirteen training institutes did not respond to the questionnaire.

Forty-two government and eight private institutions responded. Fourteen of them were situated in rural, 23 in suburban and 13 in urban areas and were evenly distributed over the whole state.

The study revealed: 1. The average intake was about 130. The qualification prescribed for admission to the STC course was the High/Higher Secondary Examination. 2. About two-thirds of the trainees belonged to rural area. 3. The minimum age prescribed for freshers was 18 years whereas the ages of the trainees ranged from 18 to 45 years. 4. On the teaching staff, there were headmasters, subject teachers, and craft, agriculture, physical education and drawing instructors. 5. The syllabus was prescribed by the Department of Primary and Secondary Education of the state government and was followed in all the institutions. 6. Some of the institutions felt that the syllabus was too ambitious. The syllabus for craft was heavy, its teaching required a lot of funds, and the teaching staff had inadequate training. 7. Many difficulties in making arrangements for practice teaching were faced because they did not have demonstration schools. 8. Out of 50 training institutions, 37 had their own buildings. Eleven were housed in rented buildings. Out of the remaining, one was functioning in a donated dharmashala and the other one was located in a high school building. 9. The expenses of government training institutions were met by the government. Aided institutions got grants-in-aid from the government. Stipends to pupil-teachers were paid by the state government. The State Institute of Education provided guidance to training schools.

1152. SINGH, A., *Teachers in Higher Education: Recruitment Base and Procedures,* NIEPA, New Delhi, 1984

The study aimed at investigating the procedures of recruitment of teachers in universities and colleges and at analyzing teachers' views about recruitment procedures.

The sample comprised 2104 university teachers, 6162 college teachers. The tool to collect data was a questionnaire.

The major findings were: 1. Till about the early seventies, the annual rate of expansion of members of teachers of higher education was 13 to 14 per cent. After that it came down to four per cent. As UGC regulations regarding recruitment of teachers got enforced, difficulties in respect of availability of candidates with the M.Phil. and Ph.D. were experienced. 2. Regional variations were quite marked in respect of availability of qualified candidates. Some kind of imbalance prevailed in respect of the urban/rural divide. 3. The number of qualified candidates from scheduled castes and scheduled tribes was small. The same was the case with women candidates. 4. Mobility of teachers from one state to another was affected because of universities switching over to local languages. 5. College and university teachers were dissatisfied with all aspects of the process of recruitment—bias in respect of appointments, nature and coverage of advertisements, selection committees, nature of interviews as well the time gap between application and selection. 6. In respect of college teachers, more than two-thirds were of the definite view that it was the academic record of candidates which should be given maximum importance. About 34 per cent of university teachers were in favour of 21–40 per cent weightage and about 29 per cent were in favour of 41-60 per cent weightage to academic record of candidates. 7. Very few college and university teachers were in favour of weightage being given to innovations in teaching methods. 8. In colleges, about 23 per cent of teachers were not in favour of any weightage being given to research. But about 62 per cent thought that about 1–20 per cent weightage might be given to research. In case of university teachers about 13 per cent were not in favour of any weightage but about 48 per cent favoured 1–20 per cent weightage and about 27 per cent favoured about 21 per cent weightage to research. 9. Both in colleges and universities, the caste factor rather than communal prejudice was pronounced. 10. Nepotism and external pools were the concerns of university teachers more than college teachers. Similarly prejudice against particular schools of thought was more felt by university teachers as compared to college teachers. The same was the case with political and ideological bias. 11. A large majority of teachers of colleges and universities did not feel the pinch of communal prejudice, caste prejudice, nepotism, external pools, monetary considerations, political bias, etc.

1153. SINGH, K.K.P., *A Checklist for the Identification of Operational Problems of Secondary School Teachers,* Ph.D. Psy., Bhagalpur U., 1975

The major objective of the study was to develop a problem checklist for pinpointing the problems of secondary school teachers.

A problem checklist was developed covering different areas, viz., methods and curriculum, working conditions, students and discipline, persons in authority, peers and staff, the community, personal and social, and professional role. The final checklist included 405 brief statements of problems. The standardization sample comprised 500 secondary school teachers (125 teachers from each of the four training colleges located at Bhagalpur, Ranchi, Patna and Muzaffarpur). The percentage of frequency of item responses made by 500 teachers was calculated and items in the final version of the checklist were rearranged. A scoring technique was devised. Test-retest reliability, validity and percentile norms for the checklist were determined.

The checklist was of fairly high reliability and valid. Norms were also satisfactory. The checklist was amenable to several ways of scoring, all of which were both easy and simple.

1154. SINGH, L.C., and SINGH, P., *Effectiveness of Value Clarifying Strategies in Value Orientation of B.Ed. Students,* Dept. of Teacher Education, NCERT, 1986

The objectives of the study were (i) to study and identify suitable value-clarifying strategies (VCS) for developing value orientation in B.Ed. student-teachers, (ii) to develop a battery of tests for the measurement of value-orientation, (iii) to compare the value clarifying strategies (VCS) and traditional strategy of teaching values in developing value orientation of student-teachers, and (iv) to study the relationship between SES and intelligence with value orientation. The sample of the study consisted of 113 student-teachers belonging to four teacher training institutions, viz., RCE, Ajmer; DAV (PG) College, Dehradun; DAV College of Education, Ambala; and RR (PG) College, Amethi. The instruments used for data collection were : Cattell's Culture Fair Intelligence Scale-3 (Form-A), Kulshrestha's Socio-economic Status Scale (Form-A Urban) and the Value Orientation Test Battery (VOTB) developed by Kulshrestha, Singh, Jangira and Raina.

The research team developed their own value orientation test battery (VOTB) for measuring the five values—cooperation, dedication to teaching profession, nationalism, perseverance and scientific outlook. The first draft of the VOTB was administered on a sample of 200 student-teachers from five teacher-training colleges. The item analysis was done on the basis of this study. The validity and reliability of the tool were established. As part of the treatment, the following value-clarifying strategies were used for about six months in the four sample institutions: (i) Clarifying Response (CR), (ii) Critical Incident Sheet (CIS), (iii) Incomplete Value Sentences (IVS), (iv) Pupil Reaction Sheet (PRS), and (v) Role Playing (RP). Five values, namely, cooperation, dedication to teaching profession, nationalism, perseverance, and scientific outlook were aimed at developing value orientation. A pre-test-post-test experimental design was employed. ANOVA, ANCOVA and product–moment coefficient of correlation techniques were used for analysis of data.

The main findings of the study were: 1. The value-clarifying approach was more effective than conventional methods for teaching of values dedication to the teaching profession, cooperation and nationalism among trainees of two colleges. 2. Value-clarifying strategies were found more effective than traditional methods in imparting a scientific outlook in B.Ed. students of one college. 3. Value-clarification strategies were found equally effective as the traditional method with regard to the values of cooperation, diligence, nationalism and dedication to teaching, when value-orientation was measured through test D of VOTB. 4. Both the treatments were found equally effective in developing all the five values when value orientation was measured through tests C and D. 5. At the end of the experiment, no significant relationship was found between the value-orientation scores and intelligence in the case of all the five values. 6. No significant relationship was found between value orientation scores and socio-economic status of B.Ed. students for all the five values.

1155. SINGH, N., *A Comparative Study of Teachers Trained through Integrated and Traditional Methods in terms of Attitude towards Teaching, Teaching Competence and Role Performance,* Ph.D. Edu., BHU, 1985

The effectiveness of the different modes of graduate teacher training prevalent in India such as the four-year integrated B.Ed. and the traditional one-year B.Ed. course was sought to be compared in this investigation. The points of comparison taken up in the study were attitude, teaching competence and role performance of the teachers trained through these two modes. Null hypotheses regarding the differences in these three aspects

between groups of persons trained in these two modes, and also hypotheses about relationships between each pair of these aspects were formulated.

The sample consisted of 120 teachers trained in the Regional Colleges of Education at Bhopal and Ajmer and serving in schools in different places. The sample consisted of equal numbers in arts and sciences as well as equal numbers from the two modes. Ahluwalia's Teacher Attitude Scale and Passi and Lalita's Baroda General Teaching Competency Scale were used for finding out attitudes and teaching competence respectively. The test for role performance, the Role Performance Self-Rating Scale, was developed by the author with four-point items covering the roles of teachers as instructor, leader, manager, model, monitor, pupils' guide, and agent of social change. Its split-half reliability was 0.87 and its cross validity was reported as 0.83. Data were collected over a period of five months, and two lessons of each teacher were observed for assessing teaching competence. Personal data were collected by means of a personal data schedule. They were analysed using means for sub-groups formed on the basis of variables like subject background, age, marital status, educational qualification, length of experience, rural–urban background, etc.

The major findings of the study were: 1. While there was no difference in the attitudes of the groups under the two modes, there were differences in teaching competence and role performance, the integrated group scoring higher than the traditional group. 2. In teaching competence, those with low experience, from urban areas trained in integrated mode had higher teaching competence. 3. In role performance, the integrated course teachers who were only graduates, with low experience, from urban areas, and young teachers as also married and female groups had higher scores. 4. From the study of intercorrelations between scores on the three variables, it was concluded that the integrated method developed a positive relationship in attitude and role performance in the case of science teachers, and hence was suited more specially to science students than to arts students.

***1156.** SINGH, R.S., *A Study of Teachers' Effectiveness and its Correlates at Higher Secondary Stage in Eastern U.P.*, Ph.D. Edu., Gor. U., 1987

The major objectives of the study were (i) to compare teacher effectiveness of male and female teachers of urban and rural areas, (ii) to compare their intelligence, socio-economic status, attitude towards teaching profession and adjustment, (iii) to find out the relationship between teacher effectiveness and the selected correlates, viz., intelligence, adjustment, attitude and SES, and (iv) to determine the combined effect of the correlates on teacher effectiveness.

The sample comprised 330 teachers of urban and rural areas from 22 intermediate colleges of Varanasi, Gorakhpur and Jaunpur districts. The tools used were the Teacher Attitude Inventory, Teacher Adjustment Inventory, SES Scale, Samoohik Mansik Yogyta Pariksha (1/61) and Teacher Effectiveness Rating Scale.

The major findings were: 1. No significant difference in the mean scores of male and female teachers in their effectiveness was observed. 2. The difference in the mean intelligence scores of male and female teachers was not significant. 3. It was revealed that the rural female teachers had secured comparatively better scores than the rural male teachers in teacher effectiveness. 4. The difference in the mean scores of urban male and female teachers was found to be non-significant on the SES Scale. 5. There was a non-significant difference in the mean scores of male and female teachers belonging to rural and urban areas in their attitude towards teaching. 6. There was non-significant difference in the mean scores of adjustment of male and female teachers. 7. The scores of rural male and female teachers in teaching effectiveness appeared to be correlated significantly with only two variables—intelligence and attitude towards the teaching profession. 8. A low relationship between intelligence and socio-economic status was observed. It was, however, not significant. 9. The teacher-effectiveness scores of rural male and female teachers appeared to be significantly related with intelligence, socio-economic status and adjustment. 10. Intelligence showed a moderate and significant relationship with socio-economic status and adjustment of the urban teachers, irrespective of sex.

1157. SINGH, SATYANARAYANA, *Effect of Training in Teaching Skills Using Micro-class Peers and Real Pupils on the General Teaching Competence of Student Teachers at Elementary Level*, DSERT, Kar., 1984

The objectives of the study were (i) to compare the general teaching competency of the student-teachers undergoing student teaching programme using microteaching

and the traditional approach, (ii) to study the effectiveness of microteaching under simulated and real classroom situations in respect of general teaching competence, and (iii) to study the effect of training on the attitude of student-teachers towards microteaching.

The entire student population of 36 students of the first year TCH of an English-medium women's TTI was taken as the sample. The population was divided into three groups of 12 students each. Group I, the reference group, was the control group. The other two groups were experimental Group I and experimental Group II. Tools designed and developed by the NCERT, New Delhi, were used without any modification. These were the General Teaching Competency Rating Scale, Evaluation Pro-forma for Rating Teaching Skills, Reaction towards Microteaching Rating Scale, and Self-evaluating Microteaching Programme Rating Scale. Experimental Group I practised under simulated classroom condition while experimental Group II practised under real classroom conditions. Each student-teacher practised a skill for two complete microteaching cycles.

The major findings of the study were: 1. The student-teachers trained using microteaching under the simulated conditions acquired better teaching competency than those trained under the traditional training method. 2. The student-teachers trained, using microteaching under real classroom conditions acquired better teaching competency than those trained under the traditional training method. 3. The effectiveness of the microteaching training technique was more significant in respect of those trained under real classroom conditions than those trained under simulated classroom conditions in developing the teaching competence of student-teachers. 4. The microteaching training technique made a significant impact in developing a positive attitude in the student-teachers towards microteaching.

Microteaching should be used in developing teaching skills as a regular technique in colleges of education.

***1158.** SINGH, V.P., *A Study of the Extent and the Patterns of Reactions to Frustration and Professional Adjustment of Secondary School Teachers,* Ph.D. Edu., MSU, 1987

The major objectives of the study were (i) to find out the extent of frustration amongst secondary school teachers and to study it in relation to age, sex, status, teaching experience, residence and academic stream, (ii) to find out the reactions to frustration amongst secondary school teachers, (iii) to find out the professional adjustment of the teachers, and (iv) to study the relationship between frustration and adjustment.

At the pilot stage, a purposive sample of 100 teachers was selected from eight schools selected randomly from four tehsils of Ghazipur district of U.P. On the basis of the information required in the tools furnished by the teachers, only 50 were retained for item analysis. Three main tools were developed by the investigator for the study, viz., Frustration Study Tool, an Adjustment Inventory and a Personal Information Blank. At the final stage, data were collected with the help of these tools from 600 teachers of 29 schools out of which 60 were female and 540 were male teachers. Major statistical techniques used for analysing the data were mean, standard deviation, quartile deviation, coefficient of correlation, t-test, chi-square test, and point biserial correlation.

The major findings of the study were: 1. The occurrence of frustration in the sample was normal while that of adjustment was not normal. 2. The teachers of the upper age-group were found to be more frustrated than the teachers of the lower age-group. 3. Male teachers were more aggressive than female teachers. 4. Teaching experience also contributed towards aggressiveness of teachers but its effect was not significant. 5. No significant effect was found on the aggressive pattern due to age, status, location of residence and academic stream of the teachers. 6. Teachers of the upper age-group were found to be more fixating in nature in comparison with teachers of the lower age-group. There was no effect of sex, status, residence, experience and academic stream on fixation of teachers. 7. All the teachers were more or less similar in regression and resignation patterns. 8. Teachers having less teaching experience showed a greater rationalizing tendency than teachers with more experience.

1159. SOM, P., *Teachers Personality Pattern and their Attitudes towards Teaching and Related Areas,* Ph.D. Edu., Cal. U., 1984

The study was an investigation into the relation between noncognitive, personality structure type following Eysenck's teachers' attitudes towards teaching and related areas. The objectives of the study were (i) to find the structure-pattern which is likely to suggest better attitudes towards teaching and related areas, (ii) to find the descriptive personality pattern of teachers with ref-

erence to the dimension of extraversion–introversion and the traits involved in it, (iii) to find the variation in the extraversion variables with reference to sex and impact of experience on them, (iv) to find the descriptive attitude pattern of teachers with reference to the teaching profession and pupils, (v) to observe the relative importance of the extraversion variables in the determination of the teachers' attitudes towards teaching, the teaching profession, classroom teaching and pupils, (vi) to identify extraversion variables which formed, in general, a combination of valid predictors for the respective attitudes, and (vii) to find the extraversion/introversion pattern which would ensure favourable teacher attitudes in the respective areas.

B.Ed. students of training colleges constituted the population. The sample consisted of 75 in-service male teachers, 65 in-service female teachers, 50 fresher male students and 60 fresher female students. The tool used was a modified version of Eysenck's and Wilson's Personality Inventory. The reliability of the tool was found to be 0.79 (by the split-half method) and the internal consistency was 0.85. The concurrent validity with Joshi's MTAI was 0.023. The research design was a factorial analysis. The statistical techniques used were correlation, factor analysis and multivariate regression (linear) analysis.

The major findings were: 1. The secondary teachers were neither extrovert nor introvert and they could be tentatively described as lacking patience but possessing sociability, sobriety, carefulnesss, temporal thought, introspection, concentration and mental exertion, in terms of their extraversion–introversion traits. 2. Male teachers were found to be more initiating, expressive, careful, introspective, mentally exertive and concentrated than female teachers. But there was no difference between them on extraversion, and experience had a positive effect on stoicism for either sex. 3. Teachers were normal in respect of teacher attitudes towards pupils. 4. Female teachers tended to be higher than males in their attitudes towards teaching, the teaching profession and pupils. Experienced female teachers were significantly higher than experienced male teachers on the first two attitudes but moderately high on the third. 5. Teaching attitude as well as the attitude towards the profession correlated significantly with patience, initiative, carefulness, stoicism, extrospection and responsibility. 6. Extraversion had no significant association with the attitudes but it was moderately negatively correlated with the teacher attitudes other than that towards classroom teaching. Further, introverts tended to have favourable attitude towards pupils.

1160 SRIVASTAVA, KANTI MOHAN, *Effectiveness of the Teacher Education Programme*, Ph.D. Edu., Avadh U., 1982

The investigation was an attempt to find out the effectiveness of the teacher education programme of Avadh University. The main objectives of the study were (i) to study the actual position of resources, existing conditions and working of the teacher-education programme, (ii) to study the quantitative and qualitative characteristics of the programme's end-product, (iii) to study the effect of the programme on teaching aptitude of student-teachers, (iv) to study opinions regarding quality and sufficiency of existing conditions and working of the programme from the point of view of organization of professional education of secondary teachers, (v) to study opinions regarding utility of the programme from the point of view of the teacher's job, and (vi) to ascertain the most desirable changes needed for making the programme effective.

The study was a normative survey. All the teacher-education departments of the ten affiliated colleges of Avadh University situated in five districts of Faizabad Division—Faizabad, Gonda, Bahraich, Sultanpur and Pratapgarh—were included in the study. The sample consisted of ten college principals, 76 teacher educators, 929 student teachers, 175 secondary teachers who had been trained by these departments, 38 secondary school principals, and eight educational administrators. The data were collected with the help of two questionnaires, two interview schedules, four rating scales (all prepared by the investigator), one Test of Teaching Aptitude prepared by Dr Jai Prakash and Dr R.P. Srivastava, observation of institutions, and content analysis of the university, college and government records.

The major findings were: 1. The ten colleges having a teacher-education department were unequal in size and facilities and none were initially opened with the intention of providing facilities for teacher education. The colleges were on the government grant list; hence there was no problem of staff salary payment. Except SC and ST student-trainees, all others were required to pay fees. 2. The teacher-educator-student-teacher ratio was 1:14, which was higher than prescribed by the government. 3. Sixty per cent of the departments did not have educators in all school subjects on their staff. 4. All the teacher-educators belonged to UP and were upper-caste

Hindus and married. Not all of them had double post-graduate degree; less than ten per cent of them had a doctorate degree. Most of them were committed to the profession but were unable to take part in extra-professional activities due to various college and personal engagements. The educators were not very clear about the objectives of the programme. 5. Facilities for non-teaching staff was inadequate. 6. As regards departmental administration, the departments were not independent entities. Trainees, participation in administration was not prevalent at all places. 7. Coordination between the department and secondary schools, other training schools and departments, and the community was lacking. 8. Admission rules, as prescribed by the state government were followed, which had many drawbacks. 9. The whole programme comprised theory teaching, practice teaching and sessional work. Average working days were only 118. There was little uniformity in organizing practice teaching and sessional work in the various departments. 10. Separate divisions were given for theory and practical (practice teaching and sessional work) examinations. 11. The future plans of the departments were opening of M.Ed/M.A. (Edu.) classes, construction of buildings for library, hostel, the department itself and extension of library and other facilities. 12. The output of the programme was not at par with the capacity of production. Wastage of more than nine per cent was observed. 13. Students under training were mostly 18 to 25 years of age, upper-caste Hindus of UP. Three-fourths of them were from rural areas. As regards living conditions and finances, female trainees were in a better position. Only two-thirds of the sample gave first preference to the teaching profession, whereas more than 14 per cent gave no preference to it. About one-third were not willing to leave the profession in future. 14. As revealed by the examination results, teaching efficiency was found to be higher among trainees as compared to professional knowledge. Only 48 per cent of the trainees were found to be of the average or higher teaching aptitude category after training. 15. There was no significant contribution of the programme in developing teaching aptitude among trainees as revealed by the comparative study of means of pretest and post-test scores using single group design. 16. In the opinion of college principals and teacher-educators, the existing conditions and working of the programme were not good on all points. Regarding 'utility of the programme for secondary teachers', the opinion expressed by educational administrators, school and college principals, and secondary teachers was of the 'least useful' category, whereas for teacher-educators it was of the 'generally useful' category. 17. Immediately desired changes in the programme were in its curriculum, organisation of practice teaching, admission and evalution procedures, establishment of independent colleges of education, teacher-educators' orientation and research facilities.

***1161.** SRIVASTAVA, M.K., *A Study of Qualities, Values, Attitudes, Activities and Adaptation of Teacher Educators: Special Reference to Avadh Area*, Ph.D. Edu., Avadh U., 1986

The objectives of the investigation were (i) to study the social, economic and educational qualities of teacher-educators, (ii) to know the quantity and quality of their work, (iii) to study their service conditions, participation in cocurricular activities, etc., (iv) to analyse the attachment of teacher-educators to certain values, (v) to study their job satisfaction and its relationship with their qualities, and (vi) to give suggestions for improving teacher-educators' conditions.

The investigation was a survey-type study. The sample of the study consisted of 73 teacher-educators working in all the ten affiliated colleges of Avadh University having B.Ed. classes. The tools of the study were a questionnaire and a two-point scale for measuring job satisfaction. Besides these tools, personal discussion with the educators and perusal of office, university and teachers' organisation records was also undertaken. The data were tabulated and analysed using percentages.

The main findings of the study were: 1. Teacher-educators were mostly upper-caste Hindu, male, married and were permanent in service. None of the training departments of colleges had female teacher-educators. 2. Mostly, the educators were from joint families. Their parents were more educated than their grand-parents. A sizeable number came from families related to the teaching profession. 3. The educational background of the teacher-educators was of medium level. They were not found to be much interested in cocurricular activities during their student life. 4. A few teacher-educators had also experience of teaching at primary level. 5. Teacher-educators and their family members had good health. 6. The teacher colleges differed in size. Due to the different nature of the activities of other faculties and the large number of students, the professional activities of teacher-educators were found to be affected. 7. Facilities of library, reading room, staff room, etc., were not up to the mark in the institu-

tions. 8. The socio-economic condition of teacher-educators was generally satisfactory. Examinership was the only source of additional income for a majority of educators. 9. The work-load of theory and practice teaching and other activities ware not uniform in different institutions. However, in spite of various odds in working conditions the educators seemed to be satisfied with their job.

1162. SRIVASTAVA, SHOBHA, *A Study of Job-satisfaction and Professional Honesty of Primary School Teachers with Necessary Suggestions*, Ph.D. Edu., Avadh U., 1986

The objectives of the study were (i) to examine the extent of job-satisfaction and professional honesty among primary school teachers, and (ii) to make suggestions for creating a suitable environment in primary education in the above context.

The sample of the study consisted of 100 educational experts—university/college teachers, administrative staff, etc. and 987 (263 female and 724 male) primary teachers selected from the randomly chosen primary schools in proportion to the population of each district of Faizabad division, namely, Faizabad, Gonda, Bahraich, Barabanki, Sultanpur and Pratapgarh, comprising both rural and urban areas. The tools of the study were a Job-Satisfaction Inventory, Professional Honesty Preference Record, a Questionnaire on Reasons for Job-Dissatisfaction, and a Check-list for the factors conducive to Professional Honesty in primary teachers. All the tools were prepared by the investigator using standard procedures. The data were tabulated and analysed using suitable statistical techniques.

The findings of the study were: 1. The primary teachers of the area were found to have high job-satisfaction and professional honesty. 2. Female teachers, as compared to male teachers, unmarried teachers as compared to married teachers, urban teachers as compared to rural teachers, and non-agricultural family occupation background teachers were significantly higher in job-satisfaction and professional honesty. 3. Young teachers as compared to old teachers, junior teachers as compared to senior teachers, and high academic achiever teachers as compared to low achiever teachers were also significantly higher in job-satisfaction. 4. Caste was not found to have a significant effect on either of the two. 5. The major factors of job-dissatisfaction among the primary teachers were inadequate salary, lack of physical facilities (space, equipment, etc.), problems in getting arrears, exploitation by officers, etc. 6. The major factors conducive to professional honesty in primary teachers were the teacher's strong and good character, the teacher's sincerity towards work, recognition and appreciation of the teacher's good work, a healthy and open environment in the school, the teacher's mental health, etc. 7. Professional honesty was higher than job-satisfaction in the teachers' sample and the coefficient of correlation between these two variables was 0.256.

1163. SWAMY, NARASIMHA, N., *Diagnosis and Remediation of Deficiencies in Basic Understandings of Prospective Teachers of Secondary School Physics*, Ph.D. Edu., Mys. U., 1984

The objectives of the study were (i) to identify all the understandings (concepts) included in the secondary school physics syllabus as defined by the textbook and select those that were considered basic, (ii) to develop an adequately comprehensive diagnostic test covering each basic understanding in every unit of school-level physics, and to determine which were the concepts about which each subject (student-teacher) had deficiency in understanding, (iii) to administer a diagnostic test to the students of the one-year B.Ed., course, and analyse and assess their deficiencies concept-wise and unit-wise, (iv) to compare the deficiencies of subgroups by sex and by subject scholarship (as reflected in B.Sc. marks), (v) to develop two alternative schemes/strategies and materials for remediation through, (a) self-instructional materials, and (b) tutorial instruction, and (vi) to try out two alternative schemes for remediation in an experimental set-up and assess their effects separately and in a comparative frame, and relate such gains to sex and to subject scholarship.

The study was conducted in five sequential phases, (1) identification of the basic understandings, (2) development of a comprehensive diagnostic test covering adequately each of the basic understandings selected from the different units, (3) location of the deficiencies in B.Ed. students specializing in physics in respect of all the selected basic understandings, (4) development of remedial courses in selected units of secondary school physics following two alternative strategies, and (5) the experimental part which consisted of the two alternative schemes for remediation and assessment of their effects separately and in comparison.

The sample was drawn from students of the one-year B.Ed. course. For diagnosing the deficiencies, it included 200 students; and for the experiment it had 120 students. The entire sample was drawn from three colleges of Mysore. Data on basic understandings and diagnosis of deficiencies were collected by distributing the questionnaires prepared by the investigator. Other necessary information was collected from the students or from the office records. The data thus collected were analysed using the chi-square test of independence, t-test, and two-way ANOVA.

The major findings were: 1. No single concept had been mastered by more than 70 per cent of students. 2. The deficiencies of student-teachers were very high in some units and relatively less but far from satisfactory in others, but in no unit was it tolerably within negligible limits. 3. There were no significant differences between students of different levels of subject scholarship with respect to deficiencies in basic understandings. 4. In the over-all picture, tutorial instruction was found to be more effective than self-instruction. However, no firm conclusion could be drawn from this on their relative effecacy.

The main implications are: (1) There is an imperative need to provide adequate bridge courses or parallel or inbuilt remedial courses in content as part of the methodology course in the B.Ed. programme to remedy deficiencies in the content, and to ensure reasonable mastery of at least the basics or the essence thereof. (2) A properly designed remedial course focusing on the clarification and mastery of important concepts, principles and other generalisations in the subject can effectively remove the deficiencies of student-teachers to a significant extent. (3) Analysis of basic understandings and skills in school courses in all subject areas, construction of diagnostic tests and preparation of detailed unit plans and, preferably, self-instructional materials, packages covering all the units of the school courses, would make a substantial contribution to strengthening the methodology courses and converting them into meaningful content-cum-methodology courses ensuring reasonable content competence in pre-service and in-service teachers, and raising the functional effectiveness of teacher-education programmes.

1164. SYAG, R.N., *Study of Teaching Competence of Preservice and Inservice Teachers Trained through different Treatments of Microteaching*, Ph.D. Edu., DAVV, 1984

The objectives of the study were (i) to find out the relative effectiveness of three different training approaches—peer feedback in the Standard Microteaching group (SMT), peer-cum-audiotape feedback in the Modified Microteaching group (MMT), and college supervisor feedback in the Traditional Student Teaching group (TST) upon General Teaching Competence (GTC) of teachers measured at different occasions during their pre-service and in-service stages, (ii) to find out the relative effectiveness of the three training approaches upon the competencies of skills of probing questioning, explaining and illustrating with examples of teachers measured at different occasions during their pre-service and in-service stages, (iii) to find out the relative effectiveness of the three training approaches upon the attainment of student teaching examination marks of student-teachers, and (iv) to find out the relative effectiveness of the three training approaches upon the student-teachers' attitude towards teaching (STATT) measured at different occasions during their pre-service and in-service stages. The hypotheses were: (1) There is no significant effect of training approaches on the development of the GTC of the pre-service and in-service teachers. (2) There is no significant effect of measurement at different occasions on the development of the GTC of the pre-service and in-service teachers. (3) There is no significant effect of interaction due to training approaches and occasions on the development of the GTC of the pre-service and in-service teachers. (4) There is no significant effect of training approaches on the development of the skills of probing questioning, explaining and illustrating with examples, of the pre-service and in-service teachers. (5) There is no significant effect of occasions on the development of the competency in skills of probing questioning, explaining, and illustrating with examples of the pre-service and in-service teachers. (6) There is no significant effect of interaction due to training approaches and occasions on the development of the competency in skills of probing questioning, explaining and illustrating with examples of pre-service and in-service teachers. (7) There is no significant effect of the three training approaches upon the student teaching examination marks (STEM) of the student-teachers. (8) There is no significant effect of training approaches on the student-teachers' attitudes towards teaching. (9) There is no significant effect of occasions on the student-teachers' attitude towards teaching. (10) There is no significant effect of interaction due to training approaches and occasions on the student-teachers' attitudes towards teaching.

The sample of student-teachers was drawn from secondary school trainees studying in the B.Ed. class during two academic sessions, 1977-78 and 1978-79 in DAV College of Education, Abohar. Twenty-seven student teachers from each academic session were selected through a purposive sampling technique. On the basis of the percentage of marks, three parallel groups for each of the two academic sessions were formed. A pretest–post-test parallel groups design with one control group was followed. There were two experimental groups and one control group. The first experimental group was exposed to the training approach of standard microteaching, the second to the modified microteaching, and the control group to traditional student teaching approach. The criterion variables, such as general teaching competence, competencies in three selected skills, and attitudes towards teaching, were measured on four occasions. The four occasions were: Pretest stage—prior to training treatment, post-test 1 stage—immediately after the treatment, post-test 2 stage—at the end of the B.Ed. course, and post-test 3 stage—after one year teaching experience in schools. In addition to these criterion variables, examination marks in skill in teaching were also one of the criterion variables. The Teacher Attitude Inventory by Ahluwalia was used to measure attitude of teachers towards teaching. The split-half reliability was found to be 0.88 and test-retest reliability, after intervals of three months and nine months, were found to be 0.75 and 0.78 respectively. The general teaching competency was measured with the help of General Teaching Competency Scale developed by Passi and Lalitha. The inter-observer reliability coefficients of the scale were found to be in the range from 0.85 to 0.91. The tally-based and rating-based observation schedules for the three skills—probing questioning, explaining and illustrating with examples were also used. The data were analysed with the help of trend analysis and ANCOVA.

The major findings were: 1. Peer feedback in the SMT group, and peer-cum-audio tape feedback in the MMT group produced equal effect, but superior to that of college supervisor feedback in the TST group, on the development of the general teaching competency, and competencies in selected teaching skills. 2. When measured immediately after the treatment, all the three training approaches—SMT, MMT and TST, produced a significant effect on the development of the general teaching competence and competencies in specified skills. However, when the continuous measurement on general teaching competency and teaching skills competency were carried on up to 18 months from the termination of training treatment, none of the three training approaches helped to improve the level of the performance. In other words, all the three training approaches, when implemented for a duration of four hours (only practice time for each trainee), had helped to develop the general teaching competence and competencies in teaching skills among the student teachers. The consequent treatment in terms of the traditional teacher training programme did not help to improve the general teaching competence and competencies in teaching skills in the three respective groups, but all the three groups continued to retain the post-treatment level of performance. 3. The simple interaction effect due to three levels of training treatments and four levels of occasions was significant in terms of the general teaching competence and competencies in selected skills. The highest level of the general teaching competence was found in the MMT group at post-test 3-stage (one year after the completion of the B.Ed. course) and the highest level of competencies in different teaching skills was found in the SMT group at post-test-1 stage (immediately after the completion of the training treatment). 4. The attainment of marks in the student teaching final examination was equal among the student-teachers of the SMT group and the MMT group, the SMT group and the TST group, but the attainment of marks was significantly higher among the student teachers of the MMT group than the student teachers of the TST group. 5. All the three training approaches—SMT, MMT, and TST— did not produce a significant effect upon the development of the attitude of student teachers towards teaching, when measured prior to treatment and at the end of the B.Ed. course. Further, the attitudes of student teachers towards teaching declined significantly when measured after two years from the beginning of the training treatment. 6. The simple interaction effect due to three levels of training treatments, and three levels of occasions did not produce a significant effect on the development of attitudes of student-teachers towards teaching.

The implications are: (1) The microteaching approach should be made an integral part of the student teaching programme. (2) At least two continuous periods should be allotted for practising skills in a microteaching setting. (3) Teacher-training institutions may use either peer feedback and/or peer-cum-audio-tape feedback during microteaching treatment. (4) Instructional materials on various teaching skills should be developed.

1165. TEPRONGTONG, S., *Role Expectations and the Role Performance of College Supervisors on Student Teaching as Perceived by School Principals, Cooperating Teachers and Student Teachers,* Ph.D. Edu., Pan. U., 1984

The objectives of the study were (i) to examine the role expectation of college supervisors on student teaching as perceived by school principals, cooperative teachers and student-teachers, (ii) to examine the role performance of college supervisors on student teaching as perceived by school principals, cooperating teachers and student-teachers, (iii) to study the differences in perceptions of school principals, cooperating teachers and student-teachers on the role expectations of college supervisors on student teaching, (iv) to study the differences in the perceptions of school principals, cooperating teachers and student-teachers on role performance of college supervisors on student teaching, (v) to study the differences between the role expectation and role performance of college supervisors as perceived by school principals, cooperating teachers, and student teachers, (vi) to identify the significant gaps between the role expectations and role performance of college supervisors on student teaching, and (vii) to suggest the areas on which college supervisors need to improve upon their performance for improving the teaching skill and competency of the student-teachers.

A sample of 50 schools was selected. These were attached to eight teachers colleges in the Northeast group of Thailand. From each school two cooperating teachers and four student-teachers were randomly selected, besides the principal. In this way 50 school principals, 100 cooperating teachers and 200 student-teachers formed the sample of the study. The samples were administered the Role-expectation and Role-performance Inventory. It had items on academic, skill development, guidance and evaluation aspects of supervisors.

The findings of the study were: 1. All the three groups of respondents, i.e., cooperating teachers, school principals and student-teachers, had developed a high level of expectation from the college supervisors regarding their role in student-teaching. This high level of expectation had been noted on all the four specialized roles. 2. The expectations of school principals, cooperating teachers and student-teachers did not differ on academic, skill development, guidance and overall supervisory role. However, mean differences showed that student-teachers expected a liberal rather than a critical evaluation of their (student-teachers') student teaching. 3. The school principals were more concerned with the practical aspects of student teaching than the academic one. Their expectations of the college supervisors on the role of evaluation of student teaching skills, guidance of student teachers and skill development among student teachers were significantly higher than the academic role at .01 level. 4. The cooperating teachers were also more concerned with the practical aspect of student teaching than the academic one. 5. The student-teachers were more concerned with developmental help by their college supervisors than academic help and critical evaluation of their performance. 6. All the three groups of respondents expected a higher level of performance from college supervisors for skill development of student teachers. 7. All the three groups of respondents rated the actual role performance of college supervisors on student teaching as average or moderate. 8. There were no significant differences between the perceptions of school principals and student teachers regarding the college supervisors' actual performance on all the roles—academic, skill development, guidance, evaluation and overall supervisory roles. 9. The perceptions of cooperating teachers of the actual role performance of the college supervisors were significantly different from the perceptions of the school principals and of student-teachers for all the roles. The perceptions of cooperating teachers of the actual role performance of the college supervisors was the lowest of the three respondents. 10.The school principals and cooperating teachers did not rate significant differences between the actual performance of the college supervisors on academic, skill development, guidance and evaluation roles. 11. The actual role performance of college supervisors on evaluation, skill development, and guidance role was significantly different from their performance on academic role according to the ratings of student-teachers. 12. The comparison of mean scores between the role expectations and the role performance of college supervisors for each group of respondents revealed significant gaps on academic, skill development, guidance, evaluation and the overall supervisory roles. The school principals, cooperating teachers, and student-teachers saw the performance of college supervisors as being significantly lower than their expectations.

1166. THAKKAR, R., *Study of Effect of Different Microteaching Skills upon General Teaching Competency of Primary Teacher Trainees,* Ph.D. Edu., Sau. U., 1985

The objectives of the study were (i) to examine the effec-

tiveness of different microteaching skills in developing general teaching competency of primary teacher trainees, (ii) to compare the effectiveness of symbolic modelling and audio-modelling upon general teaching competency of primary teacher trainees, (iii) to compare the retention of general teaching competency attained through symbolic and audio modelling, (iv) to find out the relation between IQ and achievement of general teaching competency, and (v) to find out the relation between school achievement and achievement gained in general teaching competency. The investigator decided to test the following hypotheses: (1) There is a significant positive effect of different microteaching skills upon general teaching competency of primary teacher trainees as measured by the BGTC scale. (2) There is no difference between the achievement of the two groups due to two different modes of teaching, namely, symbolic modelling and audio-modelling. (3) There is no correlation between intelligence and effect of microteaching skills upon general teaching competency (GTC). (4) There is no correlation between achievement and effect of microteaching skills upon GTC. (5) There is no difference in the loss or gain in general teaching competency between any two groups. (6) There is a positive correlation between, (a) scores of different skills and GTC score II, (b) scores of integretion lessons and GTC Score II (c) scores of final integration and GTC Score II. Keeping in view the importance of the skill and the needs of the primary school classes, the investigator selected the skills—skill of fluency in questioning, skill of reinforcement, skill of illustration with examples, and skill of stimulus variation.

The sample for the experiment consisted of 60 student-teachers studying in the academic years 1980-81 and 1981-82. It was decided to form three parallel groups from two different women teachers training colleges situated at Surendranagar and Wadhwan city. The investigator collected the data of IQ, achievement in the SSC and GTC score I and on the basis of these three variables, the investigator formed three equivalent groups. The tools used in the present study were of two types. Tools selected for the study were: (i) the BGTC Scale developed at CASE, Baroda, (ii) the Desai-Bhatt Group Test of Intelligence, (iii) SSC mark sheets, and (iv) filmstrip of microteaching skills prepared by B.K. Passi. Tools developed for the present research were: (i) instructional material in the form of booklets for each of the skills selected for the study, (ii) pre-recorded cassettes for each skill as above, (iii) observation and evaluation schedules for each skill, (iv) booklets and cassettes for integration of microteaching skills, Q+R, I+S and Q+R+I+S and (v) observation and evaluation schedules for integrated microteaching skills, QR, IS and QRIS. The statistical devices used were means, SDS, correlations, etc.

The major findings were: 1. There was a significant positive effect of different microteaching skills upon the GTC of primary teacher trainees as measured by the GTC scale. 2. There was no difference between the achievement of the two groups due to two different modes of teaching, viz., the symbolic model and audio-model. 3. There was no correlation between intelligence and effect of microteaching skills upon GTC. 4. There was no correlation between general achievement and effect of microteaching skills upon GTC. 5. There was no difference in the loss or gain in GTC between any two groups. 6. There was a positive correlation between, (a) scores of different skills and GTC score II, (b) score of integration lessons and GTC Score II, and (c) score of final integration and GTC score II.

1167. THAKUR, T., *Who is a Good Teacher? (A Study Based on the Opinion of Senior Pupils)*, SIE, Assam, 1976

The main purpose of the study was to analyse the characteristics of a good teacher as perceived by his pupils.

The study was designed taking into consideration that there was a socio-cultural difference in the opinion of pupils so far as the traits of a teacher were concerned. In all 400 senior students (201 boys and 199 girls) of seven different secondary schools of Jorhat town were selected. The sample included boys, girls, coeducational, private, government aided, government schools and schools with better academic standard, better cocurricular activities and having pupils from different walks of life. Each school was personally visited and the pupils were asked to write down the positive as well as the negative traits of the teacher who taught them all the years in the school. An unstructured opinionnaire was used. No teacher was present during the investigation.

The major findings were: 1. Most of the pupils were from economically deprived homes. 2. The outstanding positive traits of the teacher as viewed by the pupils were good teaching, kind and pleasing manners, good advice and guidance to pupils, regular and punctual attendance and equal treatment to all. The pupils were in

favour of strict discipline and strict administration. The pupils loved to get regular assignments and wanted that the teachers correct assignments regularly. A teacher who did not let down pupils was loved by all. A teacher who could identify himself with his pupils found his class teaching very easy. 3. The negative traits were partiality, favouritism, wasting time, unmindful of duty, rude, lack of affection, ridiculing students, bad teaching, excessive talk unrelated to subject matter and conceit. 4. Some differences were noticed with regard to the responses received from boys and girls.

The most significant educational implication is that having known the qualities of a good teacher, it would be possible for the concerned authority to recruit good teachers and also improving the effectiveness of the inservice teachers.

1168. TRIPATHI, D., *A Critical Study of Supervisors' Personality (with special reference to the Supervisors of B.Ed. of Avadh University, Faizabad)*, Ph.D.Edu., Avadh U., 1984

The objectives of the study were (i) to investigate the personality traits of supervisors of the area, (ii) to analyse the effect of personality traits on the supervision practices of the supervisors, and (iii) to study the needed resources for personality development of superviors in view of present educational needs.

All the ten affiliated colleges of Avadh Universtiy having a B.Ed. department were included in the study. The sample consisted of 72 supervisors (teacher-educators) of these institutions. The data were collected with the help of the 16 PF Questionnaire (Form-A) of R.B. Cattell, a self-made questionnaire, and observation of the training institutions. The collected data were tabulated and analysed using suitable statistical techniques.

The main findings of the study were: 1. Situation, facilities, admission procedure and supervisors' qualities were not found suitable in view of poor supervision in the B.Ed. departments. 2. Supervisors were not unanimous on the supervision practices adopted by them. 3. Supervisors, personality on the 16 P.F. Questionnaire showed a tendency towards sizothymia (A−), less intelligent (B−), lower ego strength (C−), submissiveness (E−), desurgency (F−), weaker superego strength (G−), parmia (H+), premsia (I+), alaxia (L−), praxernia (M−), artlessness (N−), untroubled adequacy (0−), conservatism (Q_1−), group adherence (Q_2−), low integration (Q_3−), low ergic tension(Q_4−), low anxiety (I−), introversion (II−), tenderminded emotionality (III−), and subduedness (IV−). 4. Supervisors were found to have above average creativity and leadership quality, and paucity of university professors' qualities. 5. Male supervisors had a higher mean as compared to female supervisors on the 'teacher success' factor. 6. The personality factors of the supervisors were found to have effect on their supervision practices.

1169. UMA, R., *A Social Psychological Study of Women Teachers*, Ph.D.Psy., Osm. U., 1983

The objective of the study was to test the following hypotheses: (1) The greater the intensity of role conflict the lower will be the need satisfaction of teachers. (2) An open climate is more congenial for need satisfasction, as compared to a closed climate. (3) Need satisfaction is positively related to the qualitative difference in work-related values of the teacher. (4) Job-role conflict is intense in a closed climate as compared to an open-climate (5) Intensity of role conflict is related to the qualitative differences in values of the teacher. (6) Work related value is identified to a greater extent in open climate as compared to closed climate. (7)The perceived organizational climate will differ in three types of institutions. (8) Significant differences exist between each of the five independent variables, namely, (a) home-role conflict, (b) job-role conflict, (c) work-related values, (d) need satisfaction, and (e) perceived organizational climate.

The sample comprised 200 women teachers working in various colleges in the twin cities of Hyderabad and Secunderabad in the age group of 22 years to 60 years. Their minimum qualification was a postgraduate degree. Apart from this, a sample of 50 women teachers was also taken from school situations with similar qualifications. The sample subjects were tested through the work Related Value Scale. It covered ten value areas, viz., economic value, security, work conditions, status, relations with co-workers, independence, creativity, altruistic, academic and achievement. The items in the scale were to be answered on a four-point scale. The test—retest reliability of the scale was 0.72 and it had content validity. The Need Satisfaction in Work Scale had fourteen different areas, viz., responsibility, work itself, promotion, ability, independence, achievement, recognition, relation with colleagues, salary, job-status, personal life, relation with supervisor, institutional

policies and job-security. The items in the scale were to be answered on a five-point scale ranging from completely satisfied to dissatisfied. The test—retest reliability of the scale was 0.82. The Role Conflict Scale had five dimensions, viz., over-load dilemma, discrepancy between personal and social norms dilemma, identity dilemma, social network dilemma, and role conflict dilemma. The items were scored on a three-point scale. The reliability of the scale was 0.76. The Job Role Conflict Scale had three areas—diffuseness and conflict, value and conflict, and management policies. The items were scored on a three-point scale, The test-retest reliability was 0.78 and validity was established through content validity. The Halpin and Croft Organizational Climate Description Questionnaire was used to measure institutional climate.

The findings of the study were: (1) The college teachers in general obtained a higher mean score on economic, interpersonal achievement and academic values than school-teachers. (2) Schoolteachers obtained a higher mean role conflict score, especially in home role situation as compared to college teachers. (3) Compared to government college teachers, the school teachers enjoyed better status and independence. (4) There was a significant difference between the salary and promotion aspects of college teachers and school teachers. (5) Significant mean difference existed between school and college teachers on OCDQ dimensions of espirit, production emphasis, thrust and consideration. (6) Significant mean differences existed between job-security and need achievement among teachers who had worked for less than five years as compared to teachers with 5 to 15 years experience. (7) Science teachers obtained a higher mean value for home role conflict as compared to arts and social science teachers. (8) Teachers whose income was below Rs. 1500, obtained a higher mean value on aloofness, emphasizing the emotional barrier between superior and subordinates, as compared to the higher income group. (9) Younger teachers, in the age-group 20-30 years, obtained higher mean creative value as compared to teachers who were of 40 or more years old. (10) Need achievement was found to be significantly different in younger teachers who obtained a higher mean value. (11) Younger teachers also obtained higher mean value on intimacy, emphasizing gregariousness, as compared to older teachers. (12) Marriage did not have a bearing on work-related values, need satisfaction in work, perceived organizational climate and job-role conflict. (13) Nuclear or joint family did not have significant hearing on work-related values, home-role conflict, job-role conflict, need satisfaction and perceived organizational climate. (14) Number of children did not have a significant bearing on work related values. (15) There was significant correlation between work-related values and need satisfaction, job-role and home role, need satisfaction and OCDQ dimensions, work-related values and interpersonal relations.

The study has implications for the teaching institutions which should delineate the role function of teachers, earmark aims and objectives for efficient functioning of both teachers and students, provide better training methods and in-service teacher training programmes.

1170. UPADHYAY, B., *A Comparative Study of the Attitude, Value and Motivation of the Pupil Teachers of Sampurnanand Sanskrit Vishwa Vidyalaya and other Universities of Uttar Pradesh (in Hindi),* Ph.D.Edu., SSU, 1984

The main objective of the study was to compare the attitude, values and motivation of the teacher-trainees of Sampurnanand Sanskrit University and other universities of Uttar Pradesh.

The study was conducted on a sample of 200 teacher-trainees following the survey method. The sample consisted of 60 subjects from Sampurnanand Sanskrit university and 140 subjects from other universities of U.P. The data were collected with the help of Ahluwalia's Teacher Attitude Inventory, Kulshrestha's Hindi Adaptation of Allport Vernon's Study of Values and Tripathi's Personality Test. Mean, SD and t-test were used for drawing conclusions.

The findings were: 1. The teacher-trainees of Sanskrit University did not differ significantly on the motivational dimensions of orderliness, exhibition, cooperation authority, nurturance, change and heterosexual relations with teacher trainees of the other universities of U.P. 2. Sanskrit University teacher trainees were significantly higher on the motivational dimensions of acquisition, egoism, humility and tolerance in comparison to their counterparts in other universities of U.P. 3. Teacher-trainees of Sanskrit University were significantly lower on the motivational dimensions of brotherhood, insight, and aggression. 4. Teacher trainees of Sanskrit University had a significantly higher positive attitude towards the teaching profession than the teacher-trainees of other universities. 5. Teacher-trainees of Sanskrit University did not differ signifi-

cantly from teacher-trainees of other universities in values, except the economic value in which they were significantly lower then the teacher-trainees of other universities in U.P.

1171. VALAND, J.B., *A Study of Innovative Proneness of Teachers of Primary Teachers' Training Colleges in the State of Gujarat*, Ph.D.Edu., SPU, 1983

The objectives of the study were (i) to develop an instrument seeking to identify and quantify four aspects of innovative proneness of teacher educators, viz., teacher-educators' expressed attitude towards specific innovations, teacher-educators' general attitudes to change or their change-related values, teacher-educators' preferred behaviours in relation to their perception of attitudes of innovations, a d teacher-educators' preferred behaviours in relation to their perception of the setting and circumstances in which innovations were introduced, (ii) to design and validate innovative proneness scale, (iii) to study innovative proneness of teacher-educators of primary teachers' training colleges of Gujarat with respect to age, teaching experience, sex, professional satisfaction, mobility, participation in in-service education, habit of reading professional literature, professional training and academic qualifications, and (iv) to find out the inter-correlations among the components of the innovative proneness scale.

An innovative proneness scale was constructed and standardized and was used for studying innovative proneness of primary teacher educators of Gujarat. There were three sections—Attitude to Innovation Scale, Situational and the Innovation Characteristics Scale, and Change-related Values Questionnaire. The study was based on a sample of 200 teacher-educators selected from 64 primary training colleges of Gujarat State. Percentile norms were established, For comparing the innovative proneness of teachers of different age-groups, sex, experience, qualifications, etc., the t-test was used to test the significance of difference between the means of any two groups.

Some of the findings were: 1. The mean innovative proneness score of the teachers above 35 years of age was greater than those of teachers under that age. 2. The mean score of the female teachers was higher than that of the male teachers. 3. The mean score of the teachers having more than five years of teaching experience was greater than that of teachers having less than five years of teaching. 4. Teachers possessing an M.A. degree gave the highest mean score on innovative proneness, while teachers having a B.Sc. degree gave the lowest mean score. 5. The mean score of the teachers who had not changed institutions was higher than the teachers who had changed institutions. 6. The mean score of the teachers who attended the in-service programme was higher than the mean score of the teachers who had not attended any in-service programme. 7. The mean scores of the teachers having a habit of reading professional literature and teachers having professional satisfaction were higher than those of teachers who were not in the habit of reading professional literature and having no professional satisfasction. 8. The components of the innovative proneness scale significantly correlated with teachers' personal variables such as age, sex, experience, academic qualifications, professional qualifications, mobility, in-service education, reading habits and professional satisfaction.

1172. VYAS, R.P., *Relationship of Selected Factors with the Teaching Success of Prospective Teachers of Rajasthan*, Ph.D.Edu. Raj. U., 1982

The main purpose of the study was to examaine the relationship of certain factors (predictors) such as age, academic achievement, verbal and nonverbal intelligence, personality adjustment, self-perception, attitude towards teaching, teaching aptitude and socio-economic status of the prospective teachers with their teaching success criteria such as supervisor's ratings, self-rating, university practical marks, total practical assessment university theory marks and university total marks. Apart from this, other subsidiary objectives were, (i) to study the relationship among the proposed predictors and teaching success of prospective teachers in the case of total sample, (ii) to study the relationship among the proposed predictors and the teaching success of the prospective male teachers, (iii) to study the relationship among proposed predictors and the teaching success of prospective female teachers, (iv) to study the relationship among the proposed predictors in the case of total, male and female, prospective teachers, (v) to study the relationship among the proposed criteria in the case of total, male and female teachers, and (vi) to study the relationship between the predictors and the criteria in the case of upper and lower groups of total, male and female, prospective teachers. In order to achieve the ob-

jectives 'no relationship' hypotheses were framed.

The study was conducted on 300 prospective teachers studying for the B.Ed.during the session 1979-80 in three colleges of education affiliated to the University of Rajasthan. The data were collected with the help of the following tools: (i) a personal pro-forma regarding age, academic achievement, etc., (ii) the Jalota Group General Mental Ability Test (1973), (iii) Raven's Standard Progressive Matrices Sets A,B,C,D & E (1975), (iv) the Sexena Personality Inventory, (v) the Mukherjee Self-Insight Test, (vi) the Ahluwalia Teacher Attitude Inventory, (vii) the Jaiprakash and Srivastava Teaching Aptitude Test, (viii) the Kulshrestha Socio-economic Status Scale, (ix) a locally developed observation schedule for gathering information about practical teaching, and (x) university records for university practical and theory marks.

The findings of the study were: (1) Age was significantly related to the criterion variable, supervisors' ratings in the case of the total sample. It was also significant'y related to criterion variables, university practical marks and total practical assessment, in the case of total and male sample. But age was not significantly related to the criterion variables, self-rating, university theory marks and university total marks, in all the categories of the sample. (2) Academic achievement was significantly related with supervisor's rating, university practical marks, total practical assessment, university theory marks, and university total marks in the case of total, male and female, samples of prospective teachers. (3) Verbal intelligence was significantly related with supervisor's rating, university practical marks, total practical assessment, university theory marks, university total marks in case of total and female samples. In the case of the male sample, this predictor variable revealed a significant relationship with supervisor's ratings and university theory marks. (4) Non-verbal intelligence showed a significant relationship with supervisor's rating, self-rating, total practical assessment and university total marks in the case of total and female samples. (5) Personality adjustment was significantly related with university practical marks and total practical assessment in the case of total and female samples. It was found significantly related to self-rating in the case of the male sample and with university total marks in the case of the female sample only. (6) Self-perception was not found significantly related to any of the criterion variables in all the three categories of the sample. (7) Attitude towards teaching showed a significant relationship with the criterion, self-rating, in all the samples. It also showed a significant relationship with supervisor's rating, total practical assessment, university theory marks and university total marks in the case of total and female samples. (8) Teaching aptitude had a significant relationship with self-rating and university total marks in the case of the female sample only. It had a significant relationship with university theory marks, in the case of total and female samples. (9) Socio-economic status was found significantly related to supervisor's rating and university total marks in the case of total and male samples. It was found significantly related to university practical marks and total practical assessment in the case of total sample only. In the case of the male sample, it had a significant relationship with university theory marks, while in the case of the female sample, it showed a significant relationship with self-rating. (10) Age, academic achievement, verbal intelligence, nonverbal intelligence and socio-economic status contributed to supervisor's rating, in the case of total and male samples. Age, academic achievement, nonverbal intelligence and teaching aptitude made a significant contribution in predicting supervisor's rating in the case of the female sample. Nonverbal intelligence and attitude towards teaching contributed to self-rating in the case of total sample. Personality adjustment and attitude towards teaching contributed to self-rating in the case of male samples, while predictors, academic achievement, verbal intelligence, nonverbal intelligence, attitude towards teaching and socio-economic status contributed to the criterion of self-rating in the case of the female sample. (12) University practical marks could be predicted by contributions from age, academic achievement, verbal intelligence, and personality adjustment in the case of the total sample, while age, personality adjustment and socio-economic status helped to predict university practical marks in the case of the male sample. Age, academic achievement, verbal intelligence and personality assessment were significant predictors of university practical marks in the case of the female sample. (13) Age, academic achievement nonverbal intelligence and attitude towards teaching were found to contribute to the prediction of total practical assessment in the case of the total sample, while in the case of the male sample, significant predictors were age and attitude towards teaching, and in the case of the female sample, predictors were age, academic achievement, nonverbal intelligence, personality adjustment, attitude towards teaching and socio-economic status. (14) The university theory marks could be predicted on the basis of academic achievement, verbal intelligence

and teaching aptitude in case of the total sample, whereas in the case of the male sample, predictors were academic achievement, verbal intelligence, attitude towards teaching and socio-economic status. In the case of the female sample, the predictors were academic achievement and teaching aptitude, (15) In the case of the total sample, the significant predictors were age, academic achievement, verbal intelligence, attitude towards teaching and socio-economic status for the criterion of university total marks. In the case of the male sample, the predictors were verbal intelligence and socio-economic status. In case of the female sample, predictors were age, academic achievement, verbal intelligence, personality adjustment and teaching aptitude. (16) Age, academic achievement and verbal intelligence had stood out prominently as predictors as far as the criterion variables, selected in this study were concerned. But the variable, self perception, had shown no significant contribution towards prediction as far as these criteria were concerned.

1173. WANGOO, M.L., *Teacher Personality Correlates and Scholastic Competence as related to Teacher Effectiveness,* Ph.D. Edu., Kashmir U.,1984

The major aim of the inquiry was to study teacher personality correlates and scholastic competence as related to effective teaching.

The sample consisted of 500 teachers drawn from higher secondary schools of Srinagar district and its outskirts (Jammu and Kashmir State), teaching science, mathematics and English to preuniversity classes. Only male teachers falling in the age group of 30–35 years and holding an M.A./M.Sc. degree in his subject along with a B.Ed. degree, were taken into account. Further, only those teachers were considered who had been teaching the same subject in the same school for the last three years. The four tools of investigation were Cattell's 16 PF Questionnaire (adults, Form A) to assess personality, Raven's Advanced Progressive Matrices (APM-Set II) to test scholastic competence, Principal's Comment Check List (PCCL) evolved by the investigator, and Student's Comment Check List (SCCL), also evolved by the investigator. On the basis of student ratings, the total sample of 500 teachers was split into two extreme groups—the highest 40 per cent and the lowest 40 per cent, while the middle 20 per cent in the analysis was not taken into account.

The two extreme groups were compared on the basis of the scores they attained on APM, PCCL and the 16 PF Questionnaire. The t-test for all the 18 variables was computed.

The major finding was: Personality adjustment, democratic leadership, a high degree of intelligence, and emotional control were the main characteristics that went with teacher effectiveness.

1174. YADAV, D.D., *A Critical Study of Teacher Education in the State of Haryana and Its Comparison with That of CIE, Delhi and the RCE, Ajmer,* Ph.D. Edu., Raj. U., 1980

The objectives of the study were: (i) to critically evaluate the trends and issues of secondary teacher education in the state of Haryana, (ii) to compare the teacher education programmes as practised in colleges of education in Haryana with the programmes of the Central Institute of Education, Delhi, and Regional College of Education, Ajmer, and (iii) to make a case study of the five institutions, three from Haryana, one from Delhi (CIE) and one from Ajmer(RCE).

The sample of the study consisted of all 23 teacher training institutions in the state of Haryana, the Central Institute of Education, Delhi, and the Regional College of Education, Ajmer. For the purpose of investigation, a case study of five institutions was taken, three from Haryana and the other two were CIE, Delhi, and RCE, Ajmer. The study was a normative survey, which was conducted with the help of a questionnaire having different elements, based on the theoretical model of teacher education. These elements concerned organization and administration of the colleges, objectives of teacher education, admission and enrolment procedures, methods of instruction, physical facilities, etc. Apart from this, all available records from these colleges have been taken into account. The other tools were an interview schedule to confirm information collected through the questionnaire and the Ahluwalia Teacher Attitude Inventory to measure attitudes of pupil-teachers towards teaching.

The findings of the study were: 1. The growth of the colleges of education was not need-based in the state of Haryana. 2. Though there was only one government college of education in Haryana, yet the government was encouraging other colleges of education by giving grants-in-aid to these institutions. 3. Sixty per cent of the colleges of education in the state were functioning

without fulfilling the conditions laid down by the universities. These institutions were organizing a limited number of cocurricular activities for providing varied experiences to the prospective teachers. 4. Teachers in the colleges of education in the state of Haryana were not conscious about the objectives of teacher education. 5. The enrolment at B.Ed. level in Haryana was very high. The requirements for admission were narrowly conceived and there was no flexibility in these rules. No weightage was given to teaching experience and professional qualificatons. 6. The theory and practice teaching courses had been given 700 and 200 marks respectively. The content-enrichment of pupil-teachers had not been taken into account. 7. Demonstration schools were not helping the pupil-teachers in practice teaching, and the school teachers were kept aloof from this programme. 8.Most of the colleges in Haryana used the lecture method to impart instruction to pupil-teachers. Only a few institutions were laying emphasis on tutorials, seminars, group discussions etc. 9. There was no encouragement for professional growth of teacher-educators. There was no provision for extension services in the education colleges in Haryana. Further, most of the teachers in these colleges were getting UGC pay scales but only seven teachers held a Ph.D. degree. 10. The theory courses of all the colleges were similar. Most of these colleges did not pay proper attention to practice teaching. 11. There was no significant relationship between socio-economic status and attitude towards teaching of pupil-teachers from the state of Haryana. The same were the findings in the case of pupil-teachers of the RCE, Ajmer, and the CIE, Delhi. 12. There was no significant difference between the pupil-teachers of the Haryana colleges, CIE and RCE, as far as, their attitude towards teaching was concerned. 13. The difference between colleges of education in Haryana, the CIE and RCE was regarding the clientele which these institutions attracted, admitted and served. The CIE attracted national clientele, the RCE regional candidates and the colleges of Haryana only local applicants. 14.The CIE and RCE had better professional and academic courses in comparison with the colleges of Haryana.

The study had its implications for different aspects of secondary teacher education programme. It was suggested that further expansion of colleges of education in Haryana needed to be stopped. The objectives of the teacher-education programme need to be mentioned in the handbook of syllabuses. More attention needs to be given to teaching practice and co-curricular activities. If possible, internship programmes may be added to the B.Ed. course, where the teachers working in the demonstration schools should help the pupil-teachers. Above all, deliberate efforts need to be made by all the institutions concerned with the teacher education programme to develop in pupil-teachers a positive attitude towards teaching.

1175. YADAV N., *Interaction Analysis of Classroom Behaviour of High School Biology Teachers in relation to Pupils' Achievement and Attitudes,* Ph.D.Edu., Gor. U., 1987

The main objectives of the study were (i) to analyse high school biology teachers classroom communication into various components in order to compare them with American school norms, (ii) to compare the classroom behaviour patterns of effective and non-effective biology teachers, (iii) to find out the relationship between indirectness as shown by I/D and i/d ratios with pupil achievement, (iv) to find out the relationship between indirectness in teacher behaviour as shown by I/D and i/d ratios with pupil attitudes, (v) to compare the pupil achievement of high I/D and low I/D groups of teachers, (vi) to compare the pupil achievement of high i/d and low i/d groups of teachers, and (vii) to highlight the classroom behaviour patterns of highly effective biology teachers identified on the basis of average pupil achievement.

The investigation was carried out on an *ex post facto* basis with 100 high school biology teachers and their 1000 biology students taken from four districts of eastern U.P. The method applied was proportionate stratified random sampling. The tools used were Flanders Interaction Analysis Category System (FIACS), an Achievement Test in Biology for High School Biology Students, and a Student Attitude Scale. Separate 10×10 matrices, combined matrices and master matrices were prepared for study of teacher behaviour. Coefficients of correlation were computed between indirectness in teacher behaviour and pupil achievement and attitudes.

The main findings revealed: 1. Biology teachers in high schools of eastern U.P. talked about 72.63 per cent of the time during classroom verbal interaction. There was only 9.8 per cent opportunity for students to talk, most of which was response and not initiation. Silence and confusion consumed 17.54 per cent of the time in these classrooms. Lecturing by teachers was the most

dominant behaviour category. This occupied 70 per cent of the total teacher talk and 51 per cent of the total classroom communication. When a comparison of these biology teachers was made with American school norms along the variables of TT, ST, S/C, TQR/PIR and PSSR, it was found that there was marked difference between the interaction patterns of the teachers in the two countries. 2. There was a significant difference between classroom behaviour patterns of effective and non-effective biology teachers at high school level in eastern U.P. 3. Indirect teacher behaviour as shown by I/D and i/d ratios was not found related with student achievement in biology at high school level. 4. Indirectness in teacher behaviour was found positively related with pupil attitudes towards their teachers at high school level. 5. Pupils achievement under the high i/d group of biology teachers was found superior to those under the low i/d group of teachers. But high I/D and low I/D teachers did not seem to bring out such difference in their student achievement. 6. Highly effective biology teachers talked about 73 per cent during classroom communication. Their most important pattern was the lecture pattern.

1176. YOGENDRA KUMAR AND RATTAN LAL, *Use of Microteaching in Improving General Teaching Competence of Inservice Teachers*, SCERT, Haryana, 1980

The objectives of the investigation were (i) to study the effectiveness of microteaching in the improvement of general teaching competence (GTC) of in-service teachers, (ii) to study the effectiveness of microteaching in developing the skills of questioning, reinforcement, stimulus variation, illustrating with examples, illustrating with aids and increasing pupils' participation in in-service teachers, and (iii) to find out the effectiveness of microteaching in the self-assessment of in-service teachers and assessment of in-service teachers as perceived by their pupils.

The sample comprized twenty in-service teachers of science in secondary schools of Gurgaon sub-division. The tools used in the study were the Teaching Assessment Battery (TAB) comprizing two scales and an inventory to get pupils' perceptions of teachers. The single group pretest—post-test design was adopted and t-test was used for testing hypotheses. The correlation matrix of self-assessment of teachers and assessment by observers was also computed.

The major findings were: 1. There was improvement in general teaching competence and in teaching skills of probing questions, reinforcement, stimulus variation, illustrating with examples, illustrating with aids, increasing pupils' participation after undergoing training through microteaching. 2. Microteaching helped the teacher in self-assessment of his capabilities, gains, sense of self-acceptance and self-achievement. 3. There was a marginal change in the students' assessment of their teachers when the latter were trained through microteaching. 4. Young teachers with less experience benefited more from microteaching than those with longer experience. 5. It was found that microteaching could go a long way in improving the general teaching competence of in-service teachers if undertaken on a large scale.

*1177. ZUBERI, I.A., *A Study of Relationship between Personal Values, Needs, Job Adjustment, Temperament, Academic Careers of Secondary School Teachers with Their Teaching Behaviours*, Ph.D. Edu., AMU, 1984

The objectives of the investigation were to study (i) classroom behaviours of teachers, (ii) classroom behaviours of indirect–direct teachers, and (iii) the relationship between values, needs, job adjustment, temperament, academic careers of school teachers and their teaching behaviours.

Data on the classroom behaviours of teachers were collected from a sample of 200 male teachers with the help of a modified version of Flander's Interaction Analysis Category System. Data on the Occupational Adjustment Inventory developed by the investigator, R.K. Ojha's Value Test, Tripathi's Personal Preference Schedule, the Thurstone Temperament Schedule and Academic Achievement were obtained from a sample of 104 teachers chosen randomly from the larger sample of 200 teachers. The relationship between these five independent variables and teacher behaviour was studied by the help of the product–moment coefficient of correlation and t-test for the significance of difference between means.

The major findings of the study were: 1. About two-thirds and one-sixth of the total interaction time was spent on teacher and pupil talk respectively. About a fifth of the time was utilized in activities that promoted learning but required no talking. 2. About 5 per cent of the total interaction time was spent on motivational

and restrictive behaviours. 3. The majority of teachers put questions rarely and mainly employed the lecture method. 4. Pupil participation was low, both in quality and quantity. 5. Indirect teachers employed behaviours that helped in creating a positive social emotional climate, encouraged and extended pupils' ideas, asked questions, exhibited flexibility, motivated pupils, lectured less, and provided more opportunity to pupils to work silently than the direct teachers. 6. Teachers high on theoretical values were found to dominate their classes with talk and rarely asked questions, those high on economic values exhibited facilitative behaviours, asked narrow questions and praised their pupils, those high on aesthetic values used controlling behaviours and also allowed pupil talk, and those high on religious values exhibited indirect behaviour more often than others. 7. Teachers high on need achievement talked less and encouraged pupil talk, those high on need exhibition were more responsive, praised their pupils and asked divergent questions frequently, those high on need autonomy encouraged pupil criticism, those high on need affiliation and need succourance encouraged pupil talk in the classroom, those high on need endurance, need deference, need order, need intraception, need abasement, need nurturance and need change tended to behave like direct teachers. 8. Well adjusted teachers exhibited characteristics of indirect teachers on almost all the dimensions of teacher behaviour. 9. Active teachers exhibited a tendency towards indirectness. Vigorous and dominant teachers criticised pupils to a lesser degree, stable teachers provided opportunities of initiation and correct feedback frequently, sociable teachers motivated their students more often than others. 10. Academic career was not found to affect the teacher behaviour.

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