CHAPTER : V

SUMMARY OF FINDINGS AND IMPLICATIONS

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CHAPTER : 5

SUMMARY OF FINDINGS AND IMPLICATIONS

(I) INTRODUCTION:

(A) Challenges facing Modern Society :

One of the most characteristic features of modern society in the eighties of this century is change at incredible rate in virtually every aspect of life. Today is not like yesterday and tomorrow will be very different from today. In a such an evolving society, there are many challenges both to the individual and the society. The advances in Science and Technology go on changing the work-process and bring concomitant social transformation. There is the challenge to learn new ways of doing work. Work will occupy less and less time in future. There is the challenging prospect of more leisure than necessary.

People can not live in cultural isolation from the rest of the world, as the world shrinks owing to mutual interdependence of countries and regions and the explosion in transportation and communication technology. World culture has become a reality, and everyone is required to rise above his cultural barriers and develop certain universalistic ways of feeling, thinking and doing. In this age of affluence, paradoxically prosperity is not shared uniformly and equitably by people of

the world. Modern society is on the brink of an explosion and if this should be averted people need to learn sharing Cooperatively the products of their labour even as they continue their competitive effort for increasing world productivity.

The greatest challenge facing the evolving society is the perpetual threat to peace. People have to be protected from this threat of war. The best protection is to build in everyone's mind, the outlook of love and regard for human life, liberty, equality and brotherhood and on this rocky fundation world understanding may rest.

(B) The Educational System :

What is the role of the educational system in preparing the modern society faced with such challenges? It can be used as a powerful instrument in this context. There have been tremendous Developments in Education in its effort to respond to the afore-mentioned challenges in the world at large. Education viewed as an individual right, and a public obligation of the State has been expanding to cover all sections of people through formal, and non-formal channels. The changes in the curriculum are all aimed at bringing relevance into the curriculum so that the curriculum matches both individual and social needs. For the first time, Mastery Learning by many appears plausible following the experiments based on Bloom's concept of Mastery Learning Educational technology has brought the take-off stage to Developments in Education.

(C) Recent Developments in Indian Education:

The above mentioned Conceptual developments in education at the world level have also influenced the Indian educational system.

Some of these developments are both in the conceptual and operational form while some others are yet only at the conceptual stage. There have been new developments in structures, curriculum, and methods of education at various levels. Several experiments, innovative projects and reform efforts are being undertaken in the country. Some of these innovations are of national or regional significance while others are of limited significance. Some are top-down innovations and others have sprung up from the base. These developments have led to the thinking, that the educational system in India is dynamic, flexible and developing and therefore, it may be used in the overall national strategy for development.

(D) Teacher Education and Strategy for Development:

If Indian educational system has to be an instrument for national development, that would depend on the vitality of teacher-education in the country. Teacher-education can produce effective teachers only when its courses are designed scientifically to offer an uptodate education and training. Teacher-education should be such that it should enable student-teachers to develop Awareness of a wide range of Recent Developments, and knowledge of some significant Developments upto certain depth. Besides student-teachers should cultivate proper Professional Teacher Attitude to the many aspects of the teaching work. There should be plentiful resources in teacher-education establishments so that student-teachers cultivate their skills in using multiple sources of information for their professional preparation and development. Student-teachers of today may be

school teachers of the future. The future of education is associated with the student-teachers of today.

(E) The Research Problem :

(1) When so many significant changes, developments and innovations were taking place, how far were student-teachers aware of them and knowledgeable of them at the terminal stages of B.Ed. and M.Ed. courses ? This research was perhaps the first attempt in this direction.

(2) The research problem undertaken was, "Awareness and Knowledge of Recent Developments in Education and their correlates among B.Ed. and M.Ed. students". Awareness meant being conscious of something; the state of perceiving and taking account of some event, occasion, experience or object. Awareness was viewed as affective, cognitive and psycho-motor characteristic of behaviour, and it could occur along a continuum from very unsophisticated or gross awareness to highly sophisticated or detailed awareness. Knowledge was viewed as those behaviours and test situations which emphasised the remembering either by recognition or recall of ideas, materials or phenomena. Recent Developments in Education referred to increasing complexity or organisation of processes and structures in education judged by experts and teacher-educators to be recent and significant to Indian education. These developments had been in the form of (i) Ideology; (ii) Theories; (iii) Concepts; (iv) Documents; (v)Books; (vi) Movement; (vii) Agencies; (viii) Programmes;

(ix) Schemes; (x) Practices; (xi) Techniques; (xii) Instruments and (xiii) Tools.

(3) This research was an attempt to study the Awareness and Knowledge of Recent Developments in Education of B.Ed. and M.Ed. students of the University of Madras during 1977-78 and examine their Professional Teacher Attitude, Utilisation of Sources of Information and GPA as the correlates of their, Awareness and Knowledge of Recent Developments in Education.

(F) Objectives of the Study :

The following were the objectives of the present investigation:

1) To study the Awareness and Knowledge of Recent Developments in Education of the B.Ed. and M.Ed. students.

2) To study the relationship between the following five educational variables among themselves; with reference to B.Ed. and M.Ed. students separately:

   (i) Awareness of Recent Developments in Education (ARDE) (X_2).

   (ii) Knowledge of Recent Developments in Education (KRDE) (X_3).

   (iii) Utilisation of Sources of Information on Recent Developments in Education (USIRDE) (X_4).

   (iv) Professional Teacher Attitude (PTA) (X_1).

   (v) Grade Point Average (GPA) (X_5).

3) To compare the performance of B.Ed. and M.Ed. students on the first four educational variables, mentioned earlier.

4) To study the effect of two institutional variables, namely (i) Urban/Rural location of the colleges of Education

and (ii) the Government or non-government management of the colleges of Education on the Awareness and Knowledge of Recent Developments in Education with reference to B.Ed. and M.Ed. students separately.

5) To study the effect of following biographical variables on the Awareness and knowledge of Recent Developments in Education with reference to the B.Ed. and M.Ed. students separately.

   i) Sex

   ii) Age

   iii) Level of general education

   iv) Major field of specialisation

   v) Personal status

   vi) Socio-economic status

   vii) Financial assistance for studies

   viii) Teaching experience.

6) To study the effect of level of achievement in the degree/ post-graduate course on the Awareness and Knowledge of Recent Developments in Education with respect to B.Ed. students only

7) To predict the Awareness and Knowledge of Recent Developments in Education with respect to B.Ed. & M.Ed. students separately, basing on the Knowledge of the other three educational variables, viz. Utilisation of Sources of Information, Professional Teacher Attitude and Grade Point Average of the B.Ed. and M.Ed. students respectively.

(G) The Hypotheses of the Study:

G:1 The following were the Research Hypotheses formulated.

1) There would be a significant positive relationship between the Awareness of Recent Developments in Education and the Utilisation of Sources of Information of the B.Ed. and M.Ed. students.

2) There would be a significant positive relationship between the knowledge of Recent Developments in Education and the Utilisation of the Sources of Information of the B.Ed. and M.Ed. students.

3) There would be a significant positive relationship between the Knowledge of Recent Developments in Education and the Professional Teacher Attitude of B.Ed. and M.Ed. students.

4) The performance of the M.Ed. students would be significantly higher than the B.Ed. students in Awareness of Recent Developments, Knowledge of Recent Developments, Utilisation of Sources of Information on Recent Developments and Professional Teacher Attitude.

5) The Awareness and Knowledge of Recent Developments in Education of the B.Ed. and M.Ed. students of the urban Colleges of Education would be significantly higher than those of the B.Ed. and M.Ed. students of rural colleges of Education.

6) B.Ed. and M.Ed. students with higher general education would have significantly higher Awareness and Knowledge of Recent Developments in Education compared to B.Ed. and M.Ed. students with lower general education respectively.

7) B.Ed. and M.Ed. students holding degree in Science

subjects would have significantly higher Awareness and knowledge of Recent Developments, when compared to B.Ed. and M.Ed. students holding Arts degrees.

8) B.Ed. and M.Ed. students with higher Socio-economic status would have significantly higher Awareness and Knowledge of Recent Developments in Education, when compared with those having lower socio-economic status.

9) B.Ed. and M.Ed. students receiving financial assistance for their studies would have significantly higher Awareness and knowledge of Recent Developments than those not receiving such assistance.

10) B.Ed. students holding First class degrees or post-graduate degrees would have significantly higher Awareness and Knowledge of Recent Developments in Education, when compared with B.Ed. students having lower class pass or post-graduate degrees.

G:2 The following NULL HYPOTHESES were also set up:

1) There would be no significant relationship between the following pairs of educational variables with respect to both the B.Ed. and M.Ed. student-samples:

i) ARDE and PTA

ii) ARDE and KRDE

iii) ARDE and GPA

iv) KRDE and GPA

v) PTA and USIRDE

vi) PTA and GPA

vii) USIRDE and GPA

2) The type of management of the Colleges of Education would make no difference to the B.Ed. and M.Ed. students' Awareness and Knowledge of Recent Developments in Education.

3) Sex of the B.Ed. and M.Ed. students would make no significant difference to their Awareness and Knowledge of Recent Developments in Education.

4) Age and Personal status of the B.Ed. and M.Ed. students would make no significant difference to their Awareness and Knowledge of Recent Developmentsin Education.

(H) Organisation of the thesis:

The thesis is presented in five chapters. The first Chapter gives an Introduction to the study. The Second Chapter is concerned with Review of Related Research. The methodology is discussed in the third Chapter. Analysis of Data is carried out in the fourth Chapter. The fifth Chapter presents the summary of findings, implications, recommendations and suggestions for further research.

(II) REVIEW OF RELATED RESEARCH :

The review of related research has covered six major areas of research, viz. (i) Innovation-Adoption and Diffusion; (ii) Teacher Education; (iii) Awareness, (iv) Knowledge; (v) Professional Teacher Attitude and (vi) Utilisation of Sources of Information.

(A) Studies on Innovations:

Indian researches on Innovation-Adoption and Diffusion have been influenced by Rogers and Shoemaker (1971). The adoption and diffusion of innovations depend upon several

variables. The perception of the intrinsic and extrinsic characteristics of the innovations by the user system will determine adoption-pattern. There are different categories of adopters; some are early to adopt while others are not and some resist adoption. The dissemination of innovations depends upon the communication system between the resource and user systems. The characteristics of innovations and innovative institutions have been studied with reference to school education. The consequences of innovations have also come to get the attention of researchers in the field. However so far there have not been research studies to investigate how student-teachers view these innovations at the time of teacher-education. This study is concerned with Recent Developments in education. The Developments may be viewed as innovative developments. How much B.Ed. and M.Ed. students will be aware and Knowledgeable of these Developments will depend upon the state of teacher-education in the country.

(B) Studies on Teacher Education :

The studies reviewed on Teacher Education give a mixed picture of the situation. Several studies have pointed out that teacher education at the secondary level has remained traditional in many respects. Notably studies by Joseph (1967), Mallaya (1968), Saikia (1971) and Marr (1969) have concluded that teacher education was theoretical and was not related to prevailing school conditions. Group work and practical work seemed to be little practised in colleges of Education. And they had poor library facilities. Gupta (1971) concluded that standardised tasts for selection of

student-teachers had not been used in Colleges of Education in the country and instead Interview/or/and written tests were held. The facilities for audio-visual education were so meagre, in the findings of Patel (1971) In an ERIC project report, Sultana (1977) had reported on the academic problems of the student-teachers. According to Srivastava (1970), the student-teachers were dissatisfied with the evaluation practices of their colleges of Education.

On the other hand, certain studies which indicate that in certain teacher-education establishments, some experimental work has been attempted. These studies are mostly in the area of modification of teacher behaviour through innovative programmes such as Micro-teaching, class-room behaviour training through the use of Flanders' Interaction Analysis category System and the adoption of skill-based instructional materials synchronised with micro-teaching.

There was no study specifically on evaluating how far student-teachers had come to be aware and knowledgeable of certain educational developments. The present study is concerned with investigating how far student-teachers are aware and knowledgeable of a comprehensive list of Recent Developments in Education at the terminal stage of the two courses.

(C) Studies on Awareness:

A variety of investigations on 'Awareness' has been reviewed. Pure laboratory oriented experimental psychologists such as Williams (1978), Dixit (1974), Behar and Zucker (1976),

Moffia (1978), Edwin Schur (1978) and Jensen (1974) had worked on Awareness, viewing it as consciousness.

In the field of social-sciences, Awareness had been studied by many as given below:

i) Political Awareness (Hanson et al 1978).

ii) Environmental Awareness (Winston, 1974).

iii) Awareness of Social Problesm (Lewis, 1974).

iv) Consumer Awareness (Mason, 1975).

v) Cultural, Cross-cultural and racial Awareness (Crawford 1976; Joseph, 1972; Hansen, 1974 and Whitmarsh (1976).

vi) Student-Awareness of many student Services (Mitchell, 1976).

vii) Awareness of the British Open University (Swift 1976).

Another distinct area of Awareness Research has been on Career Awareness of different target groups such as School children, parents etc; and some important studies were completed by Freeland (1975); Huhn (1975) and Sloan (1978).

Teacher-Awareness of specific Educational Innovations has been investigated by Bhouraskar (1974), Dierke (1975) and George (1971). Most of the Awareness studies conducted imply that Awareness could be promoted by deliberately designed publicity or education programmes for relevant target groups.

Studies on Teacher-Awareness of class-room teacher-behaviour have suggested that teachers are not aware of their class-room behaviour and notable studies in this regard were by Jackson (1968), Thomas and Jere (1973), Good and Brophy (1974), Adams and Biddle (1970) and Martin and Keller (1976)

among others. Teachers therefore need feedback on their class-room behaviour.

The awareness of B.Ed. and M.Ed. students regarding Recent Developments in Education will depend upon how many of these Developments are conceptually and operationally demonstrated in the Colleges of Education, besides the personal and environmental variables associated with the B.Ed. and M.Ed. students.

(D) Studies on Knowledge :

Knowledge studies relating to teachers had been regarding their Knowledge of educational matters and the relationship of such knowledge to their attitude and behaviour. In a study by John (1974), a significant relationship was established between the Principals' attitude scores towards handicapped children and their referral behaviour, as perceived by their teachers. Besides attitudes towards and knowledge of handicapped children were not correlated to referral behaviour of Principals as perceived by themselves and their teachers. In a study by Witherill (1973), high consensus with regard to relevance of knowledge of school law and school finance among those with moderate knowledge and substantial consensus among those who had slight knowledge was established.

In the field of agricultural extension, Sinha (1975) found that the unfavourable attitude and limited knowledge of farm-planning of the village level extension workers had brought about unfavourable attitude and limited awareness

on the part of the farmers. Awareness, Knowledge and attitude towards Family Planning correlated with the Planning value of the Indian married women in all strata of the sample except in Tamil Nadu (Rural) (Mukerjee, 1978). The farmers who participated in institutional type of training gained significantly more knowledge, attitude and adoption-behaviour as compared to those who got non-institutional training (Pai, 1974).

In this research, the relationship of B.Ed. and M.Ed. students' knowledge of Recent Developments in Education with their Awareness of Recent Developments, Utilisation of Sources of Information in Recent Developments, Professional Teacher Attitude and GPA would be studied.

(E) Studies on Professional Teacher Attitude :

Studies on Professional Teacher Attitudes had shown the effect of teacher-education programmes on attitude of student-teachers and the differential effects of different models of teacher-education on such student-teachers. Betty Jean's (1975) finding was teacher-education made student-teacher more conservative in their pupil-control ideology and as they progressed in the course they tended to be more and more conservative. The study of Withycombe (1975) suggested that the student-teachers' attitude towards certain educational concepts would depend on their background, age and subject of specialisation and student-teachers' attitude may differ year after year and batch to batch.

Anthony's experimental research has disclosed that different models of teacher education produce different effects on student-teachers' Professional Attitude. It was found in a study by Whitton (1975) that student-teachers' attitude to punishment changed following student-teaching and the rules of the particular school wherein student-teaching had been completed influenced the same.

The influence of co-operating teachers on the Professional attitude of student-teachers during student-teaching had been examined by Willie (1975) and Book (1976) Willie concluded that there was no correlation between the attitude of student-teachers and cooperating teachers both at the beginning and end of student-teaching and the student-teachers were far more progressive than the teachers and the Principals. Book in an experimental study immunised one group of student-teachers from cooperating teachers on Student-oriented approach to teaching and found that there was no significant difference in attitude between treatment and no-treatment group.

So far there has not been any study to compare Professional attitude of student-teachers at two levels. In this research student-teachers' Professional Teacher Attitude at the end of B.Ed. and M.Ed. courses and its relationship with their Awareness and Knowledge of Recent Developments and Utilisation of Sources of Information and GPA would be investigated.

(F) Studies on Utilisation of Sources of Information:

The studies reviewed in this section under Utilisation of Sources in Education had all been completed outside the country. Such studies often dealt with Information needs of teachers, student and teacher awareness of resources and preferences shown by the users in utilising the varied sources. Information need of the teachers was inversely related to years of teaching experience (Torgeson, 1974) Information need of the teachers depended upon the subjects they taught (Hiland, 1974).

The Utilisation of University resources by different categories of graduate students differed considerably and students in 'hard' science oriented subjects utilised largely computer and laboratory while Fine Arts, Humanities and Social Sciences students utilised library, faculty and staff time (Alden, 1972). Residence in campus could improve communication skills of the students and therefore resident students were likely to use more inter-personal Sources of Information (Thomas, 1975).

Studies on Teacher-Utilisation of multimedia materials had indicated that there was no positive correlation between teacher attitude and actual utilisation of certain media materials (Jeanet, 1975). Teacher preference of certain media materials did not indicate actual use of such materials and it was found that only 6% of University faculty were users and 94% were non-users of the five most preferred media in ten big universities (Carlson, 1972). The low media-utilisation by teachers was due to their inadequate training to use them (Dale, 1975). Teacher-

awareness of and access to media materials were factors responsible for their utilisation (Denby, 1975 and Arterbury, 1972).

Comparable studies were completed in All India Agricultural Research Institute in 1975. Communication behaviour of farmers relating to adoption of an innovation had not been influenced by any single variable but by 13 variables (Murthy 1975). Different Sources of Communication were important at different stages of adoption behaviour of the farmers (Singh, 1975). The extension agencies influenced more than the community sources of information in the adoption of nitrogenous fertilisers (Moulik, 1975) Nair completed a predictive study in 1975 and four communication variables: (i) mass-media used; (ii) inter-personal cosmopolite source-use; (iii) inter-personal localite use and (iv) extension contact accounted for 56% of variation in adoption behaviour of Kerala farmers regarding high yielding varieties. These studies had shown the complex nature of Communication behaviour in adoption of new developments.

However, there has not been research on the communication behaviour of student-teachers for developing Awareness and Knowledge of Education. In this research, besides studying the Utilisation of the Sources of Information by B.Ed. and M.Ed. student-group, their Utilisation patterns were compared and the relationship Utilisation of Sources of Information had with other educational variables were studied.

(III) METHODOLOGY :

(A) Introduction:

In this study, an analytically descriptive, evaluative,

comparative and predictive approach was adopted for investigating on the Awareness and Knowledge of Recent Developments in Education of B.Ed. and M.Ed. students. After a brief description of some significant Recent Developments in Education, followed by review of related research, the study attempted to evaluate using a norm-referenced approach the Awareness and Knowledge of Recent Developments in Education of the student-teachers. There were five educational variables in the investigation and among them two namely, Awareness and Knowledge of Recent Developments in Education were considered as criterion variables. The other three were utilisation of Sources of Information on Recent Developments, Professional Teacher Attitude and Grade Point Average and they were studied as correlates of Awareness and Knowledge of Recent Developments.

The performance of the B.Ed. and M.Ed. samples in the five educational variables was studied. Besides the impact of two institutional variables and eight/nine personal variables of the B.Ed. and M.Ed. students on their Awareness and Knowledge of Recent Developments in Education was studied. The two institutional variables were the urban/rural location of the colleges of Education and the Government/non-government management of the Colleges of Education. The personal variables of the student teachers cast in the investigation were (i) Sex; (ii) Age; (iii) Level of general education; (iv) Area of Specialisation; (v) Personal status (vi) Socio-economic status, (vii) Financial assistance for studies (viii) Teaching Experience and (ix) Level of Achievement in the Degree/Post-graduate Degree course.

The nineth personal variable was examined only with reference to the B.Ed. sample.

In this study, the relationship among the five educational variables had been analysed elaborately. Besides the Awareness and Knowledge of Recent Developments in Education with reference to B.Ed. and M.Ed. student population had been predicted. The study concluded with the presentation of major findings, implications and suggestions for further research.

(B) The Populations and Samples of the Study:

The B.Ed. and M.Ed. students of the University of Madras during 1977-78 constituted the population of this study. Two samples of 546 B.Ed. and 78 M.Ed. students were chosen by stratified sampling and they constituted 37.8% and 65.5% of the respective populations of the University of Madras.

(C) Standard Research Tools in the Investigation:

The present research had involved the use of standard research tools as well as design and construction of special tools. Standard tools had been used for measuring Professional Teacher Attitude and Socio-Economic status of the B.Ed. and M.Ed.students. Ahluwalia's Teacher Attitude Inventory (TAI), a Likert type of Scale with 90 items and five point rating was used to measure Professional Teacher Attitude. The Socio-Economic Status of urban students was measured by Dr.B.Kuppusivamy's Socio-Economic Status Scale (Urban) and the rural students' SES was measured by Socio-Economic status Scale (Rural) of Dr.Udai Pareek and G.Trivedi.

(D) Specially Designed Research Instruments:

(1) Four tools were specially designed and constructed in this research and for this research. The first was a simple tool, called student-Information Blank (SIB) having 18 items relating to bio-data particulars of the B.Ed. and M.Ed. students.

(2) The Second tool developed was a Rating Scale on Awareness of Recent Developments in Education (RSARDE). This was developed in a three-tier research; in the first tier List I with 204 items of Recent Developments in Education was prepared by consulting literature and leaders in education; in the second tier jury of five experts in education rated the significance of items and chose 176 items and arranged them under 12 dategories and in the third tier, the List II having 176 items was rated by teacher-educators for significance and List III with 130 items emerged following that. That list III was incorporated in the Rating Scale on Awareness of Recent Developments. It had five point scale and student-teachers self-judged their awareness. The raw scores were converted as percentage scores. The Rating scale had a split-half reliability of 0.99 for the B.Ed. and 0.97 for the M.Ed. sample. It had adequate content, concurrent and construct validity.

(3) Checklist on Utilisation of Sources of Information was the third tool developed specially. This check list had the List III of 130 items of Recent Developments and ten sources of Information specified. Students were to mark the Sources they used for getting their awareness-knowledge

of Recent Developments. Multiple marking of Sources for each item was envisaged. Raw scores were converted as percentage Utilisation scores. The check list had a split half reliability of 0.99 for the B.Ed. and 0.97 for the M.Ed. sample. It had adequate content, concurrent and construct validity for both the samples.

(4) Test on Knowledge of Recent Developments in Education was the fourth tool evolved in this investigation. The test was an objective type with all multiple choice test items, and closely followed Bloom's Taxonomical Approach to testing of Knowledge. The 69 items of Recent Developments in Education that were judged by the teacher-educators as essential for B.Ed. students had to be tested in the B.Ed. and M.Ed. student-samples for knowledge. A test paper having 99 items was prepared and pilot study was conducted with 274 B.Ed. students. On the basis of item-analysis a Test paper of 69 items was finalised and used for both the samples. Knowledge scores were expressed as percentage scores. The Test had a split-half reliability of 0.88 for the B.Ed. and 0.84 for the M.Ed. sample. The validity of the test for the two samples was established separately.

(E) Data Collection :

The data was collected by administering the tools of research in the last fortnight of the B.Ed. and M.Ed. courses in 1977-78 in the colleges of Education in the University of Madras. The Grades of the B.Ed. and M.Ed. students was collected from the concerned colleges at the same time.

(F) The System of Analysis of Data :

(1) For the objective of studying B.Ed. and M.Ed. students' performance on the five educational aspects, frequency distributions were prepared for the two samples. For testing the hypothesis that the M.Ed. students would have done better than the B.Ed. students on the first four educational variables, the two groups were classified into certain number of categories based on their scores and compared, ogives were prepared for graphic comparison and 't' test was applied to test the significance of the difference between the means.

(2) The effect of independent variables on the two criterion variables viz. Awareness and Knowledge of Recent Developments in Education was studied by applying (i) chi-square for testing the independence of two attributes in each case (ii) F test for testing the homogeneity of the two variances between 15 pairs of B.Ed. groups and 12 pairs of M.Ed. groups, the grouping being based on institutional and biographical variables (iii) critical Ratio test was applied for testing the significance of the difference between two means, in all cases where homogeneity of variances between pairs of groups was established and (iv) Fisher & Behren's d test was applied in all other cases wherein the 'F' tests had revealed lack of homogeneity of the variances. Two-tail and one-tail tests of significance were used for testing the hypotheses relating to the effect of institutional and biographical variables on the student-teachers' performance in the two criterion educational variables.

(3) Descriptive analysis of student-teachers' Awareness of Recent Developments in Education was made by describing in terms of percentage of students who were at 5 different levels of Awareness of the 130 Recent Developments in Education and item-wise and category-wise mean Awareness of B.Ed. and M.Ed. students was discussed and the two groups were also compared. Similar descriptive analysis was undertaken for studying the percentage of B.Ed. and M.Ed. students using the ten Sources of Information for their Awareness-knowledge of Recent Developments, Utilisation of Sources of Information was studied with specific reference to 12 categories and 130 items of Recent Developments in Education. Utilisation by the two groups was compared.

(4) The five educational variables were used for the correlational study using the product moment method.

(5) In a study involving multiple variables, a study of product moment correlations alone might not be adequate. Multivariate analysis was necessary for explaining the relationship among the five educational variables. Therefore partial correlations of the first, second and third order were used in both the samples with reference to the five educational variables. By holding one, two or three variables under statistical control, it was possible to see and explain the direct relationship among any two variables. The product moment and partial correlations among the educational variables were utilised with reference to the objective of studying the relationship among these variables.

(6) Towards the objective of making a predictive study of the two criterion educational variables for B.Ed. and M.Ed. samples, multiple regression analysis and multiple correlations were undertaken. The Backward Solution Approach was utilised for Multiple Regression Analysis and multiple regression equations with best fit were produced for Awareness and Knowledge of Recent Developments using the least number of predictor variables. In this research while predicting Awareness and Knowledge of Recent Developments, the other three educational variables were treated as predictor variables and the study involved only five variables totally.

(IV) FINDINGS :

(A) Introduction :

The summary of findings had been organised into six sections. In the first section the performance of the B.Ed. and the M.Ed. students in the five educational aspects chosen for this investigation were reported. In the second section, the findings related to the effects of institutional and biographical variables associated with the B.Ed. and the M.Ed. students on their Awareness and Knowledge of Recent Developments in Education. In the third section, certain findings based on the descriptive analysis of Awareness and Knowledge of Recent Developments and the Utilisation of Sources of Information among the B.Ed. and M.Ed. students were placed. In the fourth section, the findings pertaining to the study of linear correlations among the five educational variables were presented,

highlighting the correlates of Awareness and Knowledge of Recent Developments in Education of the B.Ed. and M.Ed. students. In the fifth section, the findings were based on partial correlations of the first, second and third order with reference to the conceptual relationship among the five educational variables. In the last section, multiple regression equations for prediction of Awareness and Knowledge of Recent Developments in Education with reference to the B.Ed. and M.Ed. student-populations were offered.

SECTION : I :

Performance of the B.Ed. and the M.Ed. students in the Five Educational Aspects :

B:1 Awareness of Recent Developments in Education of B.Ed. and M.Ed. Students:

(1) Awareness scores upto 25% were held to indicate mild unawareness, 26-50% mild awareness; 51-75% strong awareness and 76-100% very strong awareness state. Accordingly, 1.8% B.Ed. and 2.6% M.Ed. students were in Mild unawareness; 36.6% B.Ed. and 25.6% M.Ed. were in mild awareness; 56.6% and 61.5% of B.Ed. and M.Ed. students respectively were in strong awareness and 9% B.Ed. and 7.7% M.Ed. students were in very strong Awareness of the Recent Developments in Education. It was inferred that at the end of B.Ed. and M.Ed. courses the student-teachers had not developed a level of Awareness of Recent Developments in Education, one would have wished for.

(2) The Mean Awareness was 55.61 in the B.Ed. sample and 58.47 in the M.Ed. sample and the latter had a small advantage over the B.Ed. students and this was also seen in Figure-1, showing the two ogives. But the difference was so small that the 't' test gave a 'no significant difference' result. The M.Ed. students who were expected to have better Awareness of Recent Developments did not actually show that significant difference.

B:2 Knowledge of Recent Developments in Education (KRDE) of the B.Ed. and M.Ed. Students:

(1) The mean Knowledge of Recent Developments in Education in the B.Ed. sample was 43.58%. Only 17.40% of the sample obtained higher than 60% in Knowledge of Recent Developments. 43.77% of the B.Ed. students had secured lower than 40% in Knowledge of Recent Developments. In the M.Ed. sample, mean Knowledge of Recent Developments was 58.73%. 47.43% of the M.Ed. students secured more than 60% in Knowledge of Recent Developments, while 7.69% got below 40% and the others had taken between 41% and 60%. It was inferred that at the B.Ed. and M.Ed. courses the student-teachers had not been as effective as they should have been in building their Knowledge of Recent Developments in Education.

(2) When the performance of the M.Ed. group was compared with that of the B.Ed. group, the former had better knowledge of Recent Developments in Education as was hypothesised. The ogives in Figure-2 had shown that the M.Ed. students scored consistently higher over the entire range regarding

Knowledge of Recent Developments and nearly 82% of B.Ed. students fell below the M.Ed. group's Median Knowledge score. The higher Knowledge of Recent Developments of the M.Ed. group was found to be significant (P<.01) in the 't' test. It was interesting to note that though there was no statistical significance as per the 't' test, between self-judged mean Awareness of Recent Developments in Education of the B.Ed. and M.Ed. samples, yet there was a significant difference between the two groups in their objectively tested knowledge of Recent Developments in Education.

B:3 Utilisation of the Sources of Information by the B.Ed. & M.Ed. Students:

(1) The student-teachers in the colleges of Education of the University of Madras made extremely limited utilisation of the ten Sources of Information for developing their Awareness Knowledge of Recent Developments in Education judged by the low Means of the B.Ed. and M.Ed. samples in this respect (18.77% and 17.12%).

(2) When the Utilisation of Sources of Information by the B.Ed. and M.Ed. groups was compared by using the ogives in Figure-3, it was noted that the ogives lay interwined and the Median Scores were identical at approximately 17.5%. The 't' test for testing the significance of the difference between the Means of the two samples was applied and the result was not significant.

B:4 Professional Teacher Attitude of the B.Ed. and M.Ed. Students:

The Mean Professional Teacher Attitude was 65.16% in the B.Ed. sample and 64.38% in the M.Ed. sample. Generally the teacher education courses of the University of Madras were deemed to be successful in developing the attitudinal component of the student-teachers. But between the two samples, B.Ed. group had a slight advantage over the M.Ed. group and this was also seen in Figure-1 wherein both the ogives were presented. But this difference was small and was not found to be significant, when the 't' test was applied. M.Ed. students did not have a higher attitudinal position than the B.Ed. students. In the absence of such vertical comparative studies of student-teachers, it was difficult to explain this. However, it might be observed, that M.Ed. student sample being largely in-service teacher-candidates, their attitudes to the profession might be influenced by more powerful variables outside the college of Education, like Teacher Morale, organisational climate of the schools they serve and Leadership Behaviour of their school headmasters.

B:5 Grade Point Average (GPA) of the B.Ed. and M.Ed. Students:

(1) The B.Ed. student-sample got a mean Grade Point Average of 3.86 in a seven point Grade System from 0-6 points judged by the GPA, the B.Ed. students should have done a satisfactory performance in the University Examinations in the Theory subjects.

(2) The M.Ed. student-sample secured a mean Grade Point Average of 4.62 and they should be deemed to have done a very good

performance in the Theory Examinations held by the University.

(C) <u>The effect of Institutional and Biographical variables of the B.Ed. and M.Ed. Students on their Awareness and Knowledge of Recent Developments in Education (ARDE):</u>

C:1 <u>The effect of institutional and biographical variables of the B.Ed. students on their Awareness of Recent Developments in Education:</u>

(1) Women students had significantly higher ARDE than the men students.

(2) The Arts degree holders had significantly higher ARDE compared to Science degree-holders.

(3) Those with more than 12 years of teaching experience had higher ARDE than those with less than 12 years' experience and those with nil experience.

(4) Students of high SES had better ARDE, compared to those of low SES.

(5) Students of urban colleges of Education had significantly higher ARDE compared to students of rural Colleges.

(6) Students, not receiving Financial assistance for studies had distinctly higher ARDE, than those in receipt of such assistance.

(7) Other independent veriables, such as (i) the type of college management; (ii) Age; (iii) Level of general education; (iv) Personal status and (v) class taken in the Degree did not influence to bring variance in the ARDE of B.Ed. student-groups.

C:2 The effect of institutional and biographical variables of the M.Ed. students on their Awareness of Recent Developments in Education :

(1) In the M.Ed. sample, Age was found to be a factor in influencing Awareness of Recent Developments. Those above 35 years of age had better ARDE than those below 35.

(2) SES was another important variable because those with high SES had significantly better ARDE than those of middle and low SES.

(3) Students of urban Colleges of Education had distinctly higher ARDE than those from rural colleges.

(4) There was no significant difference in ARDE between (i) Government and non-government college M.Ed. students, (ii)men and women, (iii) Science and Arts degree-holders, (iv) middle SES and low SES students, (v) Students getting and not getting financial assistance, and (vi) those with above 12 years experience and those without experience.

C:3 The effect of Institutional and Biographical variables of the B.Ed. students on their Knowledge of Recent Developments in Education:

(1) Students from urban colleges not only had higher Awareness of Recent Developments but also had significantly higher variance and higher knowledge of Recent Developments, in Education while compared to those of Rural colleges.

(2) Students from Government Colleges had far higher Knowledge of Recent Developments than the others of non-government colleges.

(3) Students above 35 fared better than those below 35 in knowledge.

(4) Those of independent status possessed higher knowledge than those dependent on parents/guardians. It was observed that the independent students by and large were in the older age group.

(5) Though women students had significantly better Awareness of Recent Developments in Education than the men indicating they had excelled in the 'affective' component of development, yet the men had significantly higher knowledge of Recent Developments than the women, implying they had surpassed the women in one of the "Cognitive" components of the teacher-education course.

(6) Students not getting financial assistance had distinguished themselves by higher Awareness and knowledge of Recent Developments compared to those in receipt of financial assistance for their studies.

(7) The post-graduates were more heterogeneous regarding their Knowledge and had higher knowledge of Recent Developments than the graduates.

(8) Students of high SES were not only heterogenous compared to the other groups of middle and low SES, but they also had significantly higher knowledge of Recent Developments in Education.

(9) B.Ed. students without teaching experience scored significantly higher in Knowledge than those having teaching experience of over 12 years. Those who had less than 12 years experience had definitely higher Knowledge than those with more than 12 years of experience. When all

those who had teaching experience were treated as one group, they excelled those without any experience in their knowledge of Recent Developments.

(10) There was no significant difference between Science degree-holders and Arts degree-holders, students of middle SES and low SES and First class degree holders and lower class degree holders among B.Ed. students in their Knowledge of Recent Developments.

C:4 The effect of Institutional and Biographical Variables of the M.Ed. Students on their Knowledge of Recent Developments in Education:

(1) M.Ed. students of non-government Colleges showed heterogeneity in their Knowledge Scores compared with students of government colleges.

(2) The M.Ed. students had significantly larger variance in their Knowledge compared to women students.

(3) M.Ed. students holding post-graduate degree had significantly greater variability in their Knowledge compared to those holding pass-degrees only.

(4) M.Ed. students with middle SES had heterogeneity in their Knowledge compared with students of high SES on one hand and with students of low SES on the other hand.

(5) M.Ed. students of Urban Colleges had significantly higher Knowledge than those of Rural Colleges.

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SECTION : III:
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(D) Descriptive Findings on Awareness & Knowledge of Recent Developments & Utilisation of Sources of Information of B.Ed. and M.Ed. Students:

D:1 Awareness of Recent Developments in Education among B.Ed. Students:

1) B.Ed. students were aware more than a good deal regarding 'Secular nature of education in the public schools of, India' and 'National Structure and Pattern of education (10+2+3).'

2) They were aware of less than something relating to developments such as (i) National Policy on Education 1968, (ii) Education being placed in the concurrent List of the constitution, 1976, and (iii) NCERT's National Rural Talent Search Scheme.

3) 18% of B.Ed. students were totally unaware of National Policy on Education, 1968.

4) B.Ed. students were aware a good deal of 'Inservice Education and Training of Teachers'.

5) They were aware of less than something relating to experimentaland development projects by teachers supported with the NCERT funds, (ii) Professional Autonomy of teachers and (iii) Teachers' centre (like the one in SCERT,Madras).

6) 26% of B.Ed. students were totally unaware of Professional Autonomy of teachers.

7) B.Ed. students were merely aware of the existence of Ned Flanders' Interaction Analysis.

8) 51% of B.Ed. students were totally unaware of Ned Flanders' Interaction Analysis system. It should be remembered that this system was being used by the University Board of Practical Examiners for assessing the teaching competence of B.Ed. trainees in the affiliated Colleges of Education.

9) B.Ed. students were aware a good deal regarding 'Nationalisation of school text books'&Semester System of Course Organisation'.

10) They were aware of less than something regarding the following eight items of Educational Management and Administration and the percentage of students totally unaware were given in brackets against each item:

i)	Educational management by objectives	(23)
ii)	Human relations and communications in management.	(24)
iii)	Assessment of organisational climate of educational Institutions.	(24)
iv)	College Complex.	(24)
v)	Quality control in education	(15)
vi)	Management of educational innovations	(30)
vii)	The School Complex Programme	(20)
viii)	Decision making in School management	(25)

11) B.Ed. students were aware a good deal regarding 'Teaching Models' and 'Demonstration Method'.

12) They were aware of less than something regarding the following seven items, under Methods of Teaching and Learning and the percentage of students totally unaware were given in brackets against each item:

i)	Language Laboratory	(29)
ii)	Closed circuit Television for educational use	(35)
iii)	Teaching Machine	(35)
iv)	Resources based teaching and learning	(15)
v)	Simulation	(45)
vi)	Brain storming	(39)
vii)	Panel Discussion	(20)

13) B.Ed. students were aware of a good deal regarding objective type tests, and Internal assessment.

14) They were aware of less than something regarding the

following five items under educational Evaluation and the percentage of students totally unaware were given inbrackets against each item:

i) Concepts of Formative and Summative evaluation. (48)

ii) Criterion-referenced Testing and Examining (37)

iii) Taxonomies of Educational Objectives: B.S. Bloom et al. (43)

iv) Compartmentalisation of examination (19)

v) Course evaluation. (23)

15) B.Ed. students had good deal of awareness regarding

i) Nutrition education

ii) Compulsory Physical and Health education

iii) Work Experience in School education and

iv) The Three-Language formula and all the four items were related to the curriculum.

16) B.Ed. students had good deal of awareness of fouritems of developments linking education and the community

i) Book Banks in Schools and Colleges,

ii) Community and Social Service by College students

iii) Mid-day Meals scheme and

iv) Parent Teacher Associations.

17) They were mildly unaware of'Life long integrated education' as ideology. In fact 19% of them had not heard of it at all.

18) B.Ed. students had good deal of awareness of the University Education Commission Report (1949) and Indian Education Commission Report (1964-66).

19) Their awareness of Plowden Committee Report on 'Children and their Primary Schools' was very poor. 56% of them were absolutely unaware of the same.

20) Their awareness was very limited regarding Shrimali Committee Report on Rural Higher Education and 29% of them had absolutely no idea of it.

21) In the field of Educational Planning, B.Ed. Students' awareness was meagre on (i) Planning a Multiple entry and exit system of education, (ii) Man-power Planning (iii) Institutional Planning and (iv) Economics of Education.

22) About half the B.Ed. students were totally unaware of such important educational literature, the two volumes of Taxonomy of Educational objectives volume I (Cognitive Domain by B.S.Bloom et al) and Volume II (Affective Domain by David R.Krothwohl et al).

23) Among the fifteen educational agencies listed at state, national and international levels, the awareness of B.Ed. students was below the average of Scale value on the following nine items-and the percentage of students absolutely unaware were given in brackets against the respective items:

i)	State Evaluation Units	(29)
ii)	Examination Reform Units in select-Universities.	(19)
iii)	Regional Institute of English (Southern Region) Bangalore.	(20)
iv)	Central Institute of English, Hyderabad	(26)
v)	Rural Higher Institutes	(29)
vi)	Kendriya Vidyalaya Sangathan	(23)
vii)	Indian Council of Social Science Research (ICSSR) New Delhi.	(25)
viii)	Association of Indian Universities, New Delhi.	(25)

ix) UNESCO Regional Office for Education in Asia, Bangkok. (33)

24) Among the twelve categories of Recent Developments, on the basis of awareness, (i) Education and Curriculum, (ii) Education and Community and (iii) Educational Phychology were ranked first, second and third. The category in which B.Ed. students had least awareness was Educational Literature and this was followed by Educational Agencies.

25) 14.9% of the B.Ed. students were not at all aware of certain Recent Developments in Education (RDE) 16.9% of the students had just heard of certain other RDE and these two put together, 31.8% of students might be regarded as falling below the mid scale-value and hence sub-standard in their awareness. The University of Madras would have to note that such a large percentage of students were poor in their awareness of Recent Developments in Education. 21.9% of students were aware of something relating to certain Recent Developments, 22.8% were aware a good deal of certain Recent Developments, and only 23.6% were completely aware of certain Recent Developments. Hence it might be concluded, that 68.3% of the B.Ed. students were aware of something or more regarding certain Recent Developments in Education.

26) Among the 12 categories of Recent Developments in Education, on the basis of the B.Ed. students' awareness, (i) Education and the curriculum, (ii) Education and Community and (iii) Educational Psychology were ranked

first, second and third. Education and the curriculum got rank 1 status and it was thought that the B.Ed. students would have come to know of the items in that from the B.Ed. course itself. The last rank status was accorded to category XI (Educational Literature) and in this category, 29.8% of the B.Ed. students were totally unaware of certain items of Recent Developments. This category could have got the lowest status in terms of awareness due to the general state of poor-resources in the libraries of most of the colleges of Education and the teaching in such colleges which did not emphasise using more educational literature. Category X (Educational Planning), category IV (Educational Management and Administration) and category XII (Educational Agencies) secured ranks 9, 10, and 11 respectively. The poor rank status of these categories might be because these were not explicitly included and covered in the B.Ed. Curriculum; it could be whatever, that had not been included in the formal curriculum, perhaps, might not get disseminated extensively among the B.Ed. student-population.

D:2 Awareness of Recent Developments in Education of M.Ed. Students:

(1) M.Ed. students had more than a good deal of awareness of National Structure and Pattern of education (10+2+3), and Free and compulsory Primary Education.

(2) Their awareness was below the average scale value with regard to Education being placed in the concurrent list of the Constitution, 1976 and NCERT's National Rural Talent

Search Scheme. 26% of them were absolutely unaware of the latter items.

(3) More than a good deal of awareness was reported by M.Ed. students regarding In-service education and Training of teachers as well as Summer Institutes for teachers.

(4) 32% of M.Ed. students had not got any awareness of professional autonomy of teachers. 13% of M.Ed. students had no idea of Experimental and Developmental Projects by teachers supported with the NCERT funds.

(5) M.Ed. students were having below average awareness of the concept of Flexible Grouping of Pupils. In fact one-fourth of them were unaware of it absolutely.

(6) M.Ed. students' awareness was strong in the matter of Semester System of Course Organisation.

(7) They showed limited awareness in the following eight items of Educational Management and Administration and the percentage of students unaware were reported in brackets against concerned items:

i)	Educational Management by Objectives	(45)
ii)	Human Relations and Communications in Management	(35)
iii)	Assessment of Organisational Climate of educational institutions.	(23)
iv)	College Complex.	(27)
v)	Quality Control in education	(24)
vi)	Management of Educational Innovations	(24)
vii)	Flexible Scheduling of School-work	(19)
viii)	Decision-making in educational management	(28)

(8) Under Recent Developments in Methods of Teaching and Learning, M.Ed. student awareness was good regarding

(i) A.I.R. Programme use in Schools, (ii) Demonstration Method, and (iii) Teaching Models.

(9) The students possessed below average awareness of the following 7 items of Methods of Teaching and Learning and the percentage of students being unaware were reported in brackets against the concerned items:

i) Overhead Projector (24)

ii) Language Laboratory (31)

iii) Closed Circuit Television for educational use (32)

iv) Discovery Learning (22)

v) Resources based Teaching and Learning (18)

vi) Simulation (35)

vii) Brain Storming (28)

(10) Awareness of M.Ed. students was good regarding three items under Educational Evaluation; (i) Objective type tests; (ii) Internal Assessment and (iii) Central Valuation of Examination Answer-scripts.

(11) They however possessed limited awareness of the following four items and the percentage of students entirely unaware of of them were reported in brackets against them:

i) Concepts of Formative and Summative Evaluation (26)

ii) Criterion-referenced Testing and Examining (45)

iii) Taxonomies of Educational objectives (32)

iv) Course Evaluation (24)

(12) Awareness of M.Ed. students was more than a good deal regarding five out of eight items of Recent Developments in the curriculum (i) Compulsory Physical and Health education, (ii) Population education, (iii) Work experience in school education (iv) Vocationalisation of Higher Secondary Education and (v) the Three-Language formula.

(13) M.Ed. students had strong awareness of seven out of twelve Recent Developments in Education linking the community and they were (i) Equality of Educational Opportunity and Education of the Disadvantaged sections of people, (ii) Non-formal Education, (iii) Evening College Courses (part-time education), (iv) Book Banks in Schools and Colleges, (v) community and Social Service by College Students, (vi) Mid-day Meals Scheme and (vii) Parent Teacher Association.

26% of M.Ed. students had absolutely no idea of the ideology of Life-long integrated education.

(14) The awareness of the national report, Shrimali Committee Report on Rural Higher Education and the international report "Children and their Primary Schools"(1967) by Lady Plowden of Britain was very limited among M.Ed. students.

(15) Under Recent Developments in Educational Planning, awareness of M.Ed. students was below average scale value on four out of seven items, as given below and the percentage of them unaware of the items, totally were reported in brackets correspondingly;

i)	Planning a Multiple entry-exit system of education	(28)
ii)	Man power Planning	(18)
iii)	Institutional Planning	(21)
iv)	Economics of Education	(21)

(16) M.Ed. students showeda great deal of unawareness regarding Educational literature. 33% of them had no idea of Taxonomy of Educational objectives volume I Cognitive Domain (by B.S.Bloom et al) and 42% of them had not heard of Taxonomy of Educational objectives: Volume II

Affective Domain (by David R.Krothwohl et al.)

(17) Among the 15 educational agencies at state, national and international levels listed, M.Ed. student-awareness was good regarding only one and that was the State Council of Educational Research and Training (SCERT), Madras.

Their awareness was below average Scale value regarding the following seven agencies and the percentage of students totally unaware of the same had been reported in brackets against the concerned items:

i)	State Evaluation Units	(18)
ii)	Examination Reform Units in select universities	(22)
iii)	Rural Higher Institutes	(40)
iv)	Kendriya Vidyalaya Sangathan	(27)
v)	Indian Council of Social Science Research (ICSSR), New Delhi.	(24)
vi)	Association of Indian Universities	(32)
vii)	UNESCO Regional office for Education in Asia, Bangkok	(32)

were the two categories ranked last but one and last respectively.

(18) In the M.Ed. sample, 13.8% of Students were not at all aware of certain Recent Developments in Education and 15% of Students had just heard of certain items of Recent Developments in Education. These two put together, 28.8% of them were sub-standard and below the mid-value of the Scale of Awareness of Recent Developments 21.3% of students were aware of something relating to some Recent Developments, 23.7% of students were aware of a good deal of certain Recent Developments and 26.2% of students were completely

aware of some Recent Developments in Education.

(19) On the basis of M.Ed. students' Awareness, among the 12 categories of Recent Developments in Education (i) Education and the community, (ii) Education and the curriculum and (iii) Education and Teachers were the categories placed first, second and third respectively. The last three ranks, namely 10,11, and 12 were secured by category IV (Educational Management and Administration), Category X (Educational Planning) and Category XI (Educational literature). Recent Developments relating to Educational Planning, Management and Administration were not possibly included in the M.Ed. curriculum. At the post-graduate stage of education at least, student-teachers should cultivate a wide range of awareness, far beyond their formal curriculum.

D:3 Comparative study of Awareness of Recent Developments in Education of the B.Ed. and the M.Ed. Students:

(1) On the basis of the weighted arithmetic mean awareness of B.Ed. and M.Ed. students, the 130 items of Recent Developments in Education were arranged in rank order and had been presented in Appendix XXVIII.A and XXVIII.B with reference to B.Ed. and M.Ed. students.Among the top ranking 10 items in both the B.Ed. and M.Ed. samples, the following five were found to be figuring in both the lists and they had therefore been designated as the most popular (most aware) Recent Developments in Education.

i) Free and Compulsory Primary Education.

ii) National Structure and Pattern of Education.

iii) Community and Social Service by College Students.

iv) Parent Teacher Association.

v) Teaching Models.

(2) When the least aware ten items of the B.Ed. and M.Ed. student groups were compared, the following three were identified as commonly figuring in both:

i) Plowden Committee Report on "Children and their Primary Schools'" (1967).

ii) Criterion-referenced Testing and Examining, and

iii) Taxonomy of Educational objectives Vol.II (Affective Domain).

(3) Among the twelve categories of Recent Developments in Education and weighted mean awareness of M.Ed. students was higher as could be expected in ten categories than that of B.Ed. students, who had slightly higher mean awareness of curriculum, and Educational Reports.

(4) There were two items of Recent Developments in Education for which the Item Mean Awareness was below 1.00 in the B.Ed. sample, while there was no such item in the M.Ed. sample. There were 43 and 41 items under Recent Developments in B.Ed. and M.Ed. samples respectively getting item Mean Awareness ranging from 1.00 to 1.99 (a state of awareness higher than merely knowing the existence of items under Recent Developments in Education). There were 66 and 65 items under Recent Developments in B.Ed. and M.Ed. samples respectively for which item Mean Awareness ranged from 2.00 to 2.99 (a condition of awareness of knowing something or more regarding items under Recent Developments). There were 19 and 24 items in B.Ed. and M.Ed.

samples with item Mean Awareness ranging from 3.00 and above (a level of Awareness higher than 'a good deal'). The M.Ed. students had slightly better Awareness of Recent Developments than the B.Ed. Students and the Waighted Mean Awareness of the M.Ed. students for the entire Scale of Awareness of Recent Developments was 2.335 while it stood at 2.235 for the B.Ed. sample. The difference, as noted earlier, was not statistically significant.

(5) Based on the weighted arithmetic mean awareness of B.Ed. and M.Ed. students, the rank difference correlation was worked out with reference to the twelve categories of Recent Developments and the Coefficient of rank order correlation was .83. Both the groups had adequate awareness of developments in the curriculum, Educational Psychology and the community. Both the groups had a low level of awareness of developments in Educational Literature, Educational Planning, Management and Administration, and Educational Agencies.

(6) Finally it might be concluded that the awareness of the M.Ed. students was very slightly higher than that of the B.Ed. students and the difference was so small that it was not statistically significant. The awareness of Recent Developments in Education should be higher than what it was at both the stages and the University of Madras might have to recognise this problem for curriculum development of the two courses towards the objective.

D:4 <u>Utilisation of Sources of Information by B.Ed. Students</u>:

(1) In the Category 'Education and State', their highest awareness was with reference to National Structure and Pattern

of Education (10+2+3) for which their mean Utilisation of Sources was 30.1%, the highest among the eight items in that category. 50% of students had utilised the press for building their awareness-knowledge in this regard.

(2) In the category Education and Teachers, their awareness was least regarding Professional antonomy of teachers among the ten items. They had made a mean utilisation of Sources to the extent of 14.1% only, again the lowest in that category.

(3) 48.5% of students had utilised college faculty-formally, 25.6 had utilised college library and 21.2% had utilised school contacts to develop awareness-knowledge concerning Recent Developments related to teachers.

(4) Student-awareness of the psychological theory of Interaction Analysis was deplorably poor. They had utilised the sources also poorly, because the mean utilisation was only 10.1%. Even the college faculty had made a small contribution, judged by the fact that 35% students only utilised college faculty in this respect.

(5) Among the fifteen items under Educational Management and Administration, their mean utilisation of sources of Information was lowest with regard to Management of Educational Innovations, for which their mean awareness was the lowest in that category.

(6) 71% of B.Ed. students had utilised the college faculty (formally) for getting awareness-Knowledge concerning Micro-teaching and Teaching models. 31% of them had utilised their college library reading in this respect and an equal percentage had utilised college faculty informally.

(7) The proportion of Utilisation of the ten sources regarding

Evaluation was as follows: (i) college faculty (formally). 31; (ii) college faculty (informally) .13; (iii) College library reading .13; (iv) School Contacts .09; (v) The Press .08; (vi) Class-mates .07; (vii) Public library reading .04; (viii) The Radio.04; (ix) The T.V. .01 and (x) others .08.

(8) The percentage of B.Ed. students utilising the ten sources regarding the curriculum was as follows: (i) College faculty formally 61.5; (ii) College faculty-informally 27.6; (iii) Classmates 15.3; (iv) School contacts 19.5; (v) College library reading 34.8; (vi) Public library reading 14.4; (vii) The Press 28.9; (viii) The Radio 17.6 (ix) The T.V. 4.0 and (x) the others 21.9.

(9) 62% students had utilised college-faculty formally for their awareness-Knowledge of Equality of Educational Opportunity and Education of the Disadvantaged Sections of the People. 33% students had utilised college-faculty informally for knowing Community and Social Service by College students. 24% students utilised class-mates for their awareness-knowledge of Evening college courses (part-time education). 39% Students used School contacts for becoming aware of Mid-day Meals Scheme. 32% of students came to know of Non-formal education through their college library reading. 11% of students came to know of correspondence Education (own-time education) through public library reading. About one-fourth of students had read about Book-Banks in Schools and Colleges in newspapers. About one-fourth of students had heard of 'Correspondence Education' over the Radio. Television had played small

role; 7% of students had learnt of 'Community and Social Service by College Students' and 1% of students had learnt of 'Life-long Integrated Education' through television.

(10) One of the cases of least utilisation of Sources of Information was regarding the Blowden Committee Report, because 8.8% was the mean utilisation.

(11) Regarding Recent Developments in Educational Planning, especially approaches to planning such as Man-power Planning, Institutional Planning and Economics of Education, their mean utilisation of Sources of Information was rather low-about 13%.

(12) Student-awareness-Knowledge of Taxonomies of Educational objectives was inadequate. Since students had made small use of Sources of Information relating to them. Only about 9% was the mean Utilisation of Sources in this respect.

(13) Among the twelve categories of Recent Developments, the lowest mean utilisation of Sources of Information by B.Ed. students was with reference to Educational Agencies. Their awareness was poor regarding nine out of 15 educational agencies mentioned.

(14) The following were the findings with reference to the total pattern of Utilisation of the ten Sources of Information in the B.Ed. sample.

(i) Among the ten Sources, 47.81% of B.Ed. students on an average had utilised the College Faculty (formally) for their awareness-knowledge of Recent Developments. Their Utilisation of the Sources ranged from 28.3% in the case of category XII-Educational Agencies

to 61.5% in the case of category VII-Education and the curriculum. It was noted that category XII secured rank II status while category VII got rank 1 status, with regard to B.Ed. students' Awareness.

(ii) The Utilisation of College Library ranged from 16.5% with regard to category XII-Educational Agencies to 34.8% of students with respect to category VII-Education and the curriculum, and the aggregate Average Utilisation of this Source was by 26.3% of the B.Ed. students.

(iii) On average 20.7% of B.Ed. students had utilised the College Faculty (Informally) as a Source for their awareness-knowledge of Recent Developments. The range of Utilisation was from 14.8% of students with reference to category XI-Educational Literature to 27.6% in the matter of category VII - Education and the curriculum.

(iv) The Press was utilised by 18.3% of B.Ed. students on aggregate average.9% of B.Ed. students used the Press for category III-Educational Psychology and 28.9% of students utilised this Source with respect to category VII-Education and the curriculum.

(v) The School Contacts, on an average had been utilised by 15.6% of the B.Ed. students-percentage of students utilising this Source ranged from 6% with regard to category IX-Educational Reports to 21.2% with respect to Category II-Education and the Teachers.

(vi) Class-mates, on an average, had been utilised by 12.6% of the B.Ed. students-percentage of students utilising this. Source ranged from 8.1 with respect to Category X-Educational Planning to 15.9% with regard to category VIII-

Education and the Community.

(vii) The Radio had been used by 10% of B.Ed. students on an average for their awareness-knowledge of Recent Developments. Its highest utilisation was with respect to category I-Education and the State because 16.5% of students had utilised it. Its lowest Utilisation was with reference to category XI-Educational Literature since only 4.8% of Students had reported its use.

(viii) The utilisation of Public Library reading by the B.Ed. students had been limited and on average it was reported to have been used by 9.2% of them for their awareness-knowledge of Recent Developments.

(ix) The Radio had been utilised on an aggregate average by 10% of B.Ed. students.

(x) The T.V. as a modern Source of Information had been availed only by 2.0% of the B.Ed. students, on an aggregate average.

(xi) The other Sources, other than the nine specified so far had an average utilisation by 15.4% of the B.Ed. students.

D:5 Utilisation of Sources of Information by M.Ed. Students:

(1) In the category of Education and the State, their highest mean utilisation was towards the awareness-knowledge of 'National Structure and pattern of education' and the mean utilisation was 29.5%. Fifty percent of students had utilised the faculty-resource while 59% had utilised the Press in this respect.

(2) In the category of Education and Teachers, their lowest mean utilisation of Sources of Information was relating to the item 'Professional autonomy of teachers', the mean utilisation being 11.3% and the awareness of this item

was the lowest among the ten items of Recent Developments in that category. 38.5% of M.Ed. students used College faculty formally as a source, 31.1% utilised school contacts, 25.7% utilised college library reading and 20% utilised the press in this matter for their awareness-knowledge.

(3) Mean Student-Utilisation of Sources of Information regarding the paychological concept of 'Flexible Grouping of Pupils' was 13.5% Hardly 5% of M.Ed. students had utilised the mass media sources such as Public Library, Press, Radio and Television for this item.

(4) Among the 15 items under Educational Management and Administration, their mean utilisation of Sources was lowest with regard to College Complex, for which their mean awareness was below average scale value.

(5) 53% of students Utilised School Contacts for their awareness and knowledge of 'A.I.R. Programme Use in Schools', while 38% utilised the Press, 42% utilised the Radio and 22% Utilised the college faculty formally in this respect.

64% of students utilised College faculty formally, 27% utilised informally, 59% utilised their college library reading prominently among other sources for their awareness of Programmed Instruction.

(6) The proportion of utilisation of the ten Sources regarding the 22 items of developments under Evaluation was as follows: (1) College faculty formally.26; (ii) College faculty informally .12; (iii) Classmates .08;

(iv) School contact .12; (v) College Library Reading .18; (vi) Public Library Reading .05 (vii) The Press .08; (viii) The Radio .01 (ix) The T.V. .002 and (x) the others .09.

(7) The percentage of M.Ed. students utilising the ten sources regarding the curriculum was follows: (i) College faculty formally 47.6 (ii) college faculty informally 23.5 (iii) classmates 16.1 (iv) School contacts 27.6 (v) College Library Reading 40.9 (vi) Public library Reading 15.4 (vii) The Press 35.9 (viii) The Radio 11.5 (ix) The T.V. 2.8 and (x) the others 25.1.

(8) The three well-utilised sources for M.Ed. student awareness-knowledge of 'Equality of educational opportunity and Education of the Dis-advantaged Sections of the People' were college faculty formally (68%), college library reading (51%) and The Press (46%). The three well-utilised sources for M.Ed. student awareness-Knowledge of 'open University' were The Press (53%), College faculty formally (50%) and College Library Reading (32%).

(9) The least utilisation of Sources of Information was regarding 'Plowden Committee Report' for which the mean utilisation of Sources was 7.1% and mean awareness was 1.02.

(10) Under Educational Planning, among the seven items, three items for which they made low Utilisation of Sources were (i) Planning a Multiple-entry and Exit Systems of Education, (ii) Institutional Planning and (iii) Economics of Education and the mean utilisation for each one of them was approximately 13% only. Student-awareness of these three items was below average of the Scale value.

(11) The proportion of utilisation of inter-personal Sources of Information relating to items of Recent Developments under Educational Literature was .61 and the contribution of Public library, Press, Radio and T.V. was limited to that category.

(12) Less than 10% mean utilisation of Sources of Information was made by M.Ed. students for the two items of educational agencies at the national level namely Rural Higher Institutes and Association of Indian Universities, New Delhi.

(13) The following were the findings with reference to the total pattern of Utilising the ten Sources of Information in the M.Ed. sample:

i) In the M.Ed. sample, 42.61% of them on an average had utilised the College Faculty (formally) as one of the ten Sources of Information for developing their Awareness-Knowledge of Recent Developments in Education. The M.Ed. students had made the highest (64.2%) Utilisation of this Source for Category III-Educational Psychology and the lowest use (32.5%) for the category IV-Educational Management and Administration.

ii) They had utilised college Library Reading as the Second best utilised Source actually, since its mean utilisation was 33.2%. The College Library's utilisation was ranging from 25.1% for the category IV- Educational Management and Administration to 45.5% for the category IX-Educational Reports.

iii) The Press was utilised by 21.5% of M.Ed. students.

Its mean Utilisation was lowest (7.2%) for the Category III-Educational Psychology and it was highest (40.5%) in the case of category I-Education and the State. The Press as a Source of Information on Recent Developments in Education was perhaps, making its principal Contribution in disseminating matters of education relating to the state and the different levels of government of the country.

(iv) The M.Ed. students' mean Utilisation of School contacts was 21.0% and school contacts had been used most for developing Awareness-Knowledge concerning Category II-Education and the Teachers because this was reported by 31% of the students. The least mean Utilisation(8.3%) was in connection with category IX-Educational Reports. The majority of M.Ed. students were in-service teacher candidates, and it was natural, that they should get their Awareness-Knowledge of Recent Developments relating to Teachers through their School Contacts.

(v) The College Faculty (informally) had been utilised by 19.1% of students on an average for their Awareness-Knowledge of 130 items of Recent Developments in Education. The lowest mean Utilisation of the College Faculty (informally) as a Source was 13.3% with regard to category XI-Educational Literature and the highest mean Utilisation was 23.7% for Category VIII-Education and the community.

(vi) The mean Utilisation of class-mates as a Source of Information was 13.4% among the M.Ed. students. The highest utilisation ofthis Sources was for the Category VIII-

Education and the Community since the mean Utilisation was 19.3%. The least Utilisation of this source was in relation to Category X-Educational Planning because the Mean Utilisation was only 9.1%.

(vii) Public Library reading had a total average Utilisation by 10.2% of M.Ed. students. Its highest use was with reference to category VIII-Education and the curriculum for it had mean Utilisation of 15.4%. Its lowest Utilisation occured with respect to category IV-Educational Management and Administration as 6.9% was the mean Utilisation of the Source.

(viii) The Radio had been utilised by 6.9% of the M.Ed. students on an aggregate average.

(ix) The T.V. as a source had an aggregate mean Utilisation by 1.7% of the M.Ed. students.

(x) The other Sources, besides the nine specified already had an aggregate mean Utilisation by 16.2% of the M.Ed. students.

D:6 Comparative Study of Utilisation of Sources of Information by B.Ed. and M.Ed. students:

(1) There was a strong correlation between the Utilisation of Sources of Information and Awareness of Recent Developments in Education both in B.Ed. and M.Ed. student-populations. The average Utilisation of Sources relating to the top ten ranking items of Recent Developments based on student-awareness was 23.25% and 27.53% in B.Ed. and M.Ed. student populations respectively. On the other hand, the mean utilisation of Sources relating to the lowest ranking ten items of Recent Developments based on student-

awareness was 11.42% and 10.34% in B.Ed. and M.Ed. student-populations respectively.

(2) A large percentage of B.Ed. students (47.8) utilised the college faculty formally than M.Ed. students (42.6). Similarly, a larger percentage of B.Ed. students utilised the college faculty informally (20.7) compared to M.Ed. students (19.1). 10% of B.Ed. students utilised the Radio while it was limited to 6.9% in the M.Ed. student group.

(3) M.Ed. students excelled B.Ed. students in terms of the percentage of students reporting utilisation of (i)Class-mates, (ii) School Contacts, (iii) College Library Reading, (iv) Public Library Reading and (v) the Press as Sources of Information on Recent Developments in Education.

(4) In the over-all utilisation of the ten Sources of Information, the mean for the B.Ed. student-group was 17.8% and the mean for the M.Ed. student-group was 18.5%. It was appropriate that the post-graduate class of students should score more on Utilisation of Sources of Information, compared to the under-graduate class of students.

(5) The proportion of utilisation of inter-personel Sources by combining the first four sources namely (i) College faculty formally, (ii) College faculty informally (iii) Class-mates and (iv) School contacts was .55 in the B.Ed. student population, while it was .51 in the M.Ed. student-group.

(6) For all the twelve categories, for both B.Ed. and M.Ed. student groups, the highest used source among the ten was the 'college-faculty formally. Obviously this suggested that the formal lectures, tutorial group presentations

and presentations by college-faculty in such structured situations constituted still the largest sources of Information on Recent Developments in Education. The second major Source of Information was the college Library. The third major Source of Information was the 'college faculty informally' for B.Ed. students. However, in the M.Ed. student population, the third place was shared between 'School Contacts' and 'the Press'. M.Ed. students, being mostly inservice candidates utilised their colleagues in the school context for their Knowledge of Recent Developments. Perhaps as an experienced group, they had developed better skills in utilising the Press for gaining Awareness and Knowledge of Recent Developments in Education The T.V. the Radio and the Public Library were the Sources that were utilised to a limited extent by B.Ed, and M.Ed.student-populations. Probably in the Indian context, these Sources had not yet become useful for the professional education and training of teachers. In the checklist on Utilisation of Sources of Information against the 130 Recent Developments, ten Sources of Information were provided. In the ultimate analysis it was established that B.Ed. students utilised 1.80 Source per item of Recent Development while it was 1.87 in the case of M.Ed. students. Was the Utilisation of Sources of Information adequate?

D:7 Knowledge of Recent Developments in Education of the B.Ed. and the M.Ed. students:

(1) M.Ed. students, as expected, performed better consistently in the Test on Knowledge of Recent Developments than B.Ed. students. 8 items out of 69 were answered correctly by more than 60% of B.Ed. students while in the M.Ed. student-group 36 items were answered by more than 60% of them. At the lower end, 12 items could not be answered by more than 30% of B.Ed. students while such a situation arose in the case of 6 items only in M.Ed. student sample.

(2) When the Facility Value of all the items of the Test was computed for the two student samples, all but six items discriminated in favour of M.Ed. group. The B.Ed. sample had a higher facility value for the items:
(i) National Pattern and Structure of Education (10+2+3). (ii) Activity based method of teaching and learning; (iii)Micro-Teaching; (iv) Progressive and Cumulative Assessment; (v) The three Language formula and (vi) Non-formal education.

(3) When the Facility value of all items of the test was averaged for the two samples separately, the average Facility Value of the Test for B.Ed. students was 43.3% and it was 58.9% for M.Ed. students.

(4) The following were the top ten ranking items of Recent Developments based on their Facility value for B.Ed. student group, given in brackets in percentage;
(i) Demonstration Method (75) (ii) Guidance and Counselling (71); (iii) Work Experience in School Education (68);

(iv) Parent Teacher Association (67); (v) Question/Item Banking (65); (vi) Achievement Motivation (64); (vii) The University Education Commission Report; (viii) Population Education (61); (ix) Classroom climate (60) (x) Teaching Models (60).

(5) The following were the top ten items of Recent Developments known to M.Ed. student-sample, together with their Facility Value in brackets:

(i) Open-shelf library (open-access) (95); (ii)Classroom climate (91); (iii) Vocationalisation of Higher Secondary Education (85) (iv) National Policy on Education, 1968 (82); (v) Achievement Motivation (82); (vi) Planning for higher secondary education (82) (vii) Guidance and Counselling (81); (viii) Nationalisation of School Text-books (79); (ix) Demonstration Method (79); (x) Remedial teaching (79);

(6) The following were the botom ten items of Recent Developments known to the B.Ed. student-sample together with their Facility value in percentage in brackets:

(i) Objective based Testing and Examining (16); (ii) The School Complex Programme(20); (iii) Compulsory Physical and Health Education (24); (iv) In-service education and training of teachers (24); (v) Functional Literacy Programme (25); (vi) The three Language formula (25); (vii) Integrated curriculum (25); (viii) Diagnostic Tests (26); (ix) Ned Flauders' Inter-action Analysis (27); and (x) Improved Question Paper Construction (29).

(7) The following were the least-Known ten Recent Developments to the M.Ed. student-sample, together with their

Facility value in percentage reported in brackets against each item:

(i) The three Language formula (17); (ii) Activity based method of teaching and learning (19); (iii) Integrated curriculum (28); (iv) Compulsory Physical and Health education (28); (v) Ned Flanders' Interaction Analysis(29); (vi) Micro-teaching (29); (vii) Increased objectivity in marking answer-scripts by using a scoring key etc.(31); (viii) Objective-based Testing and Examining (31); (ix) Mixed ability grouping of pupils (36); and (x) Non-formal education (37).

(8) The Average Facility Values of 'the best known' and 'the least Known' 10 items in the B.Ed. sample were 65% and 24% respectively while in the M.Ed. sample the values were 84% and 28% respectively. While the best known 10 Recent Developments in Education were known to 65% of B.Ed. students on an average, in the M.Ed. sample on averaging 84% of the students knew them. Similarly while the least known 10 Recent Developments in Education were known on an average to 24% of B.Ed. students, they were known to 28% of M.Ed. students in the M.Ed. sample.

(9) The average Facility value for the best known ten items of Recent Developments for B.Ed. student-sample of University of Madras was 65.4%. The average weighted awareness score was 2.9 against the theoretical maximum Scale value of 4. The average utilisation of Sources of Information relating to the top-ranking ten items was 21.9%. The average Facility value for the least known ten items of Recent Developments for B.Ed. student-sample was 24.1%.

The average weighted awareness score was 2.4. The average utilisation of Sources relating to the bottom ten items was 20.2%. Therefore Student-Awareness and Utilisation of Sources were related to Knowledge of Recent Developments.

(10) The average Facility value for the best known ten items of Recent Developments for M.Ed. student-sample of University of Madras was 83.5%. The average weighted awareness score was 2.635 and the average utilisation of Sources was 21.3%. The average Facility value for the least known ten Recent Developments for M.Ed. student sample was 28.4% . The weighted arithmetic mean awareness score was 2.603 and the mean Utilisation of Sources was 20.5%. The mean Awareness and Utilisation of Sources was less for the least known ten compared to the best known ten Recent Developments, eventhough the differences were not wide in the M.Ed. student-sample. This indicated that there were definite relationships between these variables.

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SECTION : 4 :
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(E) <u>The Correlates of Awareness and Knowledge of Recent Developments in Education - Results of Study of Linear Correlations</u> :

E:1 <u>Linear Correlations in the B.Ed. sample</u> :

(1) B.Ed. students' Awareness of Recent Developments in Education was not correlating significantly with any other educational variable except the Utilisation of Sources of Information on Recent Developments ($r_{24}=0.28$ $P<.01$). It Awareness of Recent Developments

on the part of B.Ed. students had to be developed, they should be helped to make better Utilisation of the Sources of Information on Recent Developments.

(2) B.Ed. students' Knowledge of Recent Developments in Education Correlated significantly and positively with the other educational variables except the Awareness of Recent Developments in Education. Awareness of Recent Developments and Knowledge of Recent Developments appeared to be psychologically separate constructs and the Knowledge of one of them was not helping to know something of the other.

(3) B.Ed. students' Utilisation of Sources of Information on Recent Developments correlated significantly and positively with the other educational variables except the GPA. Its inter-correlation with Awareness of Recent Developments was $r_{42} = 0.28$; $P<.01$; its inter-correlation with Knowledge of Recent Developments in Education was $r_{43} = 0.10$; $P<.05$ and its inter-correlation with Professional Teacher Attitude was $r_{41} = 0.23$; $P<.01$.

Better Utilisation of the Sources would lead to higher Awareness and Knowledge of Recent Developments and also better Professional Teacher Attitude.

(4) B.Ed. students' Professional Teacher Attitude had significant and positive inter-correlation with all the four educational variables and at the B.Ed. level the development of proper Attitude to the profession could help the trainees all round in their professional preparation. Professional Teacher Attitude had an

inter-correlation of (i) r_{12} = 0.27; P<.01 with Awareness of Recent Developments; (ii) r_{13} = 0.10; P<.05 with knowledge of Recent Developments; (iii) r_{14} = 0.23 P<.01 with Utilisation of Sources of Information and (iv) r_{15} = 0.11; P<.01 with GPA.

(5) B.Ed. students' GPA correlated positively and significantly with Professional Teacher Attitude and Knowledge of Recent Developments in Education. Its inter-Correlation Coefficient with respect to Knowledge of Recent Developments was r_{53} = 0.20; P<.01.

E:2 Linear Correlations in the M.Ed. Sample:

(1) M.Ed. students' Awareness of Recent Developments in Education did not have significant inter-correlation with any other educational variable except the Utilisation of Sources of Information on Recent Developments (r_{24}=0.29; P<.01).

(2) M.Ed. students' Knowledge of Recent Developments in Education was having positive and significant inter-Correlation with Utilisation of Sources of Information (r_{34}= 0.30; P<.01) and Professional Teacher Attitude (r_{31}= 0.25; P<.05).

(3) M.Ed. students' Utilisation of Sources of Information on Recent Developments showed significant inter-Correlation with both their Awareness and Knowledge of Recent Developments in Education.

(4) M.Ed. students' Professional Teachers Attitude Correlated significantly only with their Knowledge of Recent Developments and not with any other variable.

(5) M.Ed. students' GPA was not significantly correlating with the other four educational variables and stood isolated.

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SECTION : 5:
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(F) <u>The Relationship among the Five Educational Variables and Partial Correlations</u>:

F:1 <u>The Relationship among the Five Variables in the B.Ed. Sample:</u>

(1) The relationship between Awareness and Knowledge of Recent Developments of B.Ed. students was not significant in first and second order partial correlations, when one or two out of the three educational variables were held constant. However, Awareness and Knowledge of Recent Developments showed significantly inverse relationship in third order partial correlation, when the effect of Professional Teacher Attitude, Utilisation of Sources of Information and GPA was eliminated ($r_{23.451}$=-0.1688; $P<.01$).

(2) The relationship between Awareness of Recent Developments in Education and the Utilisation of Sources of Information on Recent Developments remained positive and significant at .01 level in all cases of partial correlations of the first, second and third order.

(3) There was no significant relationship between Awareness of Recent Developments in Education and the GPA in all cases of partial correlations of the first, second and third order.

(4) The relationship between B.Ed. students' Knowledge of Recent Developments and their Utilisation of Sources of Information on Recent Developments continued to be positive and significant in all partial correlations of first, second and third order with a lone exception. The relationship lost its significance only when Professional Teacher Attitude and GPA were partial out.

(5) The relationship between B.Ed. students' knowledge of Recent Devleopments and their GPA continued to be positive and significant at 0.01 level in all partial correlations of first, second and the third order.

(6) B.Ed. students' Utilisation of Sources of Information on Recent Developments did not have any significant relationship with their GPA in all cases of partial correlations of first, second and third order.

(7) B.Ed. students' Professional Teacher Attitude maintained significant relationship at 0.01 level with their Awareness of Recent Developments in Education in all situations of partial correlations of first, second and third order.

(8) Professional Teacher Attitude of B.Ed. students correlated positively and significantly at 0.05 level with their Knowledge of Recent Developments when (i) Awareness of Recent Developments was partialed out in first order, (ii) Awareness of Recent Developments and Utilisation of Sources and (iii) Awareness of Recent Developments and GPA were partialed out in the Second order.

(9) Professional Teacher Attitude of B.Ed. students had significant relationship at 0.01 level with their Utili-

sation of Sources of Information on Recent Developments in all situations of partial correlations of first, second and third order.

(10) Professional Teacher Attitude of B.Ed. students kept a significant relationship at 0.05 level with their GPA in all cases of partial correlations of first, second and third order.

F:2 <u>The Relationship among the Five Educational Variables in the M.Ed. sample</u>:

(1) Awareness of Recent Developments in Education of the M.Ed. students had no significant relationship with their Knowledge of Recent Developments in any circumstances involving product moment and partial correlations.

(2) M.Ed. students' Awareness of Recent Developments maintained positive and significant relationship at 0.01 level with their Utilisation of Sources of Information on Recent Developments in product moment as well as partial correlations of first, second and third order.

(3) Awareness of Recent Developments and GPA of M.Ed. students did not have a significant relationship, both in product moment as well as in all cases of partial correlations, involving the other three variables in multivariate analysis.

(4) Knowledge of Recent Developments of M.Ed. students and their Utilisation of Sources had a positive and significant relationship at 0.01 level in product moment condition as well as in all instances of partial correlations of first, second and third order.

(5) Knowledge of Recent Developments of M.Ed. students did not have significant relationship with their GPA in product moment correlation as well as all instances of partial correlations of first, second and third order.

(6) There was no significant relationship between Utilisation of Sources of Information on Recent Developments and GPA of M.Ed. students both in bivariate correlation and partial correlations of first, second and third order.

(7) The relationship between Professional Teacher Attitude and Awareness of Recent Developments of M.Ed. students was not significant in bivariate correlation as well as partial correlations of first, second and third order.

(8) Professional Teacher Attitude of M.Ed. students had positive and significant relationship at 0.01 level with their Knowledge of Recent Developments in product moment correlation. The relationship between the two was significant at 0.05 level, when either Awareness of Recent Developments or GPA was partialed out in first order partial correlation. The relationship between the two variables lost statistical significance in the other instances of partial correlations.

(9) The relationship between Professional Teacher Attitude of M.Ed. students and Utilisation of Sources had no significance in product moment correlation as well as partial correlations of first, second and third order with a single exception. In second order partial correlation, when Awareness and Knowledge of Recent Developments

were held constant, the relationship between Attitude and Utilisation of Sources was positive and significant at 0.05 level.

(10) The relationship between Professional Teacher Attitude and GPA of M.Ed. students, if any was not significant in product moment correlation as well as all the partial correlations.

F:3 Conceptual Explanations for the Relationship among the Five Educational Variables:

The study seeking to find relationship among the five educational variables brought out the following significant outcomes:

(1) Even after nullifying the influence of three other educational variables, the positive and significant relationship that was found in product moment correlation between the following two pairs of variables in both the B.Ed. and M.Ed. samples continued.

(a) Awareness of Recent Developments in Education and Utilisation of Sources of Information.

(b) Knowledge of Recent Developments in Education and Utilisation of Sources of Information.

This implied that teacher-education programmes should strive to promote better Utilisation of Sources of Information on the part of the students.

(2) There was no significant relationship between Awareness of Recent Developments and Knowledge of Recent Developments in Education under product moment correlation and partial correlations of the first, second and third order in the M.Ed. sample. The positive and significant relationship

between these two variables under product moment correlation in the B.Ed. sample totally and significantly reversed its direction under partial correlation of the third order. In teacher education programme, Awareness of Recent Developments and Knowledge of Recent Developments in Education of the B.Ed. and M.Ed. students should be viewed as two district goals and the programme should be geared to fulfill both of them.

(3) There was positive and significant relationship between Professional Teacher Attitude and Knowledge of Recent Developments in Education in product moment correlation in both the B.Ed. and M.Ed. samples. But after the application of the partial correlation of the third order, through which the effect of three other variables was neutralised, a significant and positive relationship between Teacher Attitude and Knowledge of Recent Developments persisted in the B.Ed. sample while that was lost in the M.Ed. sample. That implied at the under-graduate level, Attitude and Knowledge might be associated together while such association could not be presumed at the post-graduate stage.

(4) Professional Teacher Attitude was found significantly and positively related to the other four educational variables in the B.Ed. sample whereas there were no such significant relationship in the M.Ed. sample. That implied that the development of suitable Professional Teacher Attitude should be a major goal of teacher-education at the B.Ed. level because with its development, performance in many

other educational requirements could be associated. If the post-graduate stage for the M.Ed. sample, Teacher Attitude at that level as a construct might have association with other variables such as organisational climate of the schools and colleges of Education, Leadership Behaviour of the School Headmasters and the Principals of Colleges of Education, because more than three-fourths of the M.Ed. sample were in-service teacher candidates.

(5) The Grade Point Average based on University Examinations had no significant relationship with any other educational variable in the M.Ed. sample in any of the correlations. In the B.Ed. sample, GPA was positively related to Professional Teacher Attitude and Knowledge of Recent Developments and was not related to the other two variables namely Awareness of Recent Developments and utilisation of the Sources of Information in product moment correlations and partial correlations. GPA as a construct might not have communality with the Awareness of Recent Developments and the Utilisation of Sources of Information among the student-teachers at both the B.Ed. and M.Ed. levels. At the post-graduate stage, GPA could represent a very specialised skill of getting high Grades in University Examinations, without having significant overlap with the other educational variables in this investigation. Since this was the first investigation of this type, it was not possible to seek support from other researches for these findings, inferences and implications.

SECTION : 6::

(G) Multiple Regression Equations for the Prediction of Awareness and Knowledge of Recent Developments of B.Ed. and M.Ed. Students:

The awareness (X_2) and Knowledge of the Recent Developments in Education (X_3) of the B.Ed. and M.Ed. students were predicted using the other three educational variables viz. Utilisation of Sources of Information on Recent Developments (X_4), Professional Teacher Attitude and GPA (X_5) as predictor variables. The 'Backward Solution' in Multiple Regression was used to arrive at equations with the best fit and the least number of predictor variables.

G:1 Prediction of Awareness of Recent Developments in Education of the B.Ed. students:

The multiple regression equation given below was accepted as giving the best fit while $R_{2.41}$ was 0.3532 ($P < .01$)

$$\bar{X}_2 = \underset{(0.069)}{0.387^{**} X_4} + \underset{(0.097)}{0.512^{**} X_1} + 14.885$$

$R^2_{2.41}$ being 0.1248, the equation could account for 12.48% of the variance in the criterion variable of Awareness of Recent Developments. Both the partial regression co-efficients were significant at 0.01 and therefore Utilisation of Sources and Professional Teacher Attitude contributed significantly to the prediction.

G:2 Prediction of Awareness of Recent Developments in Education of the M.Ed. Students:

$R^2_{2.45}$ was accepted as having produced the best fit and the corresponding multiple regression equation was as follows:

$$\bar{X}_2 = \underset{(0.151)}{0.549^{**} X_4} - \underset{(2.330)}{2.32 X_5} + 59.026$$

$R_{2.45}$ was 0.4054 and was significant at 0.01 level. The above equation could account for 16.43% of the variance of the criterion variable of Awareness of Recent Developments. Only Utilisation of Sources of Information on Recent Developments contributed significantly to the prediction of Awareness of Recent Developments in Education, while GPA did not make such a contribution.

G:3 Prediction of Knowledge of Recent Developments in Education of the B.Ed. students:

$R^2_{3.45}$ was found having produced the best fit and the corresponding multiple regression equation was accepted and given below:

$$\bar{X}_3 = \underset{(0.071)}{0.161^{**} X_4} + \underset{(0.984)}{4.489^{**} X_5} + 23.304$$

$R_{3.45}$ was 0.2171 and was significant at 1% level. The above equation could account for only 4.71% of the variation in the criterion variable, Knowledge of Recent Developments in Education. Both the partial regression co-efficients were significant at 0.01 level and therefore Utilisation of Sources of Information on Recent Developments and GPA were contributing significantly to the prediction.

G:4 Prediction of Knowledge of Recent Developments in Education of the M.Ed. students:

Multiple Correlation

$R_{3.451}$ was 0.4637 and significant at 0.01 level. The following multiple regression equation was deemed to have produced the best fit:

$$X_3 = \underset{(0.120)}{0.490^{**} X_4} + \underset{(0.730)}{0.381 X_5} + \underset{(0.190)}{3.369^{**} X_1} + 4.503$$

$R^2_{3.451}$ being 0.2150, the above equation could account for 21.50% of the variance of M.Ed. students' Knowledge of Recent Developments in Education. While Utilisation of Sources of Information on Recent Developments and Professional Teacher Attitude of the M.Ed. students were contributing significantly to the prediction of the criterion variable, their GPA did not.

(H) Certain Ancillary Findings:

(1) Usually students provided with financial assistance for their studies in the form of scholarships and stipends do well in educational criteria. In this investigation, it was found that in the B.Ed. sample of 546 students, 139 were receiving some form of financial assistance or other. Contrary to expectation, the other students not receiving such assistance were found to have significantly higher Awareness and Knowledge of Recent Developments. On subsequent enquiry, it was learnt that this could be reflecting the policy of agencies such as the State Government in the provision of Scholarships and

stipends. Most of the assistance was provided on the basis of socio-economic backwardness besides providing such assistance to students of scheduled castes and tribes. The educational backwardness of these students' was perhaps reflecting in their Awareness and knowledge of Recent Developments in Education.

(2) It was found that the Multiple Linear Regression equations accepted as models producing the best fit for predicting the Awareness and Knowledge of Recent Developments associated with B.Ed. and M.Ed. student-populations disclosed a pattern. The percentage of variance accounted for on both the criterion variables was higher with reference to M.Ed. student-group compared with B.Ed. student-group. It could be that M.Ed. students as an older group and as a post-graduate class of students in Education had been better professionaly groomed and hence their behaviour on these two educational criteria was capable of prediction with higher efficiency.

(3) Teacher-educators of Colleges of Education themselves did not know many Recent Developments in Education. More than 20% of teacher-educators had not heard of (i) Robert Gagne's Learning Types; (ii) Bloom's Concept of Mastery Learning; (iii) Cost Effectiveness Analysis; (iv) Buzz session; (v) Student Flow model and cohort analysis and (vi) Critical Path Method. Nearly one-fourth of the teacher-educators had not known such wonderful documents and books namely (i) Lord Robbin's Report on 'Higher Education in the U.K. 1964; (ii) Lord James'

Report on Teacher Education; (iii) J.S. Coleman's Report on 'Equality of Educational opportunity in the U.S.A.' 1966; (iv) 'Learning to be' - Report of UNESCO Commission under Edgar Faure; (v) School is Dead - An Essay on Alternatives in Education' by Evert Reimer (vi) 'De-schooling Society' - by Ian Lister and (vii) 'Future Shock' by Alvin Tofler.

(I) Recommendations :

(1) At the time of curriculum revision for B.Ed. and M.Ed. courses, special care could be taken to include Recent Developments in Education especially innovations in education. B.Ed. and M.Ed. courses could make students up to date in education as far as the awareness and knowledge objectives of the courses are concerned.

(2) Besides providing an up-to-date syllabus, care should be taken to spell out the detailed learning outcomes expected of B.Ed. and M.Ed. students. Whenever references are suggested in course Guides to B.Ed. and M.Ed. classes, colleges of Education are obliged to make them available and accessible to their students. Model question papers prepared and provided by the University to the affiliated Colleges of Education should attempt to cover Recent Developments in Education.

(3) The Department of Collegiate Education, Government of Tamil Nadu and the University of Madras should chalk out a plan for Faculty Development of teacher-educators. The current practice of deputing faculty members for

M.Phil and Ph.D research programmes help to develop research skills in specialised areas only. Professional conferences, Seminars and Workshops need to be organised for professionally socialising teacher-educators and developing their awareness-knowledge of Recent Developments. Teacher-education journals need to encouraged in the country and the State. Teacher educators may be provided with an Annual Book Allowance to encourage them to acquire and read current professional literature. Every College of Education and University Department of Education should have a half-a-day 'Retreat' monthly for discussion and exchange of information regarding Recent Developments, innovations and experiments.

(4) (a) The Government of India, Ministry of Education and University Grants Commission should see that educational reports and documents relating to other countries and international organisations such as UNESCO are made easily available in India by a thoughtful policy and programme. It is needless to say that our own national Commission and national Committee Reports should become widely available in the country. Enquiry revealed that many colleges of Education did not have even library copies of Lord Robbins Report on 'Higher Education in the U.K. 1964; Plowden Committee Report on 'Children and their Primary Schools', 1967; J.S. Coleman's Report on 'Equality of Educational opportunity in the U.S.A. 1966 and Lord James Report on 'Teacher Education in the

U.K.1971 and Learning to do'. National Commission Reports and Committee Reports such as The University Education Commission Report 1949 and Shrimali Committee Report on Rural Higher Education were not available in most colleges of Education

(4) (b) Colleges of Education should not only acquire useful and latest subject books but also provide multiple copies of them in their libraries. In many colleges, the following books were not available : (i) Bloom's Taxonomy of Educational objectives Vol.I Cognitive Domain; (ii) Taxonomy of Educational objectives Vol.II (Affective Domain) by David R.Krothwohl et al 1964; (iii) De-schooling Society by Ian Lister (iv) School is dead-an essay on Alternatives in Education by Evertt Reimer (v) Instructional objectives by Robert Mager,1964- just to cite a few examples. Books constitute a very important Source of Information on Recent Developments and as such, effort should be taken to obtain latest books in Colleges of Education.

(4) (c) The non-book resources are extremely limited in Colleges of Education. Films, Filmstrips and recorded cassettees to mention just a few are significant by their meagre availability in these training establishments. The State Department of Education should provide larger funds to colleges for these technological inputs in education which have tremendous capacity for dissemination of information. At the state Headquarters, Film Library should be better stocked and an efficient system of lending and borrowing of films should be arranged

among the college in the State.

(4) (d) The libraries in Colleges of Education need urgent care for development, diversification and provision of wide range of user-facilities. These Libraries are woefully inadequate in many respects. The availability of periodicals and professional journals in these libraries is limited. Library-policy in these Centres should be oriented to have more journals which provide more upto date information for teacher-trainees and teacher-educators. Library staff-library users Ratio needs to be improved urgently so that whatever sources are locked up in the library reaches the user-population. Since all colleges of Education are residential, steps need be taken to keep the Library Service open in the night too upto 9 or 10 p.m. for the benefit of resident scholars.

(5) Colleges of Education should adopt more dynamic methods of teaching and learning, so that teacher trainees could become more active partners in the game of education. Teacher-dominance in Colleges of Education should yield its place to more co-operative forms of learning among the trainee-population. One would expect the Semester system and Internal Assessment system would hlep such cooperative learning enterprise amidst the trainee-population. One's class-mates constitute tremendous Resource for learning, and the strategy in Training Colleges should be such that this is promoted.

(6) The National Council for Educational Research and Training at New Delhi and its Field Office in the State should try

to make a better impact on Teacher Training Colleges. The policy of the NCERT should be such that it gears itself for covering adequately the needs of Colleges of Education besides nourishing the school sector. What is the awareness of the teacher trainee-population regarding NCERT? If this awareness is not built during their training period, what is the prospect of their utilising NCERT as a resource system later when they enter schools to serve education?.

(7) B.Ed. and M.Ed. courses seem to neglect areas such as Educational Planning, Educational Management and Educational Agencies. It should be possible to introduce these subjects at least as electives in the Semester system of course organisation. Besides Colleges of Education continue to remain in isolation from many other educational agencies. An awareness of other educational agencies can be promoted on the part of the teacher-trainee population by a careful programme of interaction among members of these agencies and also by sharing of the resources.

(J) Suggestions for Further Research :

(1) Personal Variables such as Intelligence, Conservatism Progressiveism, Introversion-extroversion, Rigidity-flexibility, and Personality Values of B.Ed. and M.Ed. students could be studied as Personality correlates of Awareness and Knowledge of Recent Developments in Education.

(2) The relationship between Awareness and Knowledge of Recent Developments and Teaching Competence of B.Ed. and M.Ed. students could be studied.

(3) In this current investigation, the Grade Point Average was obtained from student-performance at the First Semester Theory Examinations. It would be more appropriate to take the Second Semester Performance of B.Ed. and M.Ed. students and examine its correlation with their awareness and knowledge of Recent Developments.

(4) The awareness and knowledge of Recent Developments of B.Ed. and M.Ed. students may be studied in relation to Awareness and Knowledge of Recent Developments in Education of the teacher-educators or the Colleges of Education.

(5) In this investigation, student-awareness of Recent Developments in Education was self-judged on a five point Rating Scale. Student Awareness of Recent Developments in Education may be studied designing and constructing a simple Test of Information relating to Recent Developments. When awareness of Recent Developments is measured in that manner, it may be interesting to study its relationship with student-knowledge of Recent Developments.

(6) Awareness and Knowledge of Recent Developments in Education of B.Ed. students had been compared with that of M.Ed. students in this research. It should be interesting to compare awareness and knowledge of Recent Developments of B.Ed. students with that of practising teachers in schools with B.Ed. qualifications. The same set of Rating Scale for Awareness of Recent Developments and objective Test on Knowledge of Recent Developments may be used with a sample of serving teachers and the differential pattern of awareness and knowledge of Recent Developments in Education may be analysed.

(7) In this investigation, the study of Awareness and Knowledge of Recent Developments in Education and their correlates among B.Ed and M.Ed students had been done at the University level. A study of this kind may be conducted at the college level.

(8) In a college-wise study of Awareness and Knowledge of Recent Developments of B.Ed and M.Ed students, other variables such as (i) Organisational Climate of Colleges of Education; (ii) Methodology of Teaching and Learning practised in colleges; (iii) Leadership Behaviour of Principals for better Instruction and (iv) College Quality Index can be taken as Correlates. All the four variables being institutional variables may have strong relationship with Awareness and Knowledge of Recent Developments of B.Ed. and M.Ed. students.

(9) Utilisation of Sources of Information for awareness-Knowledge of Recent Developments may be studied in its relationship with other institutional variables such as (i) College as a Resource system; (ii) Style and strategies of Teacher-education in College of Education and personal student-variables such as (i) Study skills, (ii) Proneness to media-use and (iii) Socio-metric status.

(10) In the case of M.Ed. students, Awareness and Knowledge of Recent Developments in Education may be studied in their relationship to other biographical variables such as Professional Socialisation Index and Change-Proneness.

(11) In the case of M.Ed. students, who are also serving teachers in schools, Awareness and Knowledge of Recent Developments may be investigated in its relationship with

the institutional variable - Organisational Climate of schools in which the part-time M.Ed students are working and biographical variables such as (i) Teacher-morale; (ii) Workload of the teacher in the school; (iii) Teacher-Popularity among pupils and (iv) Acceptance-Rejection of Recent Developments in Education.

(12) In this study, the prediction of Awareness and Knowledge of Recent Developments was attempted, treating the other three educational variables as predictor variables. If the institutional variables and the biographical variables of B.Ed. and M.Ed. students are included as predictor variables for purposes of multiple regression analysis, it will be possible to improve the predictive power of the multiple linear regression equations, and account for the variance of the criterion variables substantially.

(K) Conclusion :

Today the individual and society are both passing through a very trying period in the history of human civilisation. At this critical stage, it is envisaged, education may hold the key for solution. In this study, it is thought that education can serve as an instrument for Human and Social Development and to fulfil this role, the student-teachers of today need an up-to-date education and training. Teacher-education institutions need to be model educational centres practising the latest in education and research on educational problems both at the operational and conceptual levels. Every teacher educating institution in the country should perform extension functions and operate as resource systems disseminating the latest

theoretical and operational advances among the community of teachers and the society at large. The B.Ed and M.Ed students of today will be the educators of the country's schools in future. They need to be aware and Knowledgeable of every major development in education, if they are going to serve their profession, the country and the world at large. With them will rest the job, of producing fit citizens for an evolving society and 'the World To be'.