

CHAPTER : II

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REVIEW OF RELATED RESEARCH

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(A) INTRODUCTION :

The present study is concerned with awareness and knowledge of recent developments in education and their correlates among the B.Ed. and M.Ed. students. How far B.Ed. and M.Ed. students are aware of and possess knowledge of recent developments in Education ? Student-teachers with proper professional attitude towards teaching may be expected to be aware of and knowledgeable regarding recent developments in Education. So also those who are utilizing several sources of information such as the college faculty, class-mates, school-contacts, libraries and other mass-media relating to recent developments may be aware and knowledgeable of recent developments in Education. What is the relationship between student-teachers' awareness and knowledge of Recent Developments in Education and their performance in the university examinations for the B.Ed. and M.Ed ? Awareness of Recent Developments, knowledge of Recent Developments, professional attitude of student-teachers towards teaching, utilisation of sources of information relating to Recent Developments, and Grade Point Average in the University Examinations are variables that may be related to one another in B.Ed. and M.Ed. student-populations.

While studying related research, it has been found that studies on "Innovations in Education" may be related to Recent

Developments in Education, even though the latter may be more comprehensive. Besides, the present study is attempting to identify the awareness of these Recent Developments in the colleges of Education among the B.Ed. and M.Ed. student-populations. Hence certain studies in the area of Teacher-Education and Training have been selected as the second major area related to the current research. Studies on Awareness, knowledge, professional attitude of Teachers and student-teachers and utilisation of the sources of information are four other allied areas included in the review of related research here in this Chapter.

The studies reviewed in this chapter have not all been completed in the Faculties of Education. Researches relating to Awareness, knowledge and communication behaviour in the process of diffusion of innovations have been completed in fields such as Psychology, Sociology, Agricultural Extension, communication Technology and community Development. This has made this review of related research appear multi-disciplinary. However, treatment of such related research has been kept brief to preserve the cohesiveness in theme of the Chapter.

(B) SELECTED STUDIES ON INNOVATION-ADOPTION & DIFFUSION :

How do people become aware of new developments, what are the sources of information they utilise, how soon and how far are they ready to adopt new developments and what are the characteristics of innovations that appeal to them and what are those characteristics that repel them are some of the questions researched in the area of Innovation-Adoption and Diffusion.

Rogers and Stoemaher (1971) had discussed four types of

innovation decisions: (i) Authority decisions, (ii) Individual decisions based on individual choice, (iii) Individual decisions based on collective decisions and (iv) contingent innovation decisions. They had extensively researched the role of communication in innovation-adoption and diffusion. Sources of information can be interpersonal or mass-media and communication can originate from localite or cosmopolite sources. The adoptors of innovations have been classified into five categories and placed in a continuum as follows: (i) the innovations; (ii) the early adoptors; (iii) the early majority (iv) the late majority; and (v) the laggards. Roger and Shoemaker had observed that earlier research approach had been concerned with wrong dependent variables such as the antecedents of educational innovations and indicants of innovativeness. They suggested that researchers should study the consequences of innovation in education especially educational quality, rather than innovativeness per se.

Subba Rao (1967) in a doctoral investigation on "Factors that contribute to the promotion or inhibition of educational innovations" examined (i) the type of innovations that were being adopted in secondary schools, university faculties and Examination Boards (ii) the source of new ideas and (iii) the factors promoting and inhibiting adoption of innovations. Rao found (i) that the innovations in secondary schools were in areas of syllabi, classroom instruction, use of audio-visual aids, hobby clubs, examination reforms, and school organisation (ii) The sources of new ideas were Extension Service Departments, Seminars, Workshops, the Inspectorate, the Training College personnel, Educationists, Books, and Journals (iii) (a) Universities, private bodies like colleges were helpful for change in Syllabus whereas the State

Department of Education was inhibiting the change. (iii) (b) Extension Department, experienced Teachers and Headmasters were helpful for change in instruction. Lack of experienced Headmasters and teachers, lack of time and heavy syllabus inhibited change in instruction. (iii) (c) Headmaster's leadership, management policy, cooperation of staff, community and parents were helpful for change in administration and community relations. The inhibiting factors were old set up of school organisation, traditional work habits of Headmasters and staff and lack of co-operation from staff.

Bhogle (1969) in a doctoral research on "Psychological and organisational correlates of acceptance of innovations by Schools" studied the acceptance of five top innovations. It was found that Headmasters who were democratic, and had better attitude to teaching and also higher in age and salary were prone to adopt innovations. Headmasters with cosmopolitism and cosmopolitan teachers were more to adopt innovations. Old teachers were also found to accept innovations readily. Bhogle found that the personality of the Headmaster and the organisational correlates of the school were more important than personality factors of teachers in accepting innovations.

Buch (1972) undertook a multivariate regression analysis and found five characteristics of the Principals could account for 53% of variance in school adaptability, viz. (i) Inter-school visitation (ii) Self-rated administrative ability (iii) Parents' involvement in School (iv) Professional meetings attended and (v) Feeling of security. An addition of another six variables helped to account for 57% of variance of school adaptability.

Rai (1972) in a doctoral dissertation "Factors affecting

diffusion of innovation in Secondary Schools' studied four dependent variables; (i) time of awareness of the innovation (ii) time of adoption of innovation (iii) innovation-internalisation by teachers and (iv) self-perceived change orientation. (i) Rai found that the predictors for the dependent variable, "time of awareness" were (a) self-designated opinion leadership; (b) cosmopolitaness; (c) general mass media exposure; (d) age; (e) socio-economic status; (f) teachers' perception of students' attitude towards the innovation; (g) perceived Principal's support of the innovation; (h) horizontal communication about the innovation; and (i) perceived change orientation of the Principal. (ii) Rai found that the time of adoption of innovation was predicted by 11 variables; (a) horizontal communication about the innovation; (b) professional communication behaviour; (c) ascribed opinion leadership; (d) feeling of security; (e) cosmopolitaness; (f) sex; (g) age; (h) Verbal communication; (i) self-designated opinion leadership; (j) urban-rural background; and (k) attitude towards teaching profession (iii) Innovation internalisation was predicted by 7 variables (a) teacher's perception of student-benefit of the innovation; (b) perceived change orientation of the Principal; (c) ascribed opinion leadership; (d) perceived cohesiveness of the school faculty; (e) organisational climate; (f) role satisfaction and (g) need for autonomy (iv) self-perceived change orientation was predicted by 6 variables; (a) perceived change orientation of the Principal; (b) teachers' perception of student benefit of the innovation; (c) socio-economic status; (d) perceived Principal's support of the innovation; (e) perceived source credibility of the Principal; and (f) perceived psychological distance between teachers and Principal.

Joshi (1972) made a Comparative Study of the innovative

practices of Teachers' Colleges in India and abroad. Some of the significant findings of this doctoral research were:

- (i) there was a trend to increase the duration of the B.Ed. course;
- (ii) there was a trend to introduce rural bias in teacher education in India and South East Asia.;
- (iii) there was no category of acceptor of innovations as opposed to the category of rejectors; acceptance of or resistance to innovations depend on various factors such as situation, facilities, leadership and personal qualities.

The researcher developed a Conceptual curriculum development model for teacher education.

Bhagia (1973) in a doctoral research on "Perception of the characteristics of Innovations as related to their diffusion in the schools of Gujarat" took up 14 innovations in particular and 20 characteristics for each innovation and examined the perception of these characteristics by teachers and the Principals as well as the relationships of these characteristics to the diffusion of the concerned innovations. Sushama Bhagia found that among the 20 characteristics, 11 at least were perceived significantly better by adopters. Innovations were adopted only if Principals could perceive the characteristics.

Diraviam (1975) prepared a doctoral dissertation on innovation diffusion in Science Education in Tamil Nadu (India) School System at the primary and middle school levels. It was found 90% of teachers in the sample viewed Discovery Method as an interesting innovation compared to the Expository Method. The years of experience of teachers was a factor that stood in the change of attitude of teachers towards innovation. She found that teachers who did not find in-service training programmes interesting

constituted a force of resistance to innovation-diffusion.

These research studies have shown that educational innovations and Recent Developments have been in areas of syllabi, class-room instruction, educational technology, educational evaluation and school organisation.

These research studies point out that there are several variables involved in the adoption and diffusion of educational innovations. Educational experiments, innovative programmes and new schemes have certain intrinsic and extrinsic characteristics. The adoption of innovations, among other things, depends upon the awareness of the user group and its perception of the characteristics of the innovations. There are several teacher characteristics such as attitude towards the teaching profession, professional communication behaviour, cosmopolitaness and change-proneness that contribute to their behaviour of adoption of new practices and value systems. Besides the school Headmaster is playing a significant role in the process of adoption of new schemes and innovations by the teachers. Headmasters' leadership, professional competence and personality characteristics also seem to influence the process of adoption and diffusion of innovations. The resource system that is responsible for introducing a new development also plays a role. New ideas may come from sources such as the National Council of Educational Research and Training, State Council of Educational Research and Training, the faculty of the university and the colleges of Education, the Directorate of Education, Educational Conferences, Seminars, Workshops, Educational Commission and Committee Reports, books and journals. Adoption and diffusion of new ideas and practices will also depend upon the nature of the decision involved. Certain ideas are implemented when an authority decides and communicates to the user group for practising them.

Certain ideas require collective decision of the user-group before they may be adopted by any one of them. Only in certain circumstances, the use of a new idea may depend entirely on an individual's decision.

The awareness knowledge of Recent Developments in Education in the colleges of Education among the Student-teachers as viewed in this study, may depend upon institutional variables such as the urban/rural location of the colleges of Education, the government/non-government type of management of the colleges and the availability of the different sources of information in the colleges. Recent Developments in Education that are considered to be significant in the perception of teacher-educators of the colleges of Education are likely to get a better reception with the student-teachers. Several personal characteristics of the student-teachers such as for example age, sex, level of general education, major subject of specialisation being either Science or Arts, the level of performance attained by them at the degree/post-graduate course, the variable of receiving or not receiving financial assistance in the form of a scholarship or stipend and the length of teaching experience they possess prior to their entry to the B.Ed./M.Ed. course may influence their exposure to the Recent Developments in Education.

(C) STUDIES ON TEACHERS EDUCATION :

In this part of the review, the studies included deal with problems such as (i) the background of student-teachers; (ii) the motivational factors associated with student-teachers' entry to teacher education courses; (iii) the academic difficulties of student-teachers; (iv) systems of teacher education at different levels taking state and national level samples; (v) study of certain components of a system of teacher-education for example,

the admission procedures in training institutions, the use of audio-visual aids in the teaching process and the evaluation approaches adopted; (vi) test-construction in Aptitude Testing for Teaching (vii) predictive studies attempting to predict success in student-teaching on the basis of knowledge of multiple variables associated with student-teachers and student-teaching and (viii) teacher-behaviour modification through techniques such as class-room behaviour training, micro-teaching and learning through skill-based instructional materials.

Adaval (1968) had observed in NCERT's "Third Indian Year Book of Education - Educational Research", that educational investigators in India had given more attention to teacher-education than to other areas because of all factors involved in the process of teaching and learning, the teacher was the most important. The Education commission (1964-66) had also observed that any effort taken in teacher-education would be beneficial to millions of people involved in education. Research on teacher education holds the potential for significant educational developments in the country.

Adaval (1952), Marr and Subharwas (1968) had examined the motivational aspects of the student-teachers. Adaval was one of the earliest Indian researchers to study the qualities of student-teachers undergoing training in the Training College. He found: (i) the love for public service and love for children had motivated them to join the teaching profession; (ii) I.Q. of most of the student-teachers ranged from 80 to 109 and men fared better than women; (iii) student-teachers had adequate general knowledge and those with teaching experience had more general knowledge than the others; (iv) there was a high positive

correlation between intelligence and general knowledge among them and (v) they showed low aptitude for teaching. Marr and Sabharwal in an NCERT research project examined the background and motivation for teaching of student-teachers of 1965-66 and 1966-67 of the Central Institute of Education, Delhi and found that nearly 87% of women and 64% of men student-teachers had chosen teaching voluntarily and all of them had mentioned earnings and prestige as their first and second considerations for their choice of the profession. 101

Sultana (1977) in an ERIC Project investigated the academic difficulties of the student-teachers of Aligarh. She found : (i) 73% of science and 42% non-science students felt that the theory courses were not upto the desired standard; (ii) nearly all of them felt the lectures dominated and there was little provision for discussion in the course; (iii) 33% of science and 76% of non-science students felt that they did not find adequate reading material; (iv) almost all of them thought they did not get enough attention and help during the teaching practice period and felt the desired relationship between the college and the practising school did not exist and (v) most of them felt that the faculty took no effort to meet their needs and interests and there was no outside-the-class contacts between the faculty and the student-teachers. This gives the impression that the teacher-educators in the colleges of Education function as lecturers and do not play the role of model educators. They do not seem to have sufficient contact and communication with the student-teachers informally outside the formal class-room contact time. There is a communication gap between the colleges of Education and the schools, wherein teaching practice of the student-teachers is conducted.

Joseph (1967), Mallaya (1968) Saikia (1971) and Marr (1969) made systematic studies of the system of teacher-education with reference to Kerala, Madhya Pradesh, Assam, and Punjab University respectively. Joseph studied teacher education at the secondary level in Kerala and found that in a five years period (i) there was a general improvement in the qualifications of the student-teachers; (ii) there was an increase in the number of women among Science student-teachers; (iii) Student-teachers with less and less teaching experience tended to come as years went by; (iv) Lecture method and dictation of notes dominated in the Training Colleges, and practically group-work was unknown, and (v) the Training college libraries were poor in the stock of books and journals and unsatisfactory with regard to service.

Mallaya's study of teacher-training at the three levels; pre-primary, primary and secondary in Madhya Pradesh revealed that (i) the facilities at the three levels were insufficient; (ii) the findings of educational research had not diffused in these institutions and hence traditional teaching approaches continued; (iii) the library facilities were poor; (iv) the evaluation practices were mostly routine and large variations were noticed between internal and external assessment. He suggested better co-ordination of teacher-training at the three levels. Saikia concluded that teacher training in Assam at the Secondary level was not related to school conditions. He suggested revising teacher-education curriculum and the introduction of regional language as medium of instruction.

Marr's findings were that teacher-educators were not agreed with regard to objectives of the training programme and both the staff and student-teachers felt the course was very theoretical and sought for change to give more emphasis to practical work.

The studies of Joseph, Mallaya, Saikia and Marr gave the impression that teacher-education continued to be traditional and theoretical and was not related to the prevailing school conditions. Group work and practical work seem to be very little practised in these colleges of Education. The colleges had very poor library facilities.

Sharada Devi (1964) made a study of teacher education of the secondary level with a national sample of Training colleges. This study recommended the integration of the 'traditional' teacher training with the 'basic pattern' as suitable for India's 'socialistic pattern of Society'. Notable among the other recommendations were, that colleges of Education should have a Research Section and an Extension Service Department for undertaking in-service teacher-education. The colleges of Education are not only meant for providing pre-service teacher-education, but also they can offer in-service teacher-education for teachers in their areas. If every college of Education can have a Research Section, it may not only facilitate adoption and diffusion of research findings it may also promote the growth of applied research relevant to local conditions.

The admission procedures adopted in elementary and secondary teacher-training institutions in India were studied by Gupta (1971) in an NCERT project. It was found that besides written tests, interview, academic record and teaching experience were the other criteria used for the selection of student-teachers. Standardised selection tests have not yet been developed for wide adoption in teacher-education in the country. The organisation of audio-visual education in the scheme of teacher-education at the secondary level in India was investigated by Patel (1971)

and two important findings were : (i) the audio-visual education curriculum was inadequate in the Training Colleges and (ii) the facilities like audio-visual laboratory, workshop, and class-room were rarely available in Training Colleges. There is an inadequate appreciation of the place of educational technology in teacher-education in the country. The actual provision of educational technology inputs in the teacher education institutions is much more limited.

Test construction work had been undertaken by Shah (1962) and Pandya (1972). Shah designed, prepared and standardised an aptitude test for Secondary school teachers in a doctoral research Project. 530 student-teachers were tested with this aptitude test battery which consisted of five sub-tests, viz. (i) mental ability; (ii) attitude towards children; (iii) adaptability (iv) professional information and (v) interest in the profession. The test had adequate reliability and validity and the multiple 'R' of the battery was 0.533 and its predictive efficiency was 16%. Pandya constructed and standardised a professional test for teachers. The test consisted of seven sub-tests. The equivalent forms of the test were prepared in English, Marathi, Gujarathi and Hindi. 1500 B.Ed. students had taken the test.

Predictive studies regarding success in teaching had been carried out by Sherry (1964), Deva (1966) and Singh (1970). Sherry prepared a test battery for predicting success in teaching using a sample of B.Ed. students of the Agra region. The battery consisted of four tests: (i) intelligence test; (ii) interest inventory; (iii) personality inventory and (iv) attitude scale. The multiple R coefficient produced by the four tests was adequate to predict supervisor's rating of teaching of student-teachers.

Intelligence, emotional quality, attitude and interest of the student-teacher were important for success in teaching in the order mentioned. Deva used standard tools for measuring five variables (i) intelligence; (ii) Social adjustment; (iii) personality adjustment; (iv) socio-economic status and (v) achievement and with their assistance made a predictive enquiry on success of student-teaching, using student-teachers of Training Colleges^{of} Uttar Pradesh. The criterion variable was measured by 'student Teacher Rating Scale' developed by Deva. A multiple correlation coefficient of 0.565 was obtained between the predictor variables and the criterion variable. Singh identified, using student-teachers of Ludhiana District, that measures of ascendance, extraversion, intelligence and early academic achievement were predictors of success in teaching.

The predictive studies of Sherry, Dave and Singh had utilised only variables associated with student-teachers as predictor variables for predicting student-teachers' success in teaching. Institutional variables associated with the schools, where student-teaching is held and variables associated with the pupil-groups may also influence student-teaching success and they have not yet been studied under Indian conditions for predicting student-teaching success.

Srivastava's study (1970) of evaluation of practice-teaching in teacher-training institutions disclosed (i) about 77% of student-teachers developed unfavourable attitude towards practice teaching; (ii) their satisfaction in evaluation of practice-teaching correlated with their perception of presence or absence of subjectivity in the assessment system of their

colleges; (iii) they favoured a system of evaluation biased more towards external assessment and (iv) the teacher-educators were equally divided in giving feedback to student-teachers regarding their grades on teaching practice. Student-teachers who are expected to deemphasise external assessment and attach more significance to internal assessment in the school situation seem to be doing the contrary as revealed by Srivastava's study. Besides half the number of teacher-educators do not seem to appreciate the need for feedback to student-teachers regarding their student-teaching performance in the form of grades.

Jangira (1973) and Singh, Lal Pratap (1978) investigated, using experimental designs, the differential effects of traditional teaching practice and class-room behaviour training on student-teachers' class-room behaviour as measured by Ned Flander's Interaction Analysis Category System. They found the superiority of the class-room behaviour training over traditional teaching practice with reference to modification of student-teachers' verbal behaviour.

Visvesvaran (1977), Nalini Raman et al (1977), and Joshi, et al (1978) had experimented with micro-teaching technique without the use of videotape recorder on B.Ed. student groups. Visvesvaran's study was carried out in Sri Rameshrishna Mission Vidyalaya Teachers' College, Tamil Nadu and he did an experimental and comparative study of the effects of micro-teaching under simulated conditions with varying sources of feedback and their effects on general teaching competence. The experimental group was given feedback from peers and supervisor in the micro-teaching programme, while the control group got feedback only from peers. The researcher concluded that feedback from supervisors besides the B.Ed.

students' peers enhanced teaching competence. He suggested that the university of Madras should modify the B.Ed. curriculum and include micro-teaching requirement in the teaching practice programme. NaliniRaman et al carried out the investigation in Government Training College, Vellore, Tamil Nadu, but reported different results. The feedback given by the peer of the B.Ed. student was equally effective as the feedback given by the supervisor in helping to improve teaching competence through micro-teaching cycle. She had suggested that colleges of Education should utilise student-teachers for giving feedback to their peers adequately in the teaching practice programme. Joshi, Sneha and Buch experimented in M.S.University of Baroda with the effect of exposing student-teachers to the treatment of skill-based instructional materials synchronised with micro-teaching technique on the development of "skill of silence and non-verbal cues" as compared to student-teachers exposed only to traditional teaching programme. The experimental group was found to practise the said skill significantly more than the control group.

The research studies using experimental designs referred to earlier indicate the trend of approach to the development of teaching competence on the part of student-teachers in the colleges of Education. Traditional teaching practice is being supplemented by class-room behaviour training, micro-teaching experimental cycles and the use of skill-based instructional materials. The role of feedback in the modification of student-teacher behaviour is getting recognised more and more in recent years.

Sharma (1971) examined experimentally the B.Ed. Theory course in Educational Psychology to identify its potential for

transfer to class-room in the form of student-teachers' behaviour. The research hypothesis was that the way of theory course was handled could determine the transfer potential to class-room student-teacher behaviour, as measured by Flanders System. The research was undertaken in Meerut University. The experimental group was taught Psychology through team teaching and supervised study techniques while the control group received lectures. The study found that class-room behaviour style was influenced by the experimental treatment and these student teachers were more democratic in class-rooms, showed shifts in communication pattern and made more pupil-reinforcement. This experimental investigation has shown that the teaching-style adopted in a college of Education in the teaching of B.Ed. Theory course is also capable of shaping or influencing the class-room teacher-behaviour of the student-teachers. If teacher-educators in colleges of Education adopt more progressive teaching approaches, to that extent, they will facilitate the development of appropriate teaching-behaviours on the part of the student-teachers.

The impact of teacher-training on the values, attitudes, personal problems and adjustment of B.Ed. students had been investigated by Verma (1968) in a systematic manner by administering both at the beginning and at the end of the training the standard tools. Some of the findings were:

- (i) Student-teachers had lost significantly in theoretical values and economic values. They neither gained or lost in social and political values. But they registered a gain in religious values.
- (ii) Student-teachers of high SES had developed a more favourable attitude than other SES groups. Fresh men showed a

better gain in their attitudes as compared to student-teachers with teaching experience.

(iii) Economic problems of student-teachers were reduced. The problems of self-improvements were also reduced, because the training fulfilled their self-improvement needs, and

(iv) the social, emotional and occupational adjustments of student-teachers had improved.

Studies similar to that of Verma, using tests at the beginning and at the end of B.Ed. and M.Ed. courses regarding select variables such as attitude towards teaching profession, professional information relating to teaching, general knowledge of current events, study and communication skills, learning styles may prove useful in determining the impact of teacher-education course on the student teachers.

In this section of the review of related literature, it has been found that in teacher education, educational research had not made much impact on the preparation of teachers. Only very recently it has come to be recognised, that research should help to support new changes and developments in the teacher-preparation courses. Crgpbert (1972) had made a similar observation regarding the state of teacher-education in the U.S.A. The scope for utilising the findings of educational research in the design, process and evaluation of teacher-education courses is considerable.

(D) STUDIES ON AWARENESS :

D:1 INTRODUCTION:

Research on various aspects of awareness conducted by psychologists, sociologists and educational research workers

has been included in this review. The review of related research is presented in this section under the following seven categories: (i) Psychological studies; (ii) Sociological Studies; (iii) Career Awareness; (iv) Tests, Instruments, and Experiments in Awareness Research; (v) Teacher-Awareness of specific Educational Innovations; (iv) Teacher-Awareness of pupil home-conditions and (vii) Teacher-Awareness of class-room, behaviour.

D:2 PSYCHOLOGICAL STUDIES ON AWARENESS:

Awareness had been a subject for experimentation at the hands of psychologists. Awareness, used in the sense of consciousness had been studied by Williams (1978), Dixit (1974), Beharand Zucker (1976), Moffia (1978), Edwin Schur (1978) and Jensen(1974).

Experimental research in verbal conditioning and awareness had been conducted by Williams (1978), Dixit (1974), and Barik (1978). Williams carried on experiments on verbal operant conditioning without subjects' awareness of reinforcement contingencies. Dixit's experimental study was meant to evaluate the combined effect of awareness and motivation to receive reinforcement on verbal conditioning. He chose sentence construction task for the conditioning procedure because awareness could be more readily and clearly determined with that task. He found that there was no evidence that unaware subjects learned. Subjects who were aware of a correct contingency between the reinforcement and their own responses gave more personal pronoun sentences over trials than did the unaware subjects. Barik's experimental case studies lent support to the view that verbal conditioning and awareness were functionally independent events.

Research in the area of self-awareness had been conducted by Moffia (1978) and Behar and Eucker (1976). Mofia carried out experimental investigation on the effects of objective self-awareness on performance and memory. Behar and Zucker administered sensory awareness exercises to the visually handicapped individuals and made them more conscious of their other senses, thereby building their confidence for dealing more effectively with their environment.

Jonsen (1974) examined the effect of parent group awareness training on intra-family communication.

A critical review of self-help literature was done by Edevin Schur (1978) and he concluded that social solutions should be developed for social problems rather than allow such problems to be solved by the accumulation of individual awareness.

D:3 SOCIOLOGICAL STUDIES ON AWARENESS:

Awareness researches had been carried out by social scientists using descriptive research approach. Such studies had been on political awareness (Hausson et al 1978), Social problems (James Lewis 1978, Faulkner and Warland, 1974; Dickman and Keil 1977), consumer awareness (Mason-1975), environmental awareness (Winston-1974), cultural, cross-cultural and racial awareness (Gawford-1976; Joseph-1972; Manson-1974, and Whitmarsh-1976), student awareness of University student services had been studied by Mitchell (1976) and awareness of the open University by the general British Public had been reported by Betty Swift (1976).

Mason, Robert O., et al (1978) studied the effect of birth order on political awareness. It was hypothesised that

first borns, being adult authority oriented, would be more aware than later borns of the realities and personalities of the political atmosphere in which they must exist. The hypothesis was supported by the data supplied by 165 first-born and 324 later-born undergraduates with regard to the question of naming U.S. Senators.

A critical study of awareness of Indian social problems among High School Students and teachers was done by James Lewis (1974). Similar Social awareness research was done by Faulkner and Warland (1974) with reference to the American students. Awareness of alcoholism was investigated by Dickman and Keil (1977) and they found mass media campaign was more effective than inter-personal or organisational networks.

Consumer awareness of consumer rights was investigated by Mason (1975) in the state of Colorado with specific reference to the provisions of the consumer Protection Act. cluster sampling technique was employed, a questionnaire with 25 question-items was mailed to 500 consumers of over 18 years and analysis completed with 46% response. The findings were:

- (i) The population had high intensify of awareness (80.0 to 100% correct) of 3 out of 25 questions.
- (ii) The population had above average intensify of awareness (60.0 to 79.9% correct) of 7 questions;
- (iii) The population had average intensify of awareness (40.0 to 59.9% correct) of 5 questions;
- (iv) The population had below average intensify of awareness (20.0 to 39.9% correct) of 6 questions; and
- (v) The population had low intensify of awareness (0.0 to 19.9% correct) of 4 questions.

Winston (1974) investigated the relationship of awareness to concern for environmental quality among high school students.

The hypothesis that cultural awareness of teachers was a factor in influencing teaching of teachers working in schools where children belonging to cross-cultural groups were in good numbers led Crawford (1976) to study the differential cultural attitudes of teachers and Joseph (1972) to study and measure the cross-cultural awareness of elementary school teachers engaged in Indian education in New York State. Whitmarsh (1976) hypothesised that racial awareness could be developed by suitable training and hence experimentally investigated the effect of racial awareness mini course on the racial attitudes of white students of pre-teaching curriculum in Fisher Junior College of Boston.

Mitchell (1976) attempted to measure the awareness, utilisation and satisfaction of under-graduate students of the University of Akron with regard to 20 student Services grouped into six areas: (i) counselling; (ii) Academic achievement; (iii) Academic Development Programme; (iv) University Publication; (v) University School organisations and (vi) University special Interest Services. The results were: (i) Students older than 32, married students, lower-college students, part-time students, evening students made fewer response patterns with regard to awareness of student services; (ii) These students also under-utilised the student-services and (iii) The other students who reported they utilised the services also reported their satisfaction with the experience.

The trend of Awareness of the British open University among the general public had been reported by Betty Swift (1976)

Lous Harris International and Gallop (Social Surveys), a reputed market research organisation, carried out the field work with a sample size of 2000 individuals among the the public. Some of the major findings were:

- (i) Men were unequivocally more aware of the open university than women.
- (ii) Awareness of the University was related to social status linearly and this was consistent from the trend report. The higher the social status the greater the likelihood of awareness of the university on the part of the individual.
- (iii) Awareness of the University was highest (90%) with those who completed education at 19 or later. Awareness was above 75% with those who completed education between 16 and 18 years. Awareness dropped to 50% among those who had terminated education before 16.
- (iv) Remembering having heard of open university correlated with newspaper readership. Awareness among readers of the Guardian, the Times, the Financial Times, and the Telegraph varied between 80% and 95%. Readers of the Mail, the Express and the Record came next in awareness (60% to 70%). Those reading the Mirror and the Sun were least aware. Awareness shot up with all categories after publicity period and the awareness of the readers of Mirror and Sun shot up to 50%.
- (v) Awareness was highest among the 25-44 age group and lowest among those of age 55 and over.

These sociological studies on awareness have shown that awareness is with reference to some phenomenon/person/problem in one's environment. The awareness of such issues may vary among

individuals and there may be intra individual variation in awareness of different phenomena. Awareness may vary in intensity from problem to problem. This awareness can be developed by well designed publicity, mass-media channels and organisational networks. Such awareness may depend on the channels of communication to which one is exposed. Awareness may be more in the case of those exposed to more sources than those with limited Sources of Information. Social awareness depends also on one's personal variables such as age; sex; level of education; and social attitudes. Awareness of political realities, and social problems, cultural and racial awareness are liable to fluctuate. Such awareness can be roused by public information and social education and it is this aspect that attracts the educators.

D:4 CAREER AWARENESS:

Freeland (1975), Huhn (1975) and Sloan (1978) had researched on career awareness of different target populations. Freeland gave an instructional programme on career awareness to Navajo High School seniors for a week at the rate of an hour a day and he found through testing that the career awareness programme increased their awareness of occupational opportunities, though it did not change their occupational aspirations and educational plans. Huhn developed and field tested a linear programme as an instructional unit intended to increase teacher-awareness of the concept of career education. Sloan studied the impact of Career Guidance Programme on the occupational aspirational level of students and career awareness of parents in a select Detroit Public School administrative region.

These research studies on career awareness have indicated

that awareness can be developed on the part of any target group by suitably prepared and validated programmed instructional materials.

D:5 TESTS, INSTRUMENTS AND EXPERIMENTS IN AWARENESS RESEARCH:

Different types of tests and instruments had been used in awareness research. Faulkner and Warland (1974) used a Test consisting of True or False questions, James Lewis (1974) employed a Test composed of multiple-choice test items and Hansen (1974) made use of a pictorial test instrument. Faulkner and Warland (1974) constructed a Social Awareness Test (SAT) for the American students. The SAT had 12 items of statements for which True or False responses were expected to be made. The scores obtained on the Test were converted to percentages. James Lewis (1974) constructed a questionnaire with 60 multiple choice test items by framing six questions on each one of ten social problems such as student indiscipline, lack of dignity of labour, illiteracy etc. The three levels of awareness, namely cognitive, affective and conative were covered with 20 test items for each one of them in this test instrument. The tool was administered to a stratified sample of standard X pupils and teachers. The independent variables were sex, religion and SES. Some of the major findings were :

- (i) Except at the conative level, there were no significant differences in the awareness of boys and girls.
- (ii) At the three levels there were significant differences in the awareness of Hindus and non-Hindus.
- (iii) Except at the cognitive level, there were no significant differences in the awareness of pupils of different SES status. Probably facilities such as newspaper, radio, etc.

helped pupils of high SES to have better cognitive awareness.

- (iv) Teachers had significantly higher awareness of social problems at all the three levels compared to the pupils.

Hansen (1974) developed and perfected a pictorial instrument for measuring cross-cultural awareness of Sixth Grade American Children attending U.S. Dependent Schools, European Area (USDESEA) in Germany. The instrument consisted of 111 drawings of scenes from various cultures and arranged in 37 sets of three drawings each. The student-respondents were to identify one drawing in each set that was typically German. The reliability of this Cross-Cultural Awareness Test (CCAT) was 0.89 by Kuder Richardson 20. The instrument was validated by a panel of experts and also by a critical ratio test between samples of American students attending USDESEA, German students and California students.

A likert-type of Attitude Inventory was developed by Crawford (1976) and it was known as 'Differential Cultural Awareness' (DCA). It had 58 questions grouped around six broad sub-categories related to Cultural Awareness of teachers. He found that cultural attitudes of teachers was related to affective teaching behaviour.

A 20 item questionnaire was developed by Joseph (1972) structured to test teachers' sensitivity to the value differences in multi-ethnic class-rooms. The study found that teacher socio-cultural awareness was not perfect in some out of the 20 items among elementary school teachers responsible for Indian Education in New York and concluded that this had a bearing on teaching-learning process in such class-rooms.

Awareness research, using an experimental design was carried out by Whitmarsh (1976). He studied the effects of a racial awareness mini-course on the racial attitudes of 40 white students enrolled in a pre-teaching curriculum in Fisher Junior College of Boston. It was found that the experimental treatment enabled these students to communicate more emphatic responses compared to the control group, even though the mini-course did not produce a global change in racial attitude.

D:6 TEACHER AWARENESS OF SPECIFIC EDUCATIONAL INNOVATIONS:

Teacher-awareness of specific educational innovations had been investigated by educational researchers. Awareness of 'Democratic Philosophy in Administration', 'Planning Programming and Budgeting Systems (PPBS)', and 'Audio-lingual approach in foreign language teaching' had been researched by Bhouraskar (1974), Dierke (1975), and George (1971) respectively.

Bhouraskar's study was conducted with a sample of educational administrators drawn from Madhya Bharat regions and Bhopal in the state of Madhya Pradesh, India. Dierke's study was with reference to California University and College Personnel and he had used a mailed questionnaire for his enquiry. He found they showed a low awareness of the philosophy and principles of PPBS. Besides he found the academic people responsible for the instructional programmes were less aware of the principles of PPBS as compared to the personnel concerned with business-administration functions. Georges' study (1971) was with reference to the foreign language teachers in the state of Michigan. He had used a mailed survey instrument that had 85 basic items in three categories: (i) General information; (ii) Teachers' reaction and (iii) Students' reaction. The

The instrument was mailed to 1800 teachers, and he completed his analysis with 50% response. Audio-lingual approach was found acceptable as valid in foreign language teaching in the survey.

The relationship between awareness and adoption of curricular, organisational and technological innovations by Secondary School teachers on one hand and the organisational health on the other was examined by Belden (1975). He found a positive relationship between organisational health and self-reported teacher awareness of curricular, organisational and technological innovations. Although differences were not found to exist in the awareness of curricular and technological innovations, differences were found to exist with regard to awareness of organisational innovations. Two of the characteristics of organisational health of the school, namely inter-personal relationships and autonomy were found to be the best predictors for awareness of curricular and organisational innovations. Autonomy and democratic decision-making were found to be the best predictors of awareness of technological innovations.

The investigations on teacher-awareness of educational innovations conducted by Bhouraskar, Dierke, George and Belden as referred to earlier had used survey instruments and the pattern of response from the teachers was self reporting only. Belden's investigation had shown that the data on awareness of curricular, organisational and technological innovations based on self-reporting by teachers had predictive capacities. This shows that even survey instruments using self-reporting by respondents can yield valid and useful data.

D:7 TEACHER-AWARENESS OF PUPIL HOME CONDITIONS :

Teacher-awareness of home conditions of pupils studying in

their respective classes was researched by Devaseelan (1977). The term awareness was described in this study to describe the extent of knowledge. The study was carried out in Coimbatore District in Tamil Nadu covering 187 teachers and 935 students of 27 High Schools. He constructed a special questionnaire and it had 25 questions on 25 aspects of pupil home conditions. Each class teacher was given five copies of the questionnaire and he was asked to give particulars of five pupils in his class whom he claimed to know well. Those five pupils were given copies of the questionnaire and they had to fill regarding their own home conditions. The responses of the teachers to the five questionnaires in each case were compared with the responses of the corresponding pupils and were scored with the assistance of a key. Only when the teacher-response regarding the home conditions of his pupils tallied with the responses provided by the concerned pupils marks were allotted. Whenever they did not match, Zero scores were assigned for those question items. The teacher awareness was expressed as percentage and it was called as Teacher Awareness Index. The findings were :

- (i) The mean Teacher-awareness was 64.82 with a standard deviation of 13.85;
- (ii) Women teachers were better aware of pupil home conditions than men teachers.
- (iii) Urban teachers had better awareness of pupil home conditions than rural teachers.
- (iv) The teachers who handled more than two subjects were better aware of pupil home conditions than other teachers
- (v) The teachers handling lower classes had better awareness of pupil home conditions than teachers handling higher classes.

- (vi) The variables (a) level of education of the teacher;
 (b) length of teaching experience of the teacher;
 (c) the age-level of the teacher; and (d) the number of
 pupils in a class were not related to teacher-awareness
 of pupil home conditions.

D:8 TEACHER-AWARENESS OF CLASS-ROOM BEHAVIOUR :

The life in the class-room has been a subject of serious research in recent years. Jackson (1968), Thomas and Jere (1978) Good and Brophy (1974), Adams and Biddle (1970) and Martin and Keller (1976) had examined teacher-awareness of teacher behaviour in the class-room and found that teachers were unaware of their own behaviour in the class-room situation. Jackson (1968) had reported that teachers were not only unaware of their class-room behaviour, but also were upset with it. Thomas and Jere (1978) found teachers not only unaware of their own behaviour, but sometimes behaved in self-defeating ways. They felt that teachers were unaware of their class-room behaviour because (i) class-room interaction proceeds at a rapid rate; (ii) teachers are not trained to monitor and study their own behaviour and (iii) they rarely receive systematic feedback. When Good and Brophy (1974) studied teacher-awareness with reference to their questioning behaviour in the class-room, they found that when some teachers gave up easily with low-achievers some other consistently gave up high-achievers and they did not know why they did that way. Adams and Biddle (1970) concluded that teachers were not aware that they were the principal actors in 84% of class-room episodes inspite of the fact, that they did not wish to behave that way.

Martin and Keller (1976) observed 30 class-rooms of Grade I to III for identifying dyadic interactions and found that the teachers when asked after the systematic observations indicated a general lack of awareness of the frequency of occurrence of the different types of interactions. Since teachers are unaware of their inter-action patterns, they had to be provided with feedback based on inter-action analysis.

These studies on teacher-awareness of teacher-behaviour in the class-room have shown that awareness is not just a matter of consciousness or knowledge, but something more. Awareness has not only cognitive, but also affective and conative components. Teachers may be conscious or know about the appropriate teacher behaviour in the class-room; but that does not ensure such teacher behaviour on those lines. Awareness includes the affective and conative parts of behaviour. Teachers should value such appropriate teacher behaviour and only when they internalise this such a behaviour may take place at the conative level. Hence awareness behaviour can be studied at cognitive, affective and conative levels.

(E) STUDIES ON KNOWLEDGE :

In this part of the review, all the studies included deal with knowledge as the dependent variable. In three studies, knowledge is the only dependent variable studied. Three studies deal with two dependent variables namely knowledge and attitude, one other study deals with three dependent variables namely knowledge, attitude and awareness, and only three studies are concerned with knowledge, attitude and adoption behaviour. Among these ten studies, six are from the field of educational research and the other four are from rural development research.

Thompson (1973) and Mixon (1974) assessed teacher-knowledge of Reading and Mukerjee (1977) assessed Indian women's knowledge of family planning. Thompson (1973) administered a knowledge Test to assess the teachers' knowledge of Florida catalogue of Reading objectives, by studying a sample of 171 teachers enrolled in graduate school in two universities in Florida. It was found that teachers with no teaching experience or one year experience scored more than teachers with more experience. Teachers with more than 20 years of experience scored the least. Variables such as possession of an advanced degree level of teaching work done (primary/middle/high school) did not influence teachers' knowledge scores. Mixon (1974) found that teacher knowledge of Reading had positive relationship with student-achievement in Reading. Mukerjee (1977) assessed Indian women's knowledge of 13 family planning methods. The scoring done was - a general description of each method was given a score of 1, a specific description of a method was awarded a score of 2 and Zero was given when the respondent did not know or answered wrongly. The summated score for the 13 items constituted the knowledge Index of Family Planning.

Sorenson (1973), Joher (1974) and Witherill (1973) had treated knowledge and Attitude as two dependent variables in their investigations. Sorensen (1973) studied the knowledge and attitudes of 184 teacher education students of 5 colleges during 1972-73 towards innovative practices in education. He concluded that (i) most students had inadequate knowledge and (ii) the students from small colleges identified themselves as potential innovators.

John (1974) attempted to identify the relationship, if any, between the elementary school principals' knowledge of and attitude toward handicapped children and their behaviour at the time of referral, as perceived by themselves and their teachers. The study established a significant relationship between the attitude scores of the principals 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. Witherill (1973) examined the relationship between the professional knowledge of teachers of school law and school finance and their regard for the relevance of such knowledge for themselves. He found high consensus with regard to its relevance among those with moderate knowledge, and substantial consensus among those who had slight knowledge.

The relationship between the awareness, knowledge and attitude of village level workers towards farm-planning process, had been studied by Sinha (1975). Sinha had studied the attitude, awareness and knowledge regarding farm-planning of village level workers, and the farmers in the former's service area as part of knowing their efficiency. Attitude was measured by a Thurstone type of scale and knowledge was tested by "teacher made tests". The findings were : (1) Just as, on average, the village level workers had an unfavourable attitude towards "the package", the farmers too had unfavourable attitudes (ii) village level workers had known only 2.64 out of five practices in 'the package' and only 54% of the farmers were aware of the farm-plans. Unfavourable attitude of the village level workers had resulted in their limited knowledge

of farm-planning "package" and therefore their impact on the farmers had inturn brought about limited awareness and unfavourable attitudes.

The relationship between knowledge, Attitude and overt behaviour had been studied by Rice (1975), Mukerjee (1978), and Pai (1974). Rice's study was concerned with the inter-relationship between teacher attitude towards exceptionality, knowledge of exceptionality and behaviour patterns of elementary teachers towards educable-mentally retarded and non-retarded children in integrated classes while the identities of the children were not known to the teachers. The Rucker Gable Educational Programming Scale (RGEPS) was used to measure teacher attitude towards and knowledge of exceptionality. The findings were:

- (i) There was no significant difference in teacher-behaviour towards educable-mentally retarded and non-retarded children.
- (ii) There was no difference in the interaction behaviour patterns of teachers with high attitude and low attitude scores.
- (iii) There was no difference in the interaction behaviour of teachers with high or low knowledge of placement of exceptional children. Probably the knowledge of the identities of the children may be a more important variable than the knowledge of exceptionality for the teacher.

The awareness, knowledge, attitude and adoption of contra-ceptives by Indian married women in Haryana, Tamil Nadu, and Meghalaya had been researched by Mukerjee (1978). A sample of 1872 married women were interviewed with an interview schedule of 139 questions by trained women graduates and each interview

took an average of 50-70 minutes. The research concluded that awareness, knowledge and attitude towards family planning correlated with the planning value of married woman in all strata of the sample except Tamil Nadu (rural).

A critical study of Farmers' Training and Education programme in relation to the changes in their behavioural components, adopting an experimental design was completed by Pai (1974). The objectives of the study were:

- (i) to study the differential effectiveness of the farmers' training and education programme with regard to behavioural components such as knowledge, attitude and adoption behaviour of the farmers by employing two types of farmer's training;
 - (a) institutional training and (b) non-institutional training.
- (ii) to explore the interrelationship among farmer's personal and situational characteristics and their knowledge, attitude and adoption behaviour.

The findings of the study were:

- (i) the farmers who participated in the treatment group (institutional style of training) gained significantly more knowledge, attitude and adoption behaviour as compared to the non-institutional training group.
- (ii) The socio-economic status was significantly correlated with the change in the knowledge about packages of new practices, attitude and adoption behaviour.

In this section of the review of related research, the relationship between 'knowledge' and 'attitude' had been studied by Sorenson (1973); and Witherill (1973) and the inter-relationship between 'knowledge', 'attitude', and 'behaviour' had been

investigated by John (1974), Rice (1975), and Pai (1974). Sinha's (1975) investigation dealt with the inter-relationship between the three variables, viz. 'attitude', 'awareness' and 'knowledge'. In the study on adoption of contraceptives by Indian women, Mukerjee (1978) studied the inter-relationship between four variables, viz. 'awareness', 'knowledge', 'attitude' and 'adoption of Contraceptives'. These studies had reported different results and they were in fact studying different research problems. In the current research, the interrelationship between student-teachers' knowledge of Recent Developments, Awareness of Recent Developments, Utilisation of Sources of Information, Professional Teacher Attitude and GPA will be studied. The student-teachers' knowledge of Recent Developments would be predicted based on Utilisation of Sources, Professional Teacher Attitude and GPA.

The attitude, awareness and knowledge of village level workers regarding farm-planning had affected the farmers. The village level workers, as revealed in the investigation of Sinha (1975), had unfavourable attitude and limited awareness and knowledge of farm-planning methods and hence the farmers too had developed negative attitude towards the farm-planning 'package' and showed limited awareness and knowledge of the same. This suggested, with reference to the present investigation, that unless the teacher-educators' had the suitable professional teacher Attitude, Awareness of Recent Developments, and knowledge of Recent Developments, the student-teachers might not be able to cultivate the same in themselves. This study could cover only the student-teachers for obvious reasons. In an institutional project at a future date, the professional Teacher Attitude, Awareness of Recent Developments and knowledge of

Recent Developments in Education of the teacher-educators could be taken up and its effect on student-teachers' Professional Teacher Attitude, Awareness of Recent Developments and knowledge of Recent Developments in Education studied.

(F) STUDIES ON PROFESSIONAL ATTITUDES OF TEACHERS AND STUDENT-TEACHERS!::

In this part of the review of related research, studies on (i) the effects of teacher-education programme on professional ideology, attitudes and values of student teachers; (ii) the effect of student-teaching/intern teaching on the attitudes of student/intern teachers to certain educational concepts; (iii) the differential effects of different models of teacher-education programmes in the development of appropriate professional teacher attitudes on the part of student-teachers towards specific educational issues (iv) the influence of co-operating school teachers, and Principals of schools on the student-teachers' professional teacher attitude and (v) teacher-attitude to specific educational activities have been included.

Betty Jean (1975) sought an answer through a research study for the question, "Does cumulative training and field experiences as student-teachers in the teacher education program affect their pupil control ideology, their attitudes to human relations, and their values of educational practice such that they become more conservative on each one of these characteristics? The sample consisted of three sets of trainees taken at different sequential points in the teacher education programme of a large university: (i) teacher-trainees entering the introductory course in teacher education prior to any training or field experience. (ii) teacher-trainees completing the introductory course and a

short field experience requirement and (iii) teacher-trainees at the near end of the program after student-teaching experience.

The pupil control Ideology Form (PCI), the Student Teacher Attitudes of Human Relations (STahr) and the Educational Preference Scale were the tools used. Teacher-trainee groups of three sequential points in the program were found to differ significantly on overall multivariate tests of significance using the three dependent variables as a single vector of scores. Additional analysis showed that measures of pupil control ideology and attitudes to human relations discriminated between students entering and leaving the program, such that, as hypothesised, those students furthest along in the Program were conservative on their measures of pupil control ideology and attitudes to human relations. The study concluded that the shift was primarily related to the experience of student teaching rather than the on-campus portion of the teacher education program.

In a study of three batches of intern teachers of 1969-70, 70-71 and 71-72 of Portland Urban Teacher Education Program. Withycombe (1975) examined the attitude change occurring among intern-teachers during a ten month intern-training towards the ten concepts (i) Teacher, (ii) Objectives, (iii) Evaluation, (iv) curriculum (v) learning (vi) Disciplining (vii) Adolescent (viii) Drop-out (ix) Supervision and (x) Success. He administered the Semantic Differential and had used a pre-test and post-test design. Some of the findings were:

- (i) The perceptions of black and white interns were different at the end of training.
- (ii) The age of the intern affected attitude towards four concepts, namely evaluation, drop-out, adolescent and disciplining.
- (iii) Except with regard to the concept curriculum, it did not matter whether the interns taught social sciences or non-social sciences.
- (iv) There were significant differences in intern perceptions between any two years among the three years studied.

This suggests that student-teachers' attitude towards educational concepts will depend on their own background, age, and subject of specialisation. Further student-teachers' attitude towards same concepts may not remain the same year after year - the attitudes may be different from batch to batch.

The effect of student-teaching experience on the student-teachers of North Texas State University on their attitude to punishment was studied by Whitton (1975); using the Semantic Differential and the differences in attitude change as a result of student-teaching experience was measured by Purdue Attitude Scale Toward Any Practice. The findings were:

- (i) Student-teachers changed their attitudes as a result of student-teaching experience.
- (ii) Attitudes of female student-teachers changed more than the male student-teachers toward Corporal punishment.
- (iii) The rules of the particular schools where they did student-teaching influenced the student-teachers appreciably regarding Corporal punishment.

From this study, it is suggested that student teaching in a teacher-education program is an important experience and student-teachers are not the same following student-teaching. Besides the school practices of the schools wherein the student-teachers do student-teaching influence them considerably. Therefore, schools need to be carefully selected for student-teaching so that they are helpful in shaping student-teachers in the right direction.

The co-operating teachers and the Principals of schools wherein the student-teachers are engaged in teaching practice influence the development of professional attitudes and skills on the part of student-teachers. In a study by Willie (1975) it was found that (i) when considered as a group, student-teachers were more progressive than co-operating teachers, and the co-operating teachers were more progressive than the Principals and (ii) there was very little correlation between the attitudes of the cooperating teachers and student-teachers both at the beginning and at the end of student teaching. Hence the schools for student-teaching purpose should be carefully selected; only schools known for their progressiveness should be included.

Book (1976) had observed that the findings of several studies had indicated that student teachers changed their attitudes or behaviour in a negative direction during student teaching and that these students became more consistent with those of their cooperating teachers. There was further evidence that as teachers gain years of teaching experience, they became more negative in their attitudes towards teaching and students.

These findings provided the basis for questioning if student teachers who received immunisation treatments would move differentially towards or away from their co-operating teachers. (on attitudes towards teaching and dogmatism) as compared to those who received no treatment. In his experimental study, Book had pre-tested 80 student-teachers on attitudes towards teaching and dogmatism. They were then given immunisation treatments regarding a student-oriented approach toward teaching in which they wrote arguments (active condition) read an essay (passive condition) or both read the essay and wrote arguments (active passive condition) refuting attacks on student-oriented teaching. Students in the no treatment condition wrote a paper on their philosophy of education. All the student teachers then student-taught for 6 or 7 weeks before they took the post tests on Attitude towards Teaching and Dogmatism. No significant difference was observed between the treatment groups and the control group on progressiveism and traditionalism.

The attitudes of the co-operating teachers toward teaching and dogmatism were measured. When student-teachers were paired with their cooperating teachers and the-squares of the number of student teachers who (i) moved toward their cooperating teachers' scores, (ii) moved away from that cooperating teachers' scores (iii) had no change for those in (a) combined immunised treatments and (b) no treatment condition was calculated on each of the progressivism, traditionalism and dogmatism measures. No significant differences were found in student-teachers' move toward or away from their co-operating teachers between those in the treatment conditions and those in

the no treatment conditions on the progressivism traditionalism or dogmatism measures.

This suggests that similar research should be undertaken to study the effects of co-operating teachers on student-teachers with regard to progressivism, traditionalism, and dogmatism under Indian conditions for arriving at dependable directions in this regard.

The attitudes and behaviour of 35 recent graduates of the Experimental Teacher Education Model and 35 graduates of Traditional Teacher Education Model of Seton Hall University had been studied by Anthony (1975) with reference to the attainment of six common goals of these two programs. Some of the relevant findings were:

- (i) The majority of experimental graduates showed uncritical positive attitudes towards teaching and the majority of traditional graduates reflected critical authoritarian attitudes.
- (ii) The means of the experimental group were higher to the traditional group in the matters of attitudes, self-ratings of their behaviour and Principals ratings of their behaviours.
- (iii) Indirect teacher-talk and student-talk was higher among the experimental graduates and direct teacher-talk was higher among the Traditional graduates.
- (iv) Significant positive relationship was found between attitudes and self-ratings of class-room teaching behaviour of the experimental teachers.

This experimental research of Anthony has suggested that experimental model of teachers-education is significantly more successful than the traditional model in changing the attitude and behaviour of the student-teachers.

Teacher attitudes toward selected activities in organised curricular Improvement was studied by Freedle (1971), who found that attitudes were positive towards (i) identifying and studying the interests and needs of pupils (ii) teacher-parent conferences, (iii) visiting and observing other schools, (iv) evaluating curricular programs, (v) serving on subject matter or grade level committees. Least positive attitudes were towards (i) serving on philosophy or objectives committees, (ii) serving on Steering and Coordinating Committees; (iii) attending Regional Conferences; (iv) serving as Chairmen of Committees and (v) visiting courses of study. This suggests that certain curricular improvement activities are liked by teachers while others are not. That is why most of the curricular improvement activities have to be shared among teachers on a rotation basis.

(G) STUDIES ON UTILISATION OF SOURCES OF INFORMATION :

In this section of the review of related research, the studies included cover (i) the Information Needs of teachers of different subjects; (ii) teacher attitude and teacher-utilisation of media, and preferred media materials; (iii) teacher awareness of certain resources of information, teacher-access to resources and their relationship to teacher-use of resources; (iv) the use of University Resources by three levels of University student-population and (v) Improvement in communication skills on the part of students as a result of residence at College

campus. Besides six studies from the field of rural community development have been included and among them four are dealing with the communication behaviour of Indian farmers as part of their innovation-adoption behaviour and the other two studies are concerned with the effectiveness of the radio and television broadcasts as sources for diffusing information on innovations in farm practices among the rural people in India.

The need for utilisation of sources of information may vary from group to group, subject to subject and from individual to individual. There are institutional and personal variables contributing to this differential pattern of information need. Torgeson (1974) and Hiland (1974) had studied information needs and uses of teachers. Torgeson made an investigation of information Need, Form, Source and use as perceived by elementary educators by involving teachers of 25 schools located in 11 school districts of North Dakota. His major findings were:

- (i) Perceived information needs were inversely related to the number of years of teaching experience.
- (ii) The preferred media were printed and audio with visual forms.
- (iii) The preferred sources of educational information were professional meetings and workshop, printed materials and colleagues.

In the study conducted by Hiland (1974), the focus was on the information needs and the use of information systems by Social Studies teachers in six Indiana and Illinois

Secondary Schools. The study revealed:

- (i) Social studies teachers needed and used a variety of information in their teaching activities.
- (ii) The informal information system and document channels were used most frequently to find information.

Alden (1972) analysed the utilisation of University Resources by graduate students belonging to 20 disciplines and three levels. The research utilised a multi-wave panel survey employing a diary format for data collection. The diary was mailed to 3,748 students at the University of Illinois during 1970-71 with a response rate of 47%. Two types of analysis were formed: (i) the proportion of users of University resources excluding direct class-room instruction and (ii) the amount of use of resources by the users. Some of the notable findings were the following:

- (i) Masters, professional students and pre-prelim doctoral students tended to use more library and faculty resources than post-prelim doctoral students who tended to use more computer and professional staff and laboratory resources.
- (ii) There were at least two broad categories of disciplines that utilised resources in about the same proportion and amounts. The first group of 'hard' science oriented programme include biology, physical sciences, and engineering sciences which tended to utilise computers and laboratories. The second group was constituted of fine arts, humanities, and social science students which tended to use the library and some faculty and staff time.

(iii) A lower proportion of doctoral students who have passed their preliminary examinations used lower quantities of university resources, with the exception of computers and laboratories than masters, professional and pre-prelim doctoral students.

The study by Alden (1972) suggests that students at different levels in University education use different quantities of the university resources. The pattern and type of resources used depend whether one is a student of Arts/ Science and Technology. The pattern of utilisation of the resources by the research students is different from the undergraduate students and also Masters students prior to their doing their project reports, or dissertations. The utilisation of sources of Information may differ between B.Ed. and M.Ed. students in the colleges of Education, because the B.Ed. students will be concerning themselves with Teaching Practice while the full time M.Ed. students will be busy with their dissertation work in the second semester. In the B.Ed. class itself, utilisation of Sources of Information may change, when once they complete Teaching Practice and gear themselves for taking up the university examinations. They may use less sources of Information for preparing for university examinations. In the M.Ed. class, there will be clear difference between the regular whole-time students and the part-time Evening College students who take M.Ed. as an in-service course.

The effects of a residential college upon the inter-personal communication, academic achievement and environmental perceptions was studied by Glenda Thomas (1975). The study was with 81 matched pairs of freshman class of the University of Maimi. One group of 81 comprised residential students and another group of 81 was the control group. Inter-personal communication was measured by Carkhuff's 'An Index of Communication'(IC). Academic achievement was represented by the cumulative grade point averages for the freshman year. The college and University Environment Scale (CUES) was used to measure environmental perceptions. Some of the findings were:

- (i) The inter-personal communication skills of the residential students had increased more than the other students as a result of one year college program.
- (ii) There was no significant difference between them in achievement and,
- (iii) The residential participants showed higher environmental perception as compared to the control group.

This study has indicated that students residing in the Hostel may develop better communication skills as compared to day-scholars. This leads to the expectation, that B.Ed. and M.Ed. students who are resident-scholars may make larger use of inter-personal Sources of Information such as College faculty (formally), College faculty (informally), class-mates, and school contacts than the day scholars.

Neal (1973) carried out a research on factors associated with the use of audio-cassettes in keeping School Principals informed about new ideas and/or innovations in education. In this descriptive study adopting the survey approach, the

participants were drawn from 11 States and the Cassettes were developed by ERIC clearing House at the University of Oregon. Some notable findings were:

- (i) Women were more positive about the program than men and shared the information with colleagues.
- (ii) Principals in the 31-40 age group were not inclined to accept most unusual practices and concepts.
- (iii) Principals who had the most formal education appreciated broad concepts and theorisation.

The more experienced the Principals had they thought they were less capable of effecting change. The study concluded that cassette program was a viable means for keeping the Principals informed of new ideas in education. This research finding may encourage Colleges of Education in India to use cassettes for communicating new ideas and innovations to student-teachers.

Teacher utilisation of multi-media materials had been investigated by Jeanet (1975) Carlson (1972) and Dale (1975).

Jeanet's study was concerning the attitudes of pupils, teachers and Principals in the Morehouse Parish School System toward educational media and media-utilisation by teachers. The aim was to study one school population with regard to eight media types namely (i) text-books (ii) library books, (iii) films, (iv) filmstrips, (v) slides, (vi) transparencies, (vii) records and (viii) tapes and determine the relationship between teacher attitude to media and actual utilisation of media. The enquiry covered 285 pupils, 57 teachers and 14

Principals. The Semantic Differential was used for measuring attitudes and tally for measuring the frequency of media-utilisation. Some of the significant findings were:

- (i) Teachers had significantly more positive attitudes than the pupils towards media;
- (ii) There were significant differences between teacher attitudes towards media and media-utilisation. High attitudes to certain media did not mean high utilisation and also low attitudes towards certain media did not show low utilisation.
- (iii) Text-books were held in lowest attitudinal position by both teachers and pupils even though it came on the top with regard to utilisation. Library books were in the top in attitudinal position, but came second with regard to utilisation.
- (iv) Pupils and teachers viewed media more positively for Social studies than for science, language arts, and Mathematics, in that order.

The utilisation of newer instructional media by professional Physical Education faculty in teaching undergraduate majors in big ten universities was studied by Carlson (1972). Some of his findings were:

- (i) The faculty had a neutral attitude to the newer media.
- (ii) The most preferred media were motion picture, still picture sequence, filmloop, filmstrip, and videotape and the extent of media use, when subjected to a use and non-use Scale, indicated that 6% of faculty were users and 94% were non-users with the five most preferred media.

- (iii) The deterrents to media use were lack of suitable materials at the college level, lack of time to locate and previous materials, scheduling and budgeting limitations.

Dale (1975) made an analysis of teacher-use of multi-media materials. The data was obtained from three sources; (i) the teachers, Principals and media staff of the 17 Public Secondary Schools of Pennsylvania Intermediate Six; (ii) the superintendents of the 17 public school districts of Pennsylvania and (iii) the utilisation records of the Instructional Materials Centre common to all the 17 school districts of Pennsylvania Intermediate Unit Six. The three instruments used were (i) Fulton's Evaluative check list; (ii) Teachers' Multi Media Inventory and (iii) Personal Interviews with teachers, administrators and media specialists. The following were some of the findings:

- (i) The said school districts were adequate with regard to multimedia program.
- (ii) The over-all commitment had resulted in greater teacher utilisation of the multi-media techniques.
- (iii) 70% of the teachers had been exposed to only one course in multimedia techniques and procedures, and the teachers judged that their multimedia training background was inadequate for full utilisation of multimedia materials and one college course was inadequate in this respect. They viewed that such college course should include equipment-operation, preparation of materials and effective utilisation techniques.
- (iv) 16 mm. film projector was perceived to be the best multi-media technique by teachers and media specialists.

These studies by Jeanet, Carlson and Dale taken together suggest that there are adequate multi-media materials available to the American teachers.

There are definite preferences among the different media-materials for teachers of different subjects. There may not be much correlation between teacher-attitude to media-materials and actual media utilisation. There are certain deterrants to wider teacher use of media materials such as lack of materials in an institution, lack of time for teachers to preview media materials, scheduling and budgetary limitations and inadequate training for teachers in operating equipment associated with modern multi-media. Another point of interest is pupil-use of media materials is influenced by teacher attitude to media-materials.

In the Indian colleges of Education adequate budgeary provision will have to be made for multi-media materials. Teacher-educators themselves should use media materials adequately so that their media-utilisation stimulates the students also to adopt use of these media for learning regarding the Recent Developments in Education.

Denby (1975) and Arterbury (1972) examined the use of Educational Resources Information Centre (ERIC) by English language Arts teachers and the teacher-use of media services provided by the Regional Education Service Centers in Texas respectively. In Denby's study, the teachers self-judged their familiarity with ERIC on a five point scale. 11% reported "thoroughly familiar", 40% "quite familiar", 31% "Somewhat familiar", 12% "Scarcely familiar" and 2% "unfamiliar". In

institutions having complete microfiche Collections, 25% claimed they usually use ERIC, 59% occasionally or seldom use it, 13% never use the system. In institutions not having microfiche collections, 11% of respondents usually or frequently use ERIC, 68% occasionally or seldom use it and 20% never use it. Clearly those with readiest access to ERIC seemed to use it more than the others. Among the respondent-educators, 69% reported they introduced their students to ERIC resources while 30% admitted they did not. Arterbury's study of teacher utilisation of Regional Education service centers concluded that a large percentage of teachers were unaware of the services provided by the center, many school settings were not convenient for the utilisation of instructional media and the dilatory procedures for ordering materials, delivering materials and informing teachers of activities were deterrents to teacher-utilisation of media sources.

These two studies by Denby and Arterbury imply that teacher-awareness of media services and easy teacher-access to materials are factors responsible for effective teacher utilisation of available resources and media-services. This implies that in colleges of Education a deliberate effort may be taken to provide resources and let student-teachers have easy access to them and periodically promote their Awareness and Utilisation of Sources of Information.

The students of Colleges of Education may develop their Awareness and knowledge of Recent Developments in Education by utilising institutional sources such as the family, the college, the Peer Group, the Model School and

and Mass Media Donobal (1971), in his research on sources of Sexuality Concept formation among high school students had considered five institutional sources namely (i) the family, (ii) the school, (iii) the church, (iv) the Peer Group and (v) Mass Media.

The instructional media as related to the innovative design for learning associated with the open University at Bletchley, Buckinghamshire was studied by Lipkeman (1974) in a doctoral research. The Open University has produced access to higher education for all without entrance requirements. With no existing campus, Courses were designed and produced involving the use of radio, television and computers. These were coordinated with correspondence courses, individual tutoring, study centers, and residential sessions. All programs and materials were made available for home study or at 280 study centres located throughout Great Britain. The colleges of Education and University Departments of Education in India can design on similar lines and provide learning materials in the form of texts, set books, reading lists, recorded cassettes, radio broadcasts and T V Programs relating to Recent Developments in Education.

Mcaleer (1971) conducted a doctoral investigation of Sources of Information and trade magazine advertising appeals and their relationship to distinct buying influences in selected industrial markets. This study considered the following 11 sources of information besides 48 advertising appeals selected from industrial marketing literature:

(i) Architects or Consulting engineers, (ii) Association

meetings (iii) Brochures; (iv) Building or Electronic Contractors; (v) Catalogs; (vi) Conventions (vii) Distributors' Salesmen (viii) Manufacturer's Salesmen; (ix) Technical Hand-books and (x) Trade magazines. In teacher-education establishments, the student-teacher associations, Magazines and Student-teacher conferences may be organised for disseminating Recent Developments in Education. In fact new ideas and new messages are caught with the least resistance if they are conveyed through such channels.

It is interesting to study communication behaviour in relation to adoption of new and progressive farm practices by Indian farmers. Such studies have been conducted in the Indian situation by Murthy (1975), Singh (1975), Moulik (1975) and Nair (1975).

Murthy found that the communication behaviour of farmers in the Delhi territory with regard to adoption of an innovation I.R.8 was not influenced by any single variable out of 13 variables (personality variables, social system variables, situational variables and personal variables) considered but by 13 variables as a part of an interdependent system through reciprocal and interactive relationships. Singh (1975) found that different sources of communication were important at different stages of adoption behaviour. Change agent was important at the need, awareness, and interest stages. Other farmers within the village were important at the deliberation stage. At the evaluation stage, Communication with farmers who had already tried the innovation was important.

Moulik (1975) found in his study, that adoption of nitrogenous fertilisers was a function of the farmers, knowledge about it, attitude towards it, degree of innovative proneness and adopting leadership. The extension agencies and their teaching aids influenced adoption behaviour more than the community Sources of Information.

Nair (1975) conducted a multivariate study of the adoption pattern of Kerala farmers in the matter of high yielding varieties and found 4 communication variables (i) mass media used (ii) inter-personal cosmopolite source use; (iii) interpersonal localite source use and (iv) extension contact accounted for 56% of the variation in the adoption behaviour.

The above four studies in the adoption behaviour of Indian farmers have shown that innovative-proneness and communication behaviour of farmers are related to their adoption behaviour. When this is transferred to the situation of teacher-education, it implies that how readily student-teachers accept new developments in education would depend on their change/innovative proneness and communication behaviour. Another implication is, adoption behaviour depends upon multiple variables and not so much on any single variable.

Kishore (1976) and Sinha (1975) made studies of the effectiveness of Radio and TV respectively for disseminating farm information in rural parts of the Delhi territory. Kishore concluded in his study : (1) Farmers belonging to different socio-economic status (SES) change their attitude and knowledge significantly, when exposed to radio farm

broad-casts and retained this knowledge after 15 and 30 days of broad casts; (ii) Farmers of all SES groups listening to Community Radio sets gained more knowledge, changed attitude and retained more after 15 and 30 days of broad/casts compared to farmers listening to their own radio sets.

Sinha (1975) studied the effectiveness of TV broadcast programme in disseminating the information among its viewers (primary respondents) and from such viewers to non-viewers (secondary respondents). His major findings were:

- (i) the primary respondents gained 24 to 90% of the imparted information, with an average of 50%. They retained 70 to 100% of the information after a lapse of 15 days, and
- (ii) the Secondary respondents gained 4 to 36% of the imparted information and retained 66 to 100% of the same.

The last two studies by Kishore and Sinha indicate that the radio and T V broadcasts are effective with the Indian farmers in diffusing information on innovations. This gives room to think that Radio and TV broadcasts, if properly produced on Recent Developments in Education, they will succeed in disseminating these developments in the teacher-education institutions.

(H) CONCLUSION AND IMPLICATIONS :

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. Some of these studies are Indian while

the others have been completed abroad. It is clear, that so far there has not been a specific study in the problem area of the present research, namely, "Awareness and knowledge of Recent Developments in Education and their Correlates among the B.Ed. and M.Ed. students". Yet these related studies have thrown considerable light on the problem area of this investigation. The review of so many related researches has brought out certain pertinent implications, as follows:

H:1 INNOVATION-ADOPTION-DIFFUSION :

The studies on Innovation-Adoption and Diffusion have indicated that the adoption of innovation and its diffusion in the educational system of a country may depend upon several variables. The innovations have both intrinsic and extrinsic characteristics and the perception of these characteristics by teachers and Headmasters will influence their adoption behaviour. Some teachers are early adopters of innovations and certain others adopt late or resist the innovation and their behaviour in this regard may depend on personal, professional and institutional variables. The dissemination of innovations depend on the communication between the resource systems and the user systems, besides the variables mentioned earlier. The consequences of adoption of innovations in terms of educational quality and pupil achievement have also been investigated.

Recent Developments in Education may be viewed as innovative developments. How much the B.Ed. and M.Ed. students will be aware and knowledgeable of these developments in Education will depend upon several variables. It will

depend upon the teacher-education system, among other things. If the system of teacher-education considers certain Recent Developments in Education as relevant and significant for student-teachers and therefore includes them in the formal or 'hidden' curriculum of teacher-education, it will facilitate the Awareness and knowledge of these Recent Developments among the student-teachers. Similarly if the teacher educators in University Departments of Education and colleges of Education appreciate these Recent Developments in Education, it is bound to influence the student teachers too. The reception to Recent Developments in Education will also depend upon the personal and professional variables associated with the B.Ed. and M.Ed. students. Their sex, age, level of general education, their level of achievement in education, socio-economic status, attitude towards the teaching profession and teaching experience will have some relationship to their Awareness and knowledge of Recent Developments in Education.

H:2 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 tests for selection of student-teachers had not been used

in colleges of Education in the country and in many colleges interview/or/and written tests were used instead. The facilities for audio-visual education in colleges of Education in India were found to be so meagre in the findings of Patel (1971). In an ERIC project report, Sultana (1977) had reported on the many academic difficulties of student teachers. According to Srivastava (1970), student-teachers were reported to be dissatisfied with the evaluation practices in the teacher-education institutions. The above mentioned investigations found teacher-education systems wanting in certain respects or other.

On the other hand, there are certain studies which indicate that in certain teacher-educational establishments, some experimental work had been attempted. These studies are mostly in the area of modification of teacher behaviour through innovative programmes such as Micro-teaching, classroom-behaviour training through the use of Flanders' Inter Action Analysis Category system and the adoption of skillbased instructional materials synchronised with micro-teaching.

The Awareness and knowledge of Recent Development in Education of the B.Ed. and M.Ed. students depends upon the state of teacher-education establishments in the country. If colleges of Education and University Departments of Education function dynamically and demonstrate both conceptually and operationally practices associated with the Recent Developments in Education, it will help building the Awareness and knowledge of Recent Developments in Education of the B.Ed. and M.Ed. students.



The impact of teacher-training on the values, personal problems and adjustment of B.Ed. students had been enquired into by Verma (1968) and it was found the trainees gained religious values, their economic problems were reduced and the social, emotional and occupational adjustments had improved. Such evaluative studies of teacher-education programmes though limited in scope are useful for curriculum development in teacher education. There has not been many such studies. Virtually there is a dearth of studies on evaluating the teacher-education programmes in comprehensive way. In the present study, the impact of teacher-training on the B.Ed. and M.Ed. students' Awareness and knowledge of Recent Developments will be studied in a comprehensive way.

H:3 PROFESSIONAL TEACHER ATTITUDE :

The review of studies on Professional Teacher Attitude of student teachers has indicated that student-teaching is an important part of teacher education programme and student-teachers are not the same following student-teaching for their attitude to educational concepts changes. Besides their own personal variables, the school wherein they do student-teaching is important in changing their professional attitude. The influence of cooperating school teachers and the Headmaster of the school on the student-teachers' professional attitudes has been investigated, but different results have been reported in these American studies. Such problems need to be studied under Indian conditions for arriving at dependable directions in this regard. Different models of teacher education programme produce different attitude towards the teaching

profession on the part of student-teachers. The Professional Teacher Attitude of the student-teachers at the terminal stage of B.Ed. and M.Ed. courses will be investigated in this research, and judge how far the teacher-education courses have succeeded in developing the attitudinal component of the B.Ed. and M.Ed. students.

H:4. AWARENESS :

The review of the studies on awareness has shown that awareness of something or phenomenon can be deliberately developed by suitable publicity or education programmes. Awareness of the British Open University among the British Public was seen to increase following publicity campaigns. Career awareness of students can be developed through instructional programmes. Teacher awareness of pupil home conditions depended upon the sex; age; education and teaching experience of the teachers and the level of teaching and number of subjects taught to a class of pupils by the same teacher. Studies of Awareness of class-room teacher-behaviour have shown, by and large, teachers are unaware of their own inter-action patterns and they need to be provided with feedback. Awareness has not only cognitive, but also affective and conative components. Teachers may be conscious or know about the appropriate teacher behaviour at the class room; but that does not ensure such teacher-behaviour on those lines. Awareness includes the affective and conative parts of behaviour. Teachers should value such appropriate teacher behaviour and only when they internalise this such a behaviour may take place at the conative level. Awareness behaviour can be

studied at cognitive, affective and conative levels.

No study has so far been undertaken to study awareness of the student-teachers of Recent Developments in Education. This study is therefore expected to throw some light on this area.

H:5 KNOWLEDGE :

In the review of studies on 'knowledge', some of the investigations were concerned with seeing the relationship between 'Attitude', 'Awareness', 'knowledge' and 'behaviour'. It is understood from these studies that it would be worthwhile to study the B.Ed. and M.Ed. students' Awareness of Recent Developments in Education, knowledge of Recent Developments in Education, Professional Teacher Attitude and also investigate the inter relationship among them.

H:6 UTILISATION OF SOURCES OF INFORMATION :

The research studies reviewed in the section on utilisation of sources of information have all been completed outside India. There is vast scope for research in this section in India. What these studies indicate is, that utilisation of sources of information depend on ones' perceived information need, one's awareness of the availability of the different sources and one's familiarity and access to them. The advances in information systems and communication technology virtually hold a very wide scope for the years to come. Information source utilisation may depend on one's attitude to sources and one's preferences in this regard. Students at different levels of higher education may utilise different sources. It will be

interesting to investigate what sources of information the student-teachers depend upon for developing their Awareness and knowledge of Recent Developments in Education in this study.

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Chapter :2 -::R E F E R E N C E S::-

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