

Teacher Education—Pre-service and In-service

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INTRODUCTION

The reason for undertaking, strengthening and accelerating research on teacher education is explained by the need for systematically developing an empirical base for taking sound decisions about teacher education. It involves a variety of factors, such as teacher-educator characteristics, training experiences, student-teacher characteristics, curriculum and textual materials, practising schools, institutional characteristics, community characteristics, and many more, which interact in complex combinations when it comes to understanding the teaching-learning process and learning outcomes. It is all the more important, therefore, to identify such factors precisely through carefully planned research studies. Besides, basic to developing a corpus of research knowledge is quality control of teacher education. Teacher education programmes are under criticism for being theory-ridden, and for quality degeneration specifically due to the ill-planned correspondence courses being offered by some of the universities in India, and mushrooming of colleges of education with disregard to adhering to accepted norms for running such courses. Despite criticism, however, there does not seem to be visible research evidence to understand the system of teacher education in the country. Most decisions, crucial to the developments in teacher education are often made by a handful of decision-makers and seldom a need is felt for

follow-up research studies, what to say of Research and Development activities.

During the last three decades or so, teacher education in India witnessed a phenomenal spurt in research in areas like the programmed instruction approach to learning, interaction analyses, microteaching, and models of teaching at some University Departments of Education and in some colleges of education through the active collaboration of the NCERT. The major thrust of such concentrations was limited to research activity leading to the degree of Doctor of Philosophy in Education. Impact studies of such concentrations were not undertaken again although their message was well received.

Much of teacher education is viewed in terms of its impact on teachers and their behaviour and students' gain in schools. The review of research on teacher and teacher behaviour, which forms a separate chapter in this survey, therefore, needs to be seen along with the review of research on teacher education.

In-service teacher education is again as important as pre-service teacher education. Likewise, teacher education for primary school-teachers and secondary school-teachers become important fields of educational research. Other research fields could be objectives of teacher education, course work and curriculum, management and administration of teacher education, and evaluation of teacher education. It is pertinent to analyse how various subsystems of the system of teacher education

are autonomous and yet coordinate with other subsystems, like the subsystems of an organic body.

REVIEW OF RESEARCHERS IN TEACHER EDUCATION

For reviewing research on teacher education for the Fifth Survey from 1988-92, the commonly accepted mode of classifying research studies by adopting the systems model involving context-presage-process-output components has been adopted as was followed by the earlier reviewers: Mehrotra, R.N. (The Second Survey of Research in Education, 1979); Das, R.C. and Jangira, N.K. (The Third Survey, 1987), and Singh, L.C. and Malhotra, S.P. (The Fourth Survey, 1991) with variations here and there for the purpose of clustering the studies together.

Context Studies

Context studies tend to merge with presage and in multifaceted research designs with the process and the product if the purpose is to analyse the variables with a view to making them relevant as inputs or relating them with the process or the product of teacher education. In most cases, where surveys have been conducted or the history of teacher education traced or institutional variables identified or student-teacher characteristics looked into or teacher-educator characteristics explored in isolation, all such studies have been grouped together as context studies.

Of the 129 research studies under review from 1988-92, it appears that quite a chunk is around contextual variables and only feeble attempts have been made to provide a research base for analysing the complex phenomena of teacher education involving a series of rather complicated operations. It is understandable that a systems approach to study the various interacting variables globally would have required complex research designs involving huge costs and would perhaps be beyond the reach and means of researchers working for

their doctoral theses. Context studies include evaluative surveys of pre-service and in-service teacher education in respect of the appropriateness of the existing B.Ed. programme at the +2 stage (Mani, R.S. 1988); effectiveness of teacher education programmes in Thailand for rural development through the perceptive process of functionaries and beneficiaries (Somneuk, S. 1989); different aspects of teacher education in Assam, such as, backlog of untrained lower primary teachers, practice-teaching and evaluation procedures (Bordoloi, A.D. 1990); working of the system of teacher education at the secondary level in Maharashtra with reference to physical facilities, academic work, staff extension work, innovative work, finance, administration, examinations and development work (Nagpure, V.R. 1991); pre-service teacher education in Andhra Pradesh (Reddy, C.P. 1991); working of teacher training colleges in Karnataka regarding selection procedure of student-teachers, curriculum, methods of teaching and training and evaluation procedures (Patted, L.B. 1992); diversity in the evaluation procedures in teacher training colleges in Gujarat State (Das, R. 1991). The conclusive evidence which these surveys provided did not reveal a satisfactory state of affairs, prevailing in the colleges of education in respect of both the pre-service and in-service teacher education programmes.

Researching in the field of worker teachers, Reddy, M.G. (1988) found that no significant difference existed between male and female teachers in their perception of the performance requirement in any of the areas of workers' education.

In another study of contextual relevance, Rajguru, A.R. (1988) studied the role and performance of central school headmasters and found that they did help the primary school-teachers but were not satisfied with observation lessons. In some other context studies, attempts were made to understand the nature and extent of problems faced by student-teachers: (Behera, A. 1989); problems of single-teacher/two teacher primary schools (Mattoo, B.K. and Chand, S.

1992); socio-economic and academic problems of high school-teachers (Lalsangliani 1991); status of teachers (Chopra, R.K. 1988); professional commitment of higher secondary teachers (Bisaria, S. 1991) and professional growth of teachers (Sharma, S.C. 1992.).

Uniyal, B.P. (1992) studied student activism; Mathema, S.S.B. (1988), researched the problem of training wastage; and Sirohi, M.S. (1991) felt that there was a need to improve mass orientation of teachers. Bisaria, S. (1991) concluded that frequent transfers and mobility patterns were negatively correlated with professional commitment. Panchbhai, P.V. (1990) found that teachers were not generally interested in in-service programmes useful for professional growth of teachers.

A profile of female B.Ed. student-teachers in terms of self-image, value-orientation, family size, academic achievement was developed by Gupta, A.K. and Srinivasan, N. (1990), and factors responsible for selecting teaching as a career were analysed by Sharma, R.D. and Budhori, K.B. (1991).

Presage Studies

Attitudes towards teaching in relation to variables of personality, intelligence, adjustment, creativity and values (Kala, S. 1989), and impact of elementary teacher education programme on attitudinal change of elementary teacher trainees of Orissa (Sinha, 1991) followed the design of presage studies. The impact study here was directed to finding out attitudinal changes which acts, in fact, as an input variable.

Process Studies

Only one study was identified in which process alone was looked into by Roy, N.B. (1992) wherein he analysed the teaching behaviour pattern of experienced science teachers.

Context-Process Studies

More, R.T. (1988) examined the relationship between teaching effectiveness, teaching aptitude and personality traits. On the basis of

research findings it was revealed that only 6 factors out of 16 factors of personality (R.B. Cattell) were found to be positively correlated with teaching effectiveness, of which intelligence was the most important. Teaching effectiveness and teaching ability have positive correlation and the total personality of the teacher is found to be influencing effective teaching and ineffective teaching. The study attempted to bring an improvement in the criteria for admission to the teacher preparation programme (B.Ed. training for secondary teachers).

Context-Product Studies

Sabharwal, N. (1991) studied prediction of the student-teacher education programme and the findings revealed that selected context variables have emerged as significant predictors of student-teacher performance on 'TAT'.

Context-Presage Studies

The characteristics of students in terms of needs and concepts constituted the basis for working out a strategy for developing a teacher education programme (Mishra, U.S. 1989).

More in the nature of presage study, Bhatnagar, T.N.S. (1988) evolved scales for assessment of lesson planning, supervision evaluation and co-curricular activities.

Job-satisfaction was another theme of research which can act as an input for improving the process. Studied in different contexts, the clustering of such studies may not be done uniformly. Some of the studies would fall into the category of context-presage while certain others would be process-product oriented or presage-process-product oriented.

Context-presage studies covered a wide range of contexts, such as, teacher status of pre-primary, elementary, secondary and higher secondary school-teachers in respect of academic, economic, professional and social criteria (Chopra, R.K. 1988); quality of perspective teachers and the selection procedure in practice for admission to B.Ed. course in Orissa (Nayak, G. 1988); teaching aptitude and

attitude towards teaching with reference to sex, age, faculty and category of teachers (Reddy, B.N. 1991); factors predictive of teachers' responsibility (Sharma, K.D. 1988); relationship between classroom verbal behaviour and teaching aptitude (Meera, S. 1988); traits of ideal teachers on the basis of students' needs (Misra, U.S. 1989); relationship between self-concept and attitude towards teaching (Ganapathy, S. 1992). Sociological study of profiles of teachers in respect of certain context variables (Goyal, J.C. and Chopra, R.K. 1990); a study of security and insecurity, among teacher trainees (female) in respect of creativity, self-concept and sense of humour (Taneja, S.R. 1988); relationship between leadership behaviour and morale of secondary school-teachers (Savadamuthu, T. 1988); authenticity and dogmatism in teachers in respect of sex, caste and faculty (stream) to which the teachers belonged (Tiwari, L.M. 1989); personality factors of graduate students with regard to ascertaining any differences in personality factors of student-teachers belonging to different fields (Raina, V.K. 1990); factor content of Minnesota Teacher Aptitude Inventory applied to teachers in India (Bhushan, V. 1992); scientific attitudes of in-service and pre-service science teachers (Rao, B.D. et. al. 1989); sociological survey of role conflict of women primary school-teachers and their accountability as teachers and professional commitment (Narang, S. 1992); frustration among teachers of higher secondary schools of Kanpur with respect to variables like emoluments, age, workload and service conditions (Shandilya, M. 1990); factors associated with teachers' expectations about the performance of their students (Bhargava, S.G. 1992).

Mehta, P.M. (1992) explored the relationship between teachers' morale and their perception of supervisory behaviour. Commitment of women teachers (Sengupta, P. 1990); role expectation and role performance of teacher-educators (Sadanathan, M. 1990); attitudes of pupil teachers from rural areas (Mohanty, A. 1990); personality traits of primary school-teachers in relation to their attitude towards teaching and

certain selected context variables (Srinivasan, V. 1992); attitudes of school-teachers towards their profession in relation to certain selected context variables (Tapodhan, H.N. 1991); attitude of secondary school-teachers towards teaching and their perception of leader behaviour and the relationship between teacher's change-proneness, perception of leader behaviour and attitude towards teaching (Ravindra, M. 1989); relationship among teachers' attitude towards pupils, mental health and job-satisfaction (Ray, S. 1990); attitudes and frustration among primary and secondary school-teachers in relation to caste, sex and residential area (Sharma, S. 1988); value patterns of secondary teacher trainees with reference to sex, area, socio-economic status and the stream to which they belong (Nakum, G.G. 1991), were some other studies which were designed to explore the relationship between context and presage variables.

The studies, as referred to above under the context-presage category, do not suggest any perceptible trend, yet attempts have been made to research into areas relevant to teacher education and the results of these studies can be used as inputs for improving the process of teacher education and thereby the product as well.

While studying job-satisfaction of graduate teachers in Coimbatore, Sekar, G. and Ranganathan, S. (1988) found that most of the teachers were satisfied with their nature of work, personnel policies, salary, personal achievement and their relationship with superiors and colleagues, working conditions in schools, appreciation of good work and job security. Agarwal, M (1991) in a study on job satisfaction of primary and secondary school-teachers, concluded that caste, place of work and mother tongue were significantly related to job satisfaction. Male graduate trained teachers, single family teachers, more experienced and government school-teachers, were more satisfied than others; age and marital status, however, had no relationship with job satisfaction. Economic and political values were found to be

correlates of job satisfaction. Clemence, S. M. (1989) found that role conflict affected job-satisfaction of women teachers but social dimension of value influenced their job satisfaction rather favourably. Naik, G.C. (1990) found that *ad hoc* teaching assistants of the M.S. University, Baroda, were satisfied with their jobs mainly because of their favourable attitude towards the teaching profession, financial consideration and the facilities which they were getting for further studies; marital status, age, experience and gender did not affect their level of job satisfaction; leadership qualities of heads of institutions promoted job satisfaction, and group goals and objectives were essential parameters in determining the job satisfaction of teachers. Sex, experience and background variables had no bearing on job satisfaction. Rama Mohan Babu, V. (1992) found that less experience, favourable attitude towards teaching and efficiency of teaching corresponded with higher job satisfaction. Teachers working in open and autonomous climates were found to be having high job satisfaction compared to those working in a closed climate. Job involvement and general state of health and life had a positive effect on the level of job satisfaction. Ramakrishnaiah, D. (1980) concluded that college teachers attitude towards teaching had a bearing on job satisfaction and that the job involvement and job satisfaction are independent of each other. Rawat, S. (1992) found that level of job expectation played a significant role in determining job realities of teachers as also the job satisfaction which had positive relations with humanistic, creative, social and aesthetic values and negative correlation with political and economic values. Ray, S. (1992) concluded that the mental health of teachers was positively correlated with job satisfaction and attitude towards pupils. Reddy, B.P. (1989) in his study found that over-qualified primary school-teachers had low job satisfaction while teachers younger in age had higher level of job satisfaction, which had positive correlation with attitude towards teaching and job involvement. Saxena, N. (1990), while studying a sample of

higher secondary school-teachers in Madhya Pradesh, did not find any difference due to gender, stream (science or arts), experience and other variables, on job satisfaction.

Presage-Process Studies

In this section such studies as are indicative of interacting effect of input variables on the process have been reviewed. Atreya, J.S. (1989) concluded that teaching effectiveness was significantly correlated with values and job satisfaction. Basi, S.K. (1991) examined teaching competence of language teachers in relation to job satisfaction, locus of control and professional burn-out. Singh, T. (1988) attempted to establish a relationship between teaching efficiency and job satisfaction as also with socio-economic status and found a positive relationship. Teaching efficiency was studied by Agarwal, S. (1988) on a sample of female teachers of primary schools and concluded that more effective teachers had problems of adjustment due to social factors while with less effective teachers emotional problems were dominant. Maurya, H.C. (1990), on a sample of university and pre-university teachers, found that frequent changes in curriculum adversely affected teaching efficiency. Size of the classroom and campus indiscipline affects the adjustment which, in turn, can affect teaching efficiency. Teaching attitude and achievement had no bearing on teaching efficiency. Bhasin, C. (1988) found a positive correlation between attitude towards teaching and teaching efficiency. Kukreti, B.R. (1992) attempted to find the psychological correlates of teaching efficiency and More, R.T. (1988) worked on personality correlates of teaching efficiency. Shah, B. (1991) examined the predictive value of the determinants of teaching efficiency. Nautiyal, A.K. (1992) examined teaching in relation to morale, values and students' perception of teacher characteristics. Principals' effectiveness was also studied by Usmani, S. (1988) in relation to professional attainment, socio-economic background, values and attitude towards

teaching. Evaluative studies on curriculum and B.Ed. course content were the other areas falling in the category of presage-process studies.

Bhonsle, V. (1992) evaluated the new curriculum of teacher education and concluded that majority of principals, teacher-educators, student-teachers and teachers were of the view that the new curriculum was suitable for developing teaching competence among the student-teachers. Walia, K. (1992) suggested improvements for the B.Ed. course on the grounds that the course was theoretical in nature, no internship was provided for and that one year duration was inadequate. Sohoni, C.R. (1992) attempted to develop a training programme for the student-teachers with a view to developing their problem-solving skills for effective transfer of such skills to their students. Vyas, J.C. (1991) evaluated the effectiveness of the programme of mass orientation of school teachers and found that performance of teachers covered under the programme was better than those who were not oriented.

Research on personality traits of popular and unpopular teachers (Awasthi, N. 1989); relationship between figural creative thinking of student-teachers and intellectual climate index of the classroom (Choudhary, S. 1989); role enactment of home science teachers in teaching, research and extensions for improving the quality of teachers' performance in these areas (Pande, M. and Chandra, A. 1992); attitude of teachers towards creative learning and teaching in relation to variables like teaching experience, academic discipline, etc. (Mathur, S. 1988); relationship between classroom verbal behaviour of teachers and their democratic attitude and personality (Vasudev, G.K. 1990) teachers' work values and their relationship with indirect and direct teaching behaviour constituted some shades of research on the presage-process model.

De, Dilip (1991) standardised the scales of 'professional traits' and 'classroom communication' with a view to identifying certain characteristic traits among teachers which make them good teachers. Vasudev, G.K. (1990)

examined the relationship between the classroom verbal behaviour of teachers and their democratic attitude and personality.

Studies on teacher motivation and organisational climate (Mittal, J.P. 1989); teaching effectiveness and its relationship with creativity and intelligence (Singh, D. 1991); teaching behaviour and personality characteristics (Thakur, S.K. 1988); and work alienation as related to certain psychological and institutional variables, can also be included in this section. Singh, R.P. and Das, M. (1989) conducted a study in which attitudes of teachers towards creative learning and teaching were analysed and examined.

Process-Product Studies

There is evidence of research on teacher education employing the paradigm of 'process-product'. Chaudhury, K. (1988) concluded that the "Concept Attainment Model" helped students acquire new concepts in science and enriched and clarified their thinking on known concepts. Tawde, S. (1991) found that different models of representation were effective in the learning process of children belonging to different socio-cultural groups in the acquisition of mathematical models and that the urban group was better than the rural group which in turn was found to be superior to the *Adivasi* group of students. Desai, S.S. (1992) found that supervisory-feedback was more effective than the audio-feedback in facilitating student-teachers' acquisition of teaching competence as well as individual skill competence.

Dwelling in the field of microteaching, Sultana, A. (1988) established the superiority of micro-teaching in bringing about changes in behaviour of student-teachers of science between the first and the fifth teaching sessions. Singh, S.K. (1987) arrived at the conclusion that remedial instructional microteaching was effective in improving the skills of probing questioning and demonstration of both more and less experienced primary school-teachers.

Singh, S.K. (1988) used Flanders Interaction

Analysis Category system for observing teacher's classroom behaviour and attempted to predict it from attitudes (Measured by the Minnesota Teacher Attitude Inventory). The findings of the study revealed that there was a significant relationship between attitude towards teaching and classroom verbal interaction of student teachers of secondary level. Indirect influence, pupil talk, pupil initiation ratio, are positively related to attitude towards teaching in both male and female groups. Lecturing, criticising, justifying authority, direct influence and restrictiveness are negatively correlated with attitude towards teaching.

Presage-Process-Product Studies

In the studies that follow in this section, the systems approach has been employed with the focus on input-process-product design.

Roy, B. (1988) on the basis of his study concluded that learning through programmed text (input) had no conclusive effect on the rate of learning and achievement but it did reduce individual differences in retention. Saroja, D. (1991) concluded that humanistic training of teachers did help in facilitating students' personal and cognitive growth.

Yadav, M.S. et al. (1988) evolved an innovative practice to enhance the efficiency of instructional work in B.Ed. for teaching and compulsory course. In an experimental setting, the experimental group with the help of programmed learning material, discussions, library and practical work, showed better results than the control group.

Sharma, D.L. (1989) identified teaching skills specific to the teaching of Hindi, developed instructional material and found that the micro-teaching technique was more effective than the traditional technique. Iba-Bassey, G.S. (1990) examined the relationship between the entry qualifications of student-teachers and their performance in the design and production of instructional materials and concluded that post-remedial group of students did not show marked improvement.

Sharma, N.K. (1990) found that the use of

the blackboard in classroom teaching was very effective on account of its use for display and as a physical extension of the mind. Macfarland, M.C. (1988) found that training in interpersonal relationship skills helped in bringing about overall improvement in mutual understanding among pupils and teachers. Singh, P. (1988) identified ten teaching skills which enable the teachers to become more effective in their classroom teaching. Interaction analysis models was another theme of research falling under the paradigm of presage-process-product. Srivastava, M.B. (1989), using a modified version of Flanders' Interaction Analysis Techniques (FIAT), found that acceptance of teachers by students was greatly influenced by the narrow questioning category of FCIT and the TCR and SSR Criteria of BRS. Singh, H. (1989) found that the teachers trained in the FIAT became indirect teachers, showed better results, and were highly revered. Reddy, R.B. (1978), using Flanders' Interaction Technique, found that high school science teachers with less than 10 years teaching experience used more of the direct method and teachers with positive attitudes help the students to solve their own problems, motivate them and praise them for their work.

Reddy, R.B. (1990) analysed the classroom behaviour of teachers with respect to demographic variables, teaching variables, personality factors, sex, interaction variables and job satisfaction.

Tassew, Z.M. (1992) found that science teacher trainees of Addis Ababa (Ethiopia) were found to have improved inasmuch as their classroom behaviour got transformed from direct to more indirect and they interacted with pupils better than their counterparts. Bawa, M.S. (1989) found interaction analysis effective in bringing about modification of behaviour of teachers and in its influence on the achievement and attitudes of students. In another study on interaction analysis, Rastogi, A. (1989) found that the biology teachers of public schools and government schools used the lecture method, were authoritative and did not encourage

students to participate in the process of teaching and learning. Teacher talk was the dominant behaviour.

Kaur, A. (1988) found that in-service education and training of teachers had significantly contributed to the development of professional competency in Punjab and the process and structure variables had a positive bearing on the product variables. Teaching competency has a positive correlation both with the process and structure variables. In-service education was useful in improving the skills of teachers and had a positive effect on their attitude towards teaching. The research studies on the effect of attitude towards teaching profession on the achievement of students studying through programmed learning material, advance organiser material and by the traditional method (Budhisagar, M. and Sansanwal, D.N. 1991); effect of concept attainment model and inductive thinking model of teaching on achievement, self-concept and attitude towards science (Gupta, N.K. 1991), also fall in the category wherein the systems approach has been employed.

Process-Product (Impact) Studies

The studies as reviewed in this section essentially fall within the broad classification of 'process-product' but were conducted with a view to assessing the various programmes.

Misra, S. (1992) on the basis of his study concluded that in-service training had a positive impact on teachers' behaviour and pupils' active participation in the class. Kahlon, S.P. and Saini, S.K. (1989) found that there was a perceptible impact of teacher education on the teaching aptitude of Punjab Agriculture University teachers.

Devi, L. (1988) found the teacher education programme non-contributory to the teaching attitude of student-teachers but did account for influencing their aesthetic values positively as also social adjustment and health adjustment.

Das, S. (1992) found the impact of

curriculum of the one-year JBT programme on developing a proper attitude towards teaching rather favourable for both the rural and urban teachers.

Srivastava, M.B. (1989) in her evaluation of the impact of training found that it did improve teaching efficiency, which, in turn, influenced the attitude and aptitude of student-teachers. Yadav, G.L. (1992) studied the impact of teacher training on self-concept, social maturity and attitude towards teaching.

Future Needs and Directions

Now that academic staff colleges have been energised and made functional in the country, it is time that the impact of these colleges is evaluated. Even otherwise, the research that is being carried out to improve college teaching in the field of higher education is almost non-existent and there exists a research vacuum in this area.

Establishing linkages between teacher education and its consequences in terms of cognitive, affective and psychomotor learning would probably provide insight into the ways the teachers can be trained to adjust their teaching according to differing background—social, economic, motivational, intellectual, emotional and behavioural—of different kinds of pupils. To suggest what teacher education has to be, cannot be taken as a realistic proposition without knowing what teacher education is, and furthermore, what teaching is for groups of differing backgrounds and for future careers. Incisive studies will be needed with regard to methodology, curriculum and linkages of presage variables with the process and product of teacher education for effective training of teachers; even teacher educators would require active and self-directed learning. A performance-based method of appraisal of teachers in colleges of education is as important as it is in schools. Research needs to be accelerated in this direction. There cannot be one standardised and uniform approach to teacher education.

Alternative models of teacher education will have to be thought of, and those that are current, need to be evaluated by adopting carefully planned research design, tools and techniques.

Community contexts are as important as institutional contexts. The variables of teacher characteristics, student teacher characteristics, institutional characteristics and community characteristics interact in combination to influence the process and product of teacher education which remains unexplored.

The teacher education programmes for pre-primary children are yet to take shape, and, incidentally, no systematic research efforts have been made in this area of importance.

The assessment of effective teaching; the development of teaching theories; identification of conditions conducive to learning to learn and to lifelong learning; questions related to autonomy and accountability; the role of teachers outside the classroom; promotion of education and quality control through teachers' associations; professionalism and professional ethics; the essential knowledge component in keeping with the objectives of teacher education in the training programmes; qualitative difference between the products of the formal system and the non-formal system; special thrust on the "Minimum Levels of Learning" approach to teaching and learning in the course work of the training of primary school teachers, both pre-service and in-service; effective planning of socially useful productive work; evaluation procedures; quantum and nature of practical work; admission criteria for courses of teacher education; and management and organisation of teacher-education are certain other areas where the research base needs to be strengthened and enriched.

Research projects, to be adequate to understand the multifaceted process of teacher education in its totality, will necessarily cost a great deal of money which is beyond the resources of individual researchers. Such comprehensive projects need to be undertaken by agencies and organisations like the NCERT,

the NIEPA, and the UGC, and individual researchers with governmental support.

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