CHAPTER 2

Review of Literature

Contents

2.1. Significance of the Review of Literature
2.2. Review of Literature - Environmental Education
  2.2.1. Studies Conducted in India
  2.2.2. Studies Conducted Abroad
2.3. Review of Literature on Curriculum Development
2.1: Significance of the Review of the Related Literature-

Through reviewing the related literature a researcher can define his area of study. It helps him in delimiting his work. It supplies knowledge about the works of others in the same field. Review of related literature enables the researcher to be acquainted with current knowledge in the specific area. Reviewing of literature helps the researcher to reach the state of formulating clear and concise objectives as well as framing his problem statement. A researcher can select and focus on proper problem areas by avoiding the useless problems. He also gets an idea of research methodology and tools to be used in his study. Statistics used and proved satisfactory in previous studies serve as a guideline for reaching valid findings. The review of related literature contributes concepts of the suggestions of earlier researchers recommended for further studies. It eliminates the possibility of repeating of already established findings and facts.

2.2 Review of the Literature- Environmental Education

2.2.1 Studies Conducted in India:

Rajput et al (1980) conducted a study entitled “Environmental Approach of Teaching at Primary Level in Bhopal.” The major objective of the study was to study the awareness of the children towards scientific and social environment and to identify the available community resources for effective utilization in teaching. The major findings of the study were (i) one among the four groups differed significantly in the pre-test stage of environmental awareness (ii) Both the experimental groups were significantly better than the control group in the post-test stage (iii) The difference between the experimental
and the control group on a traditional achievement test was not significant.

Gupta et al (1981) conducted a study entitled “Environmental Awareness among Children of Rural and Urban school and Non-formal Education Centres.” He found out that children from different types of school were highly aware of the environment.

Pai conducted an investigation (1981) entitled “Preparation and try out of curriculum in environmental studies leading to lifelong education for change in students.” The major findings were: i) There was significant difference between the performance of the experimental and the control groups on knowledge and attitudes ii) The scores of the experimental group were higher than the control groups in environmental activities inventory which established the effectiveness of the curriculum.

Rasem Menla (1984) carried out an investigation entitled “Environmental programme in Some Selected Primary schools in Mokochung Town”. The major objectives of the study were: i) To find out the reactions of the teacher toward Environmental education in programme in primary schools ii) To identify the difficulties of the teachers in teaching the subject of environmental studies at primary level. The major findings were: i) The environmental education programme helped children in understanding the immediate surroundings ii) The teacher’s reaction was quite satisfactory iii) The programme had its impact in creating desires and development iv) Teachers faced difficulties in teaching environmental studies at primary stage in Mokochung Town. There was shortage of supplementary and reference materials and lack of local aids.

Sayi Prasad (1987) conducted an investigation entitled “Environmental
Awareness – A study on the women of a South Indian Village” to assess the environmental awareness of the village women-folk in order to make recommendations for its improvement through environmental education. The lack of awareness and knowledge on environment among rural women of scheduled castes was found and Prasad emphasized the need to take necessary steps by the authorities.

Shahnawaj (1990) conducted a study on the environmental awareness and attitude of secondary school teachers and students. It was found that the 95% teachers and 94% students had positive attitude towards environment and the attitude of trained and untrained teachers towards environment were identical. The teachers were found better than the students in case of environmental awareness and the study indicated the influence of the variables like sex on environmental awareness among the students.

Prahraj, B (1991) carried out a study entitled “Environmental knowledge, environmental attitude and perception regarding environmental education among pre-service and in-service secondary school teachers”. The study focused on the level of environmental knowledge, attitude and its perception among the pre-service and in service secondary school teachers. The researcher found that the level of environmental knowledge was low among pre-service teachers although conceptual knowledge was moderate. He also found the correlation between environmental knowledge and environmental attitude was moderate and the factual knowledge about the environment was low. The in service groups of teachers had a higher level of attitude than that of the pre-service group.

Gopalkrishnan, Sarojini (1992) made a study on the impact of environmental
education on primary school children. Her attempt explored that Environmental Education had impact on the children and the scores of the children of Madras were higher than Coimbatore and Nilgiri areas. The study also revealed the better impact of participatory learning approach.

Sahoo, K.C (1992) carried out a study entitled “A critical study of the conception and perception of environmental education.” The major objective was to revamp the concept of environmental education and to find out the constituents of the environment and their relationship with man. It was found that i) the concept of the environment is broadly divided as natural and manmade types ii) Flora and fauna and the atmospheric hydrosphere and lithosphere constitute the biotic and abiotic environments. iii) The social, economic, political, cultural, aesthetic, historical, geographical, psychological, religious and academic environment constitute the manmade environment iv) The fusion of different types of environment forms the holistic concept of environment v) The relationship between man and environment is symbiotic in nature vi) Environmental education is a broad concept and is perceived as lifelong experiences for all.

Gakhar et.al (1993) focused attention on the Environmental awareness of the school going youths of Urban and Rural Areas in relation to intelligence. He compared the various sub groups viz high intelligent urban and low intelligent urban, high intelligent rural and low intelligent rural boys and girls, urban and rural. He found out that high intelligent youths were having high awareness on environmental pollution in both the samples. It was also found that urban students scored better on Environmental Pollutions Awareness scale as compare to rural group as the t- ratio between the two groups was significant at 0.01 level (t=20.81). The study habits of urban students created an insight
for healthy environment and awareness for environmental pollution. There were significance differences in the awareness of environmental pollution among the boys and girls.

Shyam et al (1997) conducted an investigation on Attitudes towards Environment in relation to Knowledge and Fear Appeals. He made an attempt to find out the relationship of knowledge about environmental issues and fear appeals with attitudes and behaviour. Pearson product was used in data analysis Moment correlation. It was revealed that fear appeals have a significant positive relationship with attitudes and the attitudes had a positive relationship with behaviour. Knowledge about environmental issues was found to have weak negative relationship with behaviour. Implications for environmental awareness and conservation on behavior were discussed.

Darolia (1997) investigated on attitude towards Environmental degradation which entitled “A measure of Attitude towards Environment Degradation”. In order to provide fair assessment of attitude towards environmental degradation a likert-type attitude scale was developed. The final form of the scale contained 30 items, each with five responses. Investigator followed the same test development procedure which used in conventional psychological tests. Total 63 items were subjected to items analysis on a randomly selected group of 209 (Male and Female) adults. Test-retest co-efficient of correlation demonstrated that it was a reliable and valid instrument to measure attitude towards environmental degradation among Indian subjects.

Rabindranadhan (1997) investigated on the scheme of Environment Orientation to the school education in the state of Andhra Pradesh.
The major objectives of the work were-

1. To study the administrative set-up, the financial assistance, rationality of the project.

2. To evaluate the orientation programmes, supervisions.

3. To identify the bottleneck, if any, noticed and to evaluate the material developed under the scheme.

The major findings were-

i. The Government of Andhra Pradesh had established a state cell at SCERT and four other project cells.

ii. The expenditures were according to specific norms, orientation programmes and several workshops were organized.

iii. Arrangements were made for visits to zoos, parks and wildlife sanctuaries.

iv. Handbooks for teachers on environmental education were developed for teachers.

The study expressed satisfaction from the implementation of the programmes.

Bhattacharya (1997) made an investigation entitled “Environmental Awareness among Higher secondary students of Science and Non-Science Streams” with the objectives of finding out the relationship between the higher secondary students of
Varanasi belonging to the Science and Non–Science streams in terms of their environmental awareness, environmental orientation and environmental attitude. The researcher revealed that there was significant relationship between Science and Non–science streams of higher secondary students of Varanasi in terms of their awareness. He also found regarding environmental orientation that there was significant relationship on environmental attitude and there was no significant difference at .01 level (t-value =0.29). It was found that there was significant relationship between male and female groups on their environmental awareness. After comparison females of Science Streams differed significantly in terms of environmental awareness from females of Non-Science streams.

Dubey and Samal (1998) conducted a research on Environmental Awareness among women to find out the influence of the residential background, educational status and their interaction on environmental awareness among women. He found out that the environmental awareness of urban women was significantly higher than that of rural women and he also found that there was significant interaction in between the residential background and educational status on environmental awareness of women.

Pareek and Ashok (1998) carried out a study entitled “Environmental Awareness among Secondary School Students” with the objectives of finding out the level of environmental awareness among secondary school students and comparing environmental awareness among boys and girls. They used descriptive survey method. The study revealed that the level of awareness among secondary school students was satisfactory and there were significant difference between urban and rural students.
The urban students have shown higher cognitive level of awareness. The boys and girls did not differ significantly in their level of environmental awareness.

Synrem (1998) piloted a study entitled “Environmental Awareness and Attitude towards Environmental Education among the college students in greater Shillong” The major findings of the study were i) the level of environmental awareness of the total sample; Boys Girls; Arts and science students studying in Deficit and Ad-hoc collages and of the commerce students and the students studying in private collages were good.

ii) The attitude of the total sample Boys: Girls: Arts: Science and commerce students: and students studying in Deficit, Ad-hoc and private collages towards Environmental Education were found favorable.

iii) The measure of Environmental Awareness was reliable. The reliability coefficient Obtained by Test-retest method was 0.75. It also possessed content validity.

Gakhar and Karla (1998) conducted an investigation entitled “Environmental awareness among the urban and rural Senior Secondary School students In relation to intelligence and socio-economic status.” It was found that the variable of intelligence of the urban and rural samples has significant positive correlation with environmental awareness of Senior Secondary School students. The variable of socio-economic status depicted significant positive correlation in both urban and rural samples. The variables of sex differences did not count on the economic awareness of students in case of both urban samples.

Kumaravel and Das (1999) made an investigation on Environmental knowledge
and Attitude of Higher Secondary school students of Nilgiri Hills. It was found that most of students marked television as the main source of information about environmental information. The newspapers, library, teachers, radio, text books and classmates indicated by few.

Lyndem and Singh (2000) made a research entitled “Environmental Awareness among adult illiterates in Byrnihat, Ri-Bhoi District (Meghalaya).” The people of Birnihat were found aware about the degradation, utilization and conservation of natural resources and about water and air pollution problems. 68.18% of them had a desire to check resource degradation by the involvement of the community. The cultivators were aware of the effects of chemical fertilizers for increasing crop yield. They were also aware of the consequences of slash and burn method of shifting cultivations and wanted to minimize such practice. The people were in favour of small scale and cottage industries for community development.

Pradhan (2002) conducted another investigation entitled “Environmental awareness among Secondary School teachers” with the objective of studying the level of environmental awareness among secondary school teachers. The major findings were:

i. There was low awareness about environmental problems among the teachers working in secondary schools.

ii. There was no significant difference in environmental awareness between social science and language teachers.

iii. Science teachers had significantly higher environmental awareness than the teachers
in language subjects.

iv. There was significant difference between the environmental awareness among teachers of urban and rural schools.

v. Male and female secondary school teachers had shown significant difference in their environmental awareness.

2.2.2 Studies Conducted Abroad

De Groot (1966) looked at the levels of awareness concern and perception of the seriousness of air pollution in Buffalo New York. His study revealed that concern was not related to social characteristics, and the level of exposure was the key available in the determining concern about air pollution, there was a direct relationship between the quality of the ambient air and the perception of the seriousness of air pollution.

Klee (1971) examined the “Awareness of and Attitude towards Sanitary Landfill Sitting”. He focused his attention in whether attitudes towards sanitary landfill varied with distance from the landfill. He found the result in positive.

Sigler (1973) focused his attention in awareness on solid waste as a problem and other environmental problems and the effect of social variables in explaining these differences in attitudes. The major findings of the study were-

i) There was a hierarchy among pollution problems for the people of Illinois, with the pollution of rivers and lakes ranking highest, followed by air, solid waste,
noise and visual pollution.

ii) Younger people felt more serious problem than older persons from the effect of solution.

iii) More highly educated people rated pollution as more serious than less educated people.

iv) The high income group rated pollution more serious than the low income group.

v) There was no relationship between the problem of solid waste and sex and as she expected, the highest correlation was with city size.

vi) The higher the socio-economic status the more the respondents were willing to or currently did participates in recycling operations.

Berger (1973) carried out a study on the relationship between the cognitive achievement in environmental knowledge and attitude towards environment. He found that the trend of the relationship between achievement and attitudes ranged from negative to positive correlation.

Hamann (1973) conducted another study on the development of environmental knowledge and attitude towards environment among pupils. He proved that significant changes can be brought about in pupils’ attitude in desired direction through planned curricular experiences.

Benner (1973) investigated on pupil’s environmental knowledge and attitude towards environment. It was found that no significant gain in effective achievement
can be brought about in pupil’s attitudes in desired direction through planned curricular efforts.

Hartung (1974) reported on the relationship between the cognitive achievement in environmental knowledge and attitudes towards environment. It was found that the trend of the relationship between achievement and attitudes ranged from negative to positive correlation.

There was another study conducted by Bhoi (1977) regarding the relationship between the cognitive achievement in environmental knowledge and attitude towards environment. It was reported that the trend of relationship between attitude and achievement ranged between negative to positive.

There was another more study reported by Brock (1978) on the relationship between the cognitive achievement in environmental knowledge and attitudes towards environment. It was noted that the relationship between achievement and attitude ranged from negative to positive correlation.

Ifeegbesan Ayodeji (2002), carried out one more study about students perceptions of environmental education elements in Nigerian junior secondary school curricula. The major findings of the study were-

i) Majority of students got environmental education mostly from non-formal sources of information—viz, radio, television, newspapers, and magazines, very few learned from workshops and seminars.

ii) Students possessed low cognition about environmental education elements in
their curricula.

iii) There was no significant difference between males and females on environmental education perception.

Students are found to be willing to participate in environmental programmes organized by government and NGOs.

2.3 Review of literature- Curriculum Development

Giri., S.N.(1977) conducted a study entitled “Studies in Comparative Analysis of Works of Curriculum Development Projects in Mathematics”. The major objectives were (i) to study the principles of curriculum development and appraisal of special reference to mathematics (ii) to study the curricular reforms in school mathematics in India,(iii) to collate and analyse the international activities in school mathematics through projects of developed countries, innovations in developing countries and the role of international and national organizations in mathematics education. The major recommendations were (i) There existed curriculum development and appraisal principles well formulated, applied and found practical in school subjects, including mathematics.(ii) Experimentation in innovative programmes should be continued in India on national as well as in state levels.(iii) Various projects in developed countries are enormous and rich in findings, but they were based on widely differing goals.(iv) In India the chief aim was to develop a society which was transforming itself into an industrial and technological society, where mathematical literacy was essential for every child.(v) the developed countries were going in for both sophisticated and utilitarian material in
mathematics, while the developing ones inclusive of India were seeking to adopt the essence of modern thinking of curriculum development which catered to the needs of many.

Childress (1978) studied about the methodologies used in environmental education. It was revealed that small group projects, class discussions and field trips are the strategies used often in the largest percentage of programmes and projects.

Another study conducted by Natarajan, V.(1982) entitled as “A Monograph on Syllabus Analysis and Restructuring.” The major objectives of the study were (i) to identify the inadequacies of a traditional syllabus; (ii) to develop an analysis-proforma for finding out the coefficient of clarity of any syllabus; (iii) to establish the need to analyse and restructure the syllabus (iv) to show the importance of the analysis as a minimal reform programme to be adopted by all universities. The study found out that -(i) the syllabus document as it obtains now in several subjects in various disciplines is inadequate. The inadequacies are in the areas of content, purposes of teaching the content, mode and media of teaching and methods of checking on the learning. (ii) The syllabus must specify in general terms a set of educational objectives, and also in specific terms a set of instructional objectives. Equally important is the specification of the methods and techniques of teaching to be adopted for effective learning and feedback.

(iii) ‘How clearly does the syllabus provide guidance?’ can be determined by the teacher by answering the questions listed in the analysis-proforma.

(iv) Syllabus analysis and restructuring should form a part of the minimal reform programme to be followed by universities.
Pandey, P., (1984) conducted “An Analytical Study and Development of Secondary School Curriculum in Maharashtra”. The main objectives of the study were (i) to find whether the curriculum was rational and/or traditional in scope (ii) to find out the flexibility and utility of curriculum (iii) to find out the richness in terms of new demand (iv) to find out whether the curriculum was dominated by a system of examination and (v) able to fulfill the aims of secondary education (vi) to find out whether the curriculum of Social Studies developed democratic citizenship among the students (vii) to find out whether the curriculum is able to built up personality (viii) to find out whether the curriculum was integrated at all levels of primary, secondary and university. The major findings of the study – (i) Experts, heads of schools, teachers guardians, students commented that the curriculum was rational. (ii) More than two-thirds of the members of all the groups thought that the curriculum was traditional. (iii) Most of the persons from all the groups thought that curriculum was of utility to the students. (iv) Opinions provided that the curriculum had to be flexible. (v) Half of the total persons, mostly agreed that the curriculum was integrated at the primary, secondary and university.

Bhatia, K. I., (1987) conducted a study entitled as “An Evaluation of Sindhi Textbooks for Standards VIII-X Prescribed in Secondary Schools of Maharashtra State” with the objectives of assessing objectively the internal and external characteristics Sindhi textbooks prescribed by Maharashtra Govt. and suggesting improvements in textbooks preparation. The major outcomes of the study were: (i) Content selected for the textbook was helpful in achieving the instructional objectives of the Sindhi language was helpful and helped in achieving the national goals too. (ii) Generally the content of the textbooks was based on psychological principles. (iii) A glossary of new words was
given at the end of every lesson in the textbook. (iv) The number of prose lessons given was less than the number of poem lessons. (v) There was spelling mistakes in the textbooks but errata was not given in the books. (vi) Formats of literature were interesting to the students. (vii) Exercises were not given. (viii) Binding and stitching was not durable (ix) The cover page was not attractive

Mehdi, Beqer. (1988), conducted a study entitled, “Instructional development and social objectives of education at the secondary stage” with the intent to evaluate the secondary school curriculum in the light of the instructional, developmental and social objectives of education. A questionnaire for teachers’ social objectives of secondary level education was used for collection of data of the study. The study found out that (i) The curricula for various subjects were not well balanced and did not help to achieve the various categories of objectives in a fair manner. (ii) The values, attitudes and applied aspects of the curricula need to be emphasized. (iii) Skill-oriented instructional strategies need to be used for attainment of developmental and social objectives. (iv) The evaluation techniques currently in use hinder the attainment of various curricular objectives. (v) Overload and excessive emphasis on the knowledge aspect of the curricula were the two major deficiencies of the existing secondary level curricula

One more study on “Development of curriculum on some dimensions of non – formal education.” conducted by Nath, Kiran (1988). The major objectives of the study were - (i) To develop a need based curriculum for non-formal education for adult females, ii) To devise suitable non– formal methods and materials for trying out the curriculum, iii) To assess the effectiveness of the curriculum, iv) To try out the curriculum over a
specific period, and. v) To examine through case studies the behavioural and attitudinal changes, if any, among the try-out sample. The major findings of the study were-

(i) The percentage of literacy was 42% and 44% in the control and the experimental groups, respectively. (ii) As many 92% in the experimental group and 88% in the control group were married and the average number of children they had was four. (iii) Most members in the sample worked as domestic servants and their work included cleaning, cooking and baby sitting.

(iv) Only 16.1% in the experimental group and 20% in the control group lived in their own dwellings.

(v) The members of the sample felt that they were uniformly neglected by the local authorities and they suffered from frustration and neglect.

(vi) The members of the sample had accepted and got adjusted to living in poor homes and working in limited space.

Ghose, Gauri Rani(1988) conducted a study named as “Know the plants around you” with the objective of developing a handbook of plants, containing stories and myths associated with the plants, information about the usefulness of the plants and the technical, taxonomical aspects of the plants. The report provided a list of 70 common plants with a standardized method of describing them in non – technical and semi – technical language.

The major objectives of the study were -

(i) To prepare a list of plants cited as examples in the biology textbooks prescribed in the schools of Madhya Pradesh (Classes ix to xii) and

(ii) To prepare a flora of Bhopal, describing with illustrations, important examples of plants to be used by the biology teachers as a reference book. The major findings of the study were-

(i) The Latin, English and local names of each of the plants were searched out.

(ii) Classification of the plants according to the widely followed system of classification of Bentham and Hooker was done. This provided an exhaustive list of plants which are often quoted as examples in biology textbooks.

(iii) From the list, 123 most commonly used plants were described, with diagrams to help teachers in their identification.

(iv) The important characteristics of plants, their phenology, points of identification and common names were also given.

(v) Further, a chapter on the ecological characteristics of Bhopal was written on the basis of a study of various ecological factors such as history, geography, vegetational features, climate and topography. This chapter is very useful introduction for learners to the flora of Bhopal

Kahtter, N. (1988) carried out a “Systematic Studies of Fauna in and Around Bhubaneswar for Development of a Museum”. The major objectives of the study
were -

(i) To make the students and teachers curious to know and collect the fauna of their immediate environment, and

(ii) To help those to find out what animals exist in their surrounding and how do these differ in different localities. The identification and classification of different animals collected under the project was done and lists were prepared of identified specimens from different groups.

Rajput, J.S. (1988), dealt with “A Research Study for Identification of Teaching Skills and Training Strategies for Implementing the Environmental Approach at Primary Level”. The major objectives were -

i. To produce integrated material for Environmental Studies I (social studies) and Environmental studies II (science) for classes III to V.

ii. To develop a strategy for teaching Environmental studies I and II in classes III and IV through the environmental approach and to test the relative efficiency of the developed strategies in relation to the methods being used for realization of the objectives of primary education and

iv. To identify teaching skills for the teaching through the environmental approach.

The mean scores of environmental awareness for the experimental and the control groups at pre – test and post – test level indicated that out of 14 comparison groups in seven schools, nine groups had no significant difference, and the remaining five groups had a significant difference as a result of the treatment.
The results of comparisons between the groups and within the groups indicated that out of 14 groups, five groups had no significant differences in both cases.

iii) The significant differences obtained in some groups did not follow any uniform pattern.

Minocha, Manisha (1989) carried out a study entitled “Responses of Primary School teachers to an experiment in curriculum reform: A study of the teacher involved in the integrated Programme”. The major objectives of the study were: (i) To assess teachers’ response towards the integrated programme in terms of receptivity, resistance or indifference, (ii) to examine the relationship between teachers’ responses and their background, and (iii) to investigate the problems faced by teachers while participating in curriculum reform. The major findings of the study were - (i) Teachers were more receptive to the NCERT evaluation scheme and text books than to those of the integrated programme. (ii) Most teachers cited many problems that they faced, the problems related to learner’s parents being the most intense. (iii) The teachers considered the burden problem the least significant.

There was another study on “Curriculum development in academic staff colleges for the orientation of teachers of higher education” carried out by Pal, Rajendra (1989) with the objectives of examining the need for academic orientation of teachers of colleges and universities; and studying the relevance of the existing curriculum of the ASC based on UGC guidelines; and developing an alternative curriculum for the orientation of college/university teachers. The major findings of the study were -

i) Only 36% of the participants felt that there was a need for an orientation programme for college/university teachers.
ii) An overwhelming majority (85%) of the participants felt that such orientation programmes should be arranged immediately after appointment.

iii) Most participants felt that these programmes should be full time and compulsory.

iv) The participants felt that the orientation programmes should have greater emphasis on methods of teaching, maxims and techniques of teaching, teaching aids and models of teaching

v) Curricula of foreign universities, use of available resources for teaching futurology, teaching for fostering secularism and democracy and eradication of drug addiction should also be added as topical dimensions to the orientation programmes.

Senapati, T. (1989) made a study entitled as “Strategies for primary curriculum development in population education for the schools of Puri District”. The major objectives of the study were-

(i) To examine the issues related to formulation of curriculum objectives and curriculum development

(ii) To develop curriculum strategies,

(iii) To study the constraints in curriculum implementation and

(iv) To evolve a proposal pattern of population education for primary schools. Major findings of the study were –

(i) Population education had been introduced in 17.4% of the schools of Puri District in different content areas, using the integrated or subject – centred approach.
(ii) There existed a lack of adequate instructional materials in population education.

(iii) Almost 50% of the teachers were not in favour of providing orientation programmes for population education in spite of the fact that only a very few teachers had been exposed to population education strategies.

(iv) The majority of teachers (86.75%) did not favour special population education courses for primary school children.

(v) Population education courses could be organized through all types of co-curricular activities.

One more study reported by Rane, A.J. (1989), on “Evaluation of the environmental studies approach of Parisar Asha in municipal schools in Greater Bombay”. The major objectives were – (i) to study the organizational structure of Parisar Asha and the mechanism for the implementation of the EVS approach in BMC schools, (ii) to know the perceptions of the officials of the Education Department of BMC, of the EVS approach to primary education and the experiences and opinions of standard, I and standard II teachers regarding the implementation of the EVS approach in BMC schools and to know achievements of standard II students in language, arithmetic and general science.

The major findings were – (i) Parisar Asha has gained momentum within a short period by way of organizing various programmes for implementing the EVS approach to learning in a large number of schools of varied kinds (ii) There is a need to have departmental heads for the three units of training. (iii) The training personnel in charge of training programmes for teaching in the BMC schools were aware of their role and functions.
(iv) The major difficulty experienced by trainers was the teachers’ irregular attendance in the training sessions (v) The monitoring system which was introduced by pariser Asha, helped to get feedback on the functioning of the EVS project. (vi) The officials in the BMC Education Department played a significant role and had a good understanding of the EVS approach. (vii) The headmasters’ involvement in the implementation of the EVS project in BMC Schools was appreciable. (viii) The teachers of standard I played a satisfactory role in implementing the EVS approach. (ix) The teachers of standard II had a favourable opinion about the EVS approach and they made efforts to use this new approach in their classroom along with the traditional method of teaching.

Devi, Susila A. (1990) made a study entitled “A Critical Study of the Environmental Curriculum in Andhra Pradesh.” The major objectives of the study were- (i) To content analyse the environmental studies curricula of Grades I-V in terms of the stated curriculum, (ii) To assess how far the curricula were suited to the needs and interests of the learners, (iii) To assess whether the curricula had any provisions for gifted learners and (iv) To investigate the reactions of science teacher to a need–based curriculum. Survey method was used for collection of the data on a sample of 377 primary school teachers from there geo–politically distinct areas of Andhra Pradesh. The study concluded that (iii) The Environmental studies (EVS) curricula did not cater to the essential needs of learners for whom they were meant. (ii) The EVS curricula did not introduce children to the desired scientific skills and attitudes. (iii) The prescribed curricula did not adequately reflect the stated curriculum objectives. (iv) The EVS curricula in order to be more effective should be comprehensive, sequential and full of experiences that link children’s school-based learning with their environment and the universe.
Vijayakumar, B. (1990) conducted a study entitled “Development of an optimal model of chemistry curricula at collegiate level” with the major focuses of identifying certain models of chemistry curricula; studying the effectiveness of these models and determining the optimally effective models. The study revealed that the inquiry training models were optimally effective in terms of the overall criteria of effectiveness and the advance organiser model was the least effective. The study also revealed that the use of all the seven models had a favorable effect on students’ learning and performance.

Dhand, Harry, (1990) carried out a study named as “Bias in Social Studies textbooks” with the intent to study the extent and nature of bias in the Social Studies textbooks in USA and in Canada based on the findings of studies like the Alberta Education study in 1981 and a similar study conducted in the USA. Major findings of the study were –

(i) The native content in the Alberta Social Studies Learning Resources was adequate, though not abundant, at most grade levels.

(ii) Forty-three per cent of the titles reviewed were found to pose some definite problems.

(iii) When items directly related to native studies were included, 63% of all materials were found either seriously problematic or completely unacceptable.

(iv) Errors of facts and attribution at all grade levels were detected.

(v) Inadequate treatment and development of contextual information existed in the textbooks.

(vi) Inappropriate construction of events in textbooks could lead to misinterpretation.
(vii) Repetition of themes was found at different grades.

(viii) The educational establishment at all levels, including curriculum developers, publishers and writers, often did not know their subject – matter well enough to convey it without a variety of errors.

(ix) The image of the Native American was very similar to the picture depicted in Canada’s social studies textbooks – savage, blood thirsty and primitive.

(x) Most elementary teachers, were inadequately prepared to teach about the Middle East Evidence of bias in the American textbooks about the treatment of many other ethnic groups was observed.

Desai, Murali, (1991) conducted a study entitled “Family dynamics and developmental Programmes: curriculum planning” at Bombay Tata institute of Social Sciences. The major objectives of the study were to (i) Understand family interaction and development in the context of socialization of family norms, family ecology and the age and needs of individual family members, (ii) Plan family- life rights with reference to the family, and skill training for enrichment of family dynamics and strengthening the family's ecological interaction. After the finishing of the study a tentative curriculum was developed based on theories, research and social work practice. Course materials were developed and revised in a workshop with the help of experts and resource persons. The final achievement of the entire effort yielded a six-unit curriculum.

Dhand, Harry and Lyons, John. (1991) carried out a study entitled “An innovative social studies curriculum in Canada: An experiment” with the intent to develop an
innovative Social Studies course for the middle school. Survey method was used for the purpose. The major findings of the study were (i) Social Studies education concentrates largely on citizenship education with special emphasis on ‘Cultural literacy’. (ii) Humanistic methods were increasingly gaining popularity, with ethnic pluralism as an emerging legitimate trend. (iii) Education for global perspective was also becoming a popular goal for many Social Science teachers. (iv) The other two trends in Social Science education were the growing controversy over the usefulness of the textbook and the visible impact of ‘Back to Basics’ movement. For the improvement of new Social Studies (Division III) curriculum, the investigators recommended a set of guidelines (a) Greater emphasis on open ended questions, critical thinking and problem- solving skills ; (b) Emphasis on value analysis leading to value – classification ;(c) Linkages between real life and the Social Studies content; (d) Visible emphasis on concept development using multiple and even unconventional sources ;(e) Inclusion of current events and world affairs as important parts of the Social Studies content; (f) Full participation of teachers in every phase of the curriculum development process.

John, O.T (1991) conducted a study entitled “An Investigation into the Present English curriculum in Polytechnics in Tamil Nadu.” The major objectives were-(i) To identify how far the existing curriculum is useful for technical students in learning the four major language skills, viz listening, speaking, reading and writing; (ii) To design a new curriculum through experimental investigation. The study revealed greater effectiveness of the new curriculum. The study found out that the post-test performance of the experimental group in all the four skills was significantly better than that of the control group.
Masih, Aejaz (1991) carried out a research entitled “A Study of Attitude towards Science, Understanding the Nature of Science and Concept -Attainment in Science of Middle School Students in Madhya Pradesh: A Comparison of Effects of HSTP Curriculum and NCERT (adopted) Curriculum”. The major objectives of the study were (i) To study the differences in attitude towards science, understanding of the nature of science and concept – attainment in science among Grade VII children who had followed the HSTP curriculum or the NCERT (adopted) curriculum, and (ii) To evaluate the HSTP and the NCERT curricula on three criteria, viz. attitude towards science, understanding the nature of science and concept attainment. The major findings of the study were (i) The HSTP students performed better than the NCERT curriculum students on TOSRA (ii) The HSTP students had a significantly more favorable attitude towards scientific enquiry than those who followed the NCERT curriculum (iii) Both groups lacked a sound understanding of the nature of science.

Mohan, S. and Krishnaraj, R. (1991) conducted a research entitled “A Study of Sex Stereotyping in the Primary School Curriculum and its effect on Self Concept among Female Children” The major objectives of the study were (i) To identify the male centred and the female-centred content in the primary school textbooks of Tamil, English, environmental sciences, environmental social studies, community living, fine arts and mathematics, (ii) To identify the influence of sex –stereotyped content on the self concept of female learners, (iii) To study the attitude of teachers and parents towards sex – stereotyping in primary schools textbooks and (iv) To suggest strategies for developing a positive self-concept among primary school girls. The study revealed that - (i) There were significant differences in textbooks in terms of male-centred and female -centred
content. (ii) Both teachers and parents felt that primary school textbooks were sex-stereotyped. (iii) The family, school and social environment factors played a dominant role in influencing the self-concept of female learners. (iv) There were no significant differences in terms of male-centred and female-centred poems and pictures in primary level textbooks.

One more study on "An investigation into curriculum policies, planning and their implementation at the primary school level in Delhi during 1966–1976." was conducted by Prakash, Vidya (1991), with the objective of investigating into curriculum policies, planning and implementation at the primary school level in Delhi during 1966-76. The study revealed a depressing scenario in MCD schools during the period 1966–76, which was characterized by lack of teacher initiative, sub-standard pre-service and in-service training of teachers, political inference in schools, ineffective school supervision inadequate finances, the burden of heavy syllabi and defective teaching of science. Besides, the teachers felt that the policy of recruiting Education officers from outside was a defective policy.

Sachan, R. S. (1991) carried out a study entitled “Validity Study of Bloom’s Taxonomy of Educational Objectives in the Cognitive Domain”. The major objectives of the study were—

(i) To examine whether the six tier taxonomy of educational objective (K-E) exists indeed in the teaching of science.

ii) To Examine whether the three-tier taxonomy comprising knowledge, understanding and application adopted by the NCERT is adequate.
iii) To examine whether there is a positive relationship between process responses as identified by students and their product responses, and

iv) To assess whether objective-based teaching yields better results for developing the category systems of the cognitive domain. The major findings of the study were

-(i) Out of the three postulates of Bloom’s taxonomy, the one related to cognitive behaviour as learned behaviour was clearly demonstrated. (ii) A four—tier hierarchy comprising the sequence ‘knowledge’, ‘Comprehension’, ‘Application’ and ‘Evaluation’ was observed increased of the six—tier hierarchy ‘K’ through ‘E’ (iii) Learning was cumulative through the order of cumulative learning remained unsubstantiated.

(iv) Evaluation represented neither as a separate category nor as a part of application, had its independent existence making it the apex unit in the four—tier taxonomy.

(v) Objective based instructional materials and objective—centred teaching had a positive impact on student learning as regards ‘Comprehension’ and ‘Application’ objectives.

(vi) Process response and product response were unrelated.

Shukal, Nandita (1991) carried out a study entitled “A curricular design for value—oriented secondary school teacher education in Punjab” with the objectives of identifying content areas in existing B.Ed. courses to provide an integrated value—education curriculum and preparing and assessing the effectiveness of a value-oriented curriculum designed for the B.Ed. programme.
The study revealed that -

1. The existing courses for the B.Ed programme in various colleges of education in Punjab had ample scope in terms of integrating values with various teaching subjects as well as activities.

2. Various approaches, the chief among these being the ‘clarifying approach’ the ‘indirect contrived approach’, and the integration through subjects approach’, could be used for providing integrated value – orientation through the existing curricula.

3. Various types of activities, viz intake activities, organizational activities, demonstrative activities and expressive activities could be used to support integrated value – orientation among the students.

4. A variety of teaching materials, eg. textbooks, journals, magazines, newspapers, photograph sets, slides, cassettes, video and T.V. programmes, films etc could be used for the integrated value – orientation of teacher – trainees.

5. Teacher’s value orientation was an essential input for the proper value – orientation of students.

6. The modules prepared for value – orientation of teacher – trainees were found to be quite effective [JN 0305].

Kidwai, Zeenat (1991) conducted a study entitled “Development of an Environmentally Oriented Curriculum in Geography at Secondary Stage” to find
out the problem of environmental education for protection and conservation of the environment. Development of the Geography Curriculum has been attempted on the ecosystem concept, dividing the environmental components into lithosphere and biota (including the human population). The Researcher prescribed a framework for an environmentally oriented geography curriculum at secondary stage.

Desai, A.A. (1992) conducted a critical Study of the spiral arrangement of Sub-units in the Mathematics textbooks of Standards I to III; Prescribed by; Maharashtra State Bureau of Textbooks with the objectives of assessing the suitability of the spiral arrangement of sub-units in the mathematics textbooks for Grades I to III. The survey method was used for carrying out this study. The major findings of the study were - (i) spiral arrangement of sub-units in mathematics textbooks for Grades I - III was found to be in consonance with the principles of child psychology. (ii) The arrangement of the sub-units in these textbooks conformed to the widely accepted educational principle of ‘simple to difficult’. (iii) The spiral arrangement of sub-units provided for automatic drill in mathematical operations leading to firm fixation of basic mathematical concepts. (iv) The spiral arrangement of sub-units was found to be more time consuming and promoted inattention among the above-average intelligent who found repetition quite unattractive as well as boring.

Deshpande, A.R. (1992) conducted a study entitled “An enquiry into the development of curriculum in Mathematics at the secondary stage of education in Maharashtra State”. The main objectives of the study were-(i) To assess how far the secondary level Mathematics curriculum is of practical utility for students, (ii) To find out whether the
curriculum is rich enough to meet the new demands and fulfill the aims of secondary education, (iii) To assess how far the secondary-level Mathematics curriculum is based on psychological considerations, and (iv) To examine how well the secondary-level Mathematics curriculum articulates with the primary and secondary-level Mathematics curricula. It was essentially a survey-based study. The major findings of the study were (i) The secondary-level Mathematics curriculum help achieve various cognitive objectives, skills and appreciation. The Mathematics curriculum enabled students to develop interest in problem-solving and to express themselves in a precise and concise manner but it did not enabled them to read Mathematics literature. (ii) The Mathematics curriculum helped students improve their thought process and discrimination between facts and opinions, and to appreciate the aesthetic value of Mathematics. (iii) The ‘topical method’ and the Dalton plan were only partially used in the organization of the Mathematics curriculum. (iv) Inadequate time allotted per week and lack of proper suggestions about reference materials for further study made the Mathematics curriculum less effective.

Khurana, G.S and Singh, R. (1992), conducted a study entitled “An analysis of the existing post graduate course curriculum of extension education at various agricultural universities in India”. The major objectives were-(i) To know the total number of Ph.D courses in extension education in different areas in the various agricultural universities. (ii) To examine the total number of credit-hours of major and minor and supporting courses and the research work required for the Ph.D programme, (iii) To identify different areas in the discipline of extension education for offering Ph. D courses, and (iv) To identify the various learning experiences provided to the Ph.D scholars of extension
education. The major findings of the study were (i) There existed diversity in the number of courses in each area of extension education among agricultural universities and research institutes. (ii) The highest number of credit-hours for major, minor and supporting courses and for research work in some universities were 32, 16, 10 and 54 respectively, while the lowest were 12, 6, 3 and 30 respectively. (iii) The PhD courses were different from various areas of extension education. (iv) The Ph.D. curricula of various universities and research institutes had provision for a variety of learning experiences for PhD scholars.

31. Mlanga, Andrew Titus Omolo, (1992) conducted a study entitled “Perceptions of high school teachers, students, parents and educational administrators regarding the principles, practices and procedure of curriculum development programmes for high schools in Nairobi, Kenya”. The major objectives of the study were- (i) To determine how teachers, students, parents and educational administrators perceive curriculum development programmes in Kenya, (ii) to establish how position-occupant groups perceive the principles, practices and procedures of the curriculum development programmes (iii) To determine whether there were divergent perceptions of the leadership role of the administrators in curriculum development and (iv) to provide suggestions for bringing about an improvement in the existing curriculum development programmes. Major findings of the study were (i) According to the perceptions of the various interest groups, the curriculum should be an organized whole of learning experiences, both within as well as outside the school (ii) The majority of the respondents supported the assumptions about the principles and practices of curriculum development. (iii) The majority of the respondents agreed that curriculum evaluation should
determine the extent to which educational objectives were being attained by the schools
(iv) It was suggested that teachers should participate in regular evaluation of the con-
structed curriculum and its implementation (v) It was proposed that the Government of
Kenya should set up a National Council for Curriculum Development.

A study entitled as “Structural Influence on Restructuring of Curriculum” was
conducted by Rao, Sudha K. (1992). The major objectives of the study were –

i) To identify the structural factors that influences the process of restructuring curriculum.

ii) To analyse the relationship between structural factors and curriculum changes, and to
suggest planning and managerial strategies for restructuring curriculum at the
undergraduate level. The major findings of the study were –

i) The larger the size of the institution and the greater the discipline within the
department, the easier it was to introduce a change in the curriculum.

ii) Curriculum change was easier to introduce in a private organisation than in a
government or a constituent institution.

iii) Institutions in the vicinity of major institutions were curriculum have already been
restructured found it easier to introduce curriculum change.

iv) Institutions with innovator status found it easier to bring about change.

v) It was relatively easier was to introduce curriculum change where the faculty
was comparatively more powerful than the administration.

vi) The larger the number of people involved in introducing curriculum change, the
easier was its achievement.

vii) The faculty support for curriculum change depends on the discipline and the level of teaching; the science faculty, for instance, was hardly interested in curriculum change in science – related subjects that were meant for undergraduate arts student

One more study was conducted by Yadav, A.J. (1992) entitled as "A study of hotel workers in Kolhapur District with a view to preparing a curriculum for their education". The major objectives of the study were–

(i) The study the working conditions of hotel workers in Kolhapur District.

(ii) To develop a need – based curriculum for hotel workers and

(iii) To examine the impact of a training programme on hotel workers. The major findings were –

(i) The target group of hotel workers in the age group 16-30 years needs education; their average education was up to Grade V (ii) Almost all hotel workers smoke, chew tobacco and consume liquor; they took their job due to poverty and low education. (iii) Workers in A grade hotels had proper personal hygiene and health. (iv) As many as 68.3% hotel worker were paid less than Rs. 200 per month.