XI. SUMMARY CONCLUSIONS AND RECOMMENDATIONS

A major contemporary concern is the well being of future generations. This has manifested in an awakening of interest in the very young child the world over. It is now recognised that early childhood is a period of crucial importance and patterns of learning and behaviour are established during this period which influence the nature of all subsequent learning. These years are all the more significant for children who deviate from the norm in any manner, be it physically, mentally, behaviourally, emotionally, developmentally or in terms of learning characteristics (Lerner et al., 1987).

The fact that young children respond to initial learning experience with zeal and enthusiasm provides the logic for early intervention programmes, particularly for children who exhibit signs of abnormal or subnormal development. The intervention is simply an action in the form of special education with a view to direct or influence the child's behaviour. The efficacy of early intervention programmes on normal, at-risk, handicapped and
learning disabled children has been well established by extensive research.

In India, the interest in spread of literacy and more so of the need for early childhood education is a post-independence phenomenon. There has been massive expansion of educational facilities in the country, but the disadvantaged and disabled children have not been benefitted to the extent expected. This is mainly due to constraint of resources as also lack of systematic educational programmes. The children living in rural areas, urban slums and those belonging to SES families have not been adequately covered.

The studies on the relationship between socio-economic status and child's development as well as achievement have established that lower socio-economic status children are less mature, both in social and cognitive domains, and there are adverse effects of environmental and parental care deprivations on the children. Most of the lower socio-economic status children show developmental delays, and in some cases, signs of mild to moderate
mental retardation too. Research findings have also indicated that appropriate early intervention programmes are needed for prevention of disabilities among younger children and that, the sooner the intervention is given, the better and more enduring are the effects.

In the recent past, in response to the felt needs, some institutions have come up with a focus on preschool education. These institutions are nursery schools, 'Anganwadis', and 'Balwadis'. While the former are run by private bodies, the latter two are run either by governmental agencies or by Child Welfare Councils supported by government. These institutions have some shortcomings both with regard to their coverage of the child population in the country as also curriculum content of the educational programmes followed by them.

The nursery schools are expensive and cater only to upper strata of society. Their functioning is more in the nature of preparatory institutions, facilitating access to regular schools. Hence, their curriculum content is not based on psychological
needs but is generally framed keeping in view the child's entry into the next school which per force overburdens him. In the case of 'Anganwadis' and 'Balwadis', the preschool education is non-formal in nature and has no curriculum content. The children are thus not exposed to any process of educational development.

As regards the integration of handicapped and non-handicapped children, an ever growing body of research has proved that integration is easier with younger children (Guralnick, 1976) as they are less bothered by individual differences, and moreover, with integration of handicapped and non-handicapped children in regular programmes, the handicapped children benefit academically, socially and behaviourally by interacting with their normal peers.

The National Policy on Education formulated by the government of India in 1986 has recognised the educational needs of children with handicaps. It states, "wherever it is feasible, the education of children with mild handicaps will be common with that of others". The advocated practice of integrating
handicapped and non-handicapped children, particularly at the preschool level, is in line with the results of contemporary research. It has been realised that "the very concept of labelling a child and placing him in a setting apart from his peers tends to set up psychological and sociological barriers which make it difficult for him to adjust to or cope up with regular society at a later date" (Hallahan & Kauffman, 1988). It is also accepted that the integration at the preschool level of young children is easier than with those in upper grades, as young children are less perturbed by individual differences (Guralnick, 1976).

The present trends of early intervention programmes are characterised by a positive attitude towards the disabled children, with stress on deinstitutionalization and encouragement of parental and community participation. But, there is lack of commonality among the findings of studies on the issue of parental involvement within the child's education. However, there is more research evidence of positive outcomes as a result of parental involvement.
The other salient features of early intervention programmes are adoption of learning curriculums and designing of services which are home/centre based both for the child and the family, for example, the Portage Training (Kohli, 1989). There is also a consensus amongst most educators, specialists in health services and social workers that to optimise the potential of disadvantaged children, an integrated programme is required that responds to both, their biological and psychological needs.

The selection of a suitable curriculum model is the crux of the problem. While some researchers favour individualized instruction plan for dealing with diverse group of children, others favour small group, integrated academic instruction as feasible and beneficial in integrated classroom. Because of diversity of opinions, generalization of findings has become rather difficult. However, in the selection of the curriculum for the present intervention the author followed the guidelines set by McDonnel and Hardman (1988) in which they have given the characteristics of exemplary programmes as those which provide integrated services, are comprehensive,
Portage Classroom Curriculum, developed in U.S.A. in 1987, has been successfully field tested in early childhood special education classes, day care centres and at-risk programmes. It aims at teaching developmental skills to children that are essential to placement and maintenance in a regular kindergarten classroom. The instruction is given through Multi-Level Teaching which integrates skills across different developmental domains into a single activity. Programming for the integration of skills within activities allows teachers to address the unique needs of children with one activity.

In a resource constraint economy like that of India, there is imperative need for a cost-effective, integrated and result oriented educational programme which could be adopted with minimum change in the existing infrastructure. The integrated approach calls for research covering all domains of development. This field has, however, remained somewhat unexplored in our country. The present
investigation, therefore, explores the efficacy of early intervention programme through the Portage Classroom Curriculum for preschool children in regular and integrated classroom settings in the Indian context. This intervention through the medium of specially designed instruction encompasses all round development of children with varying levels of intelligence.

Development is not just confined to the intellectual level, but is rather a multi-faceted process that involves a physical or motor dimension as well. All these parts combine to make a whole and any developmental irregularity along one dimension impedes the development on other dimensions. A harmonious or all round development of personality according to the Indian philosophy consists of development of mind, body and spirit simultaneously. The combination of parts to whole and whole to part and their working in harmony is the essence of integrated development (Seth, 1989).

Research has established that child development is an extremely complex and multi-variate situation
wherein the relevant aspects are so inextricably intertwined that it becomes almost impossible to separate and identify them, moreover these aspects don’t operate in a linear sequence, but in clusters of concurrent interaction (Prakasha, 1983a; Prakasha, 1983b).

The knowledge of basic relational concepts is very important in the all round development of a child. As a young child acquires language, basic concepts help him to narrate his surroundings and experiences. The knowledge of basic concepts is also necessary for the development of child’s thinking and problem solving skills. Research on the acquisition of relational concepts suggests that concepts are learned in developmental stages and over a time period, so testing a child’s knowledge of basic concepts allows caregivers/teachers to detect possible delays in the development. In this regard evaluating techniques were employed and the investigator devised games, concept cards, puppets and many other aids for remediation on basic relational concepts.

The teacher is the key to the success of any educational programme, particularly for younger
children for whom within the school environment nothing is as important as their teacher. Most researchers seem to agree on the issue of preservice and in-service training of teachers for effective interaction with children, particularly with children exhibiting diverse characteristics in a single classroom. For achieving success in the blended classroom, there is no substitute for a well equipped teacher.

With a view of orienting the teachers and _Anganwadi Workers_ towards proper implementation of the curriculum, and for dealing effectively in an integrated classroom setting, the investigator developed a competency based instructional module for the caregivers.

Early Childhood Special Education draws heavily from the three separate fields of education namely, (a) Special Education, (b) Early Childhood Education, and (c) Compensatory Education (which paved the path for early education movement). In India, this field is still in its infancy and we are largely incorporating the research and programmes of the
the following three phases: (1) pretest, (2) intervention, and (3) posttest.

In the first phase all children in the two models, namely EG1 and EG2 were administered WPPSI, PCCh, and BTBC-PV. The results obtained on the above mentioned tools provided a baseline for implementing the integrated intervention programme.

The second phase of the investigation was the phase of programme implementation. This phase, that is the intervention period lasted for 3 1/2 months during which 50 activities selected from the Portage Classroom Curriculum (adapted according to Indian conditions by the investigator) were implemented through Multi-Level Teaching technique. Simultaneously, the remedial activities were carried out for enhancement of children’s knowledge of basic relational concepts.

In the last phase of the investigation, that is after the intervention period, children were assessed again on all the pretest tools and on the basis of gain differentials between the pre and posttest, the
effectiveness of the integrated intervention programme was established which has been dealt with in details in Chapters VII to X.

**Hypotheses**

On the basis of close perusal of related literature and objectives of the present study, the following hypotheses were formulated:

1. There would be significant differences in the IQs of children before and after intervention.

2. An increase in the knowledge of basic relational concepts would be noticed as a result of intervention.

3. The intervention programme would result in enhancement of all round development of children in terms of gains in skills.

4. There would be differentials in the effectiveness of early intervention for children belonging to different levels of intelligence.
5. Multi-Level Teaching would prove to be an effective technique for integrated intervention at the preschool level.

6. Parental involvement would have a positive effect on enhancement of all round development of children.

7. There may be pseudo-developmental delays due to environmental deprivations especially in children belonging to lower socio-economic strata of society.

8. Different aspects of development would be interrelated.

9. Language and cognitive development would be related to all round development.

Sample

The final sample consisted of 173 children, 90 belonging to SES_H, attending a nursery school,
(regular classroom) and 83 from SESL attending AW centres run by ICDS (Integrated setting). The children selected fulfilled the following criteria of eligibility:

1. They fell in the age range of 3 3/4 years to 5 years.

2. They were attending a nursery school or a day care centre to receive education in some form, that is, formal or non-formal.

3. They belonged to either high or low socio-economic strata of society.

4. They were assessed either Mental Defective, Borderline, Dull Normal, Average, Bright Normal, Superior, or Very Superior on the intelligence scale (WPPSI).

5. Some children were assessed as developmentally delayed on the developmental checklist.
Tools Used

The following tools were used in this investigation:

(1) Wechsler Preschool and Primary Scale of Intelligence (WPPSI), by Wechsler (1967).

(2) Boehm Test of Basic Concepts - Preschool Version (BTBC-PV), by Boehm (1986).

(3) Portage Classroom Curriculum developed by Brinckerhoff and others (1987) and adapted according to Indian conditions by the present investigator under the guidance of her research guide.

(4) Competency based instructional module for care givers (teachers/Anganwadi workers), developed by the investigator (1991).

(5) Questionnaires for parents and teachers, developed by the investigator (1991).

The Portage developmental checklist was used to
assess the developmental standing of each child. Accordingly, 50 activities were chosen from the curriculum for the intervention purpose. The results on BTBC-PV, provided useful guidelines for planning remediation on concept development. WPPSI was administered as a pre and posttest tool to ascertain the extent to which the developmental enhancement contributed to increases in IQ. Beside these tools, the investigator also developed a competency based training module for care givers and questionnaires for teachers and parents. (For details refer to chapter IV and Appendices 3,4 & 5). 

**Procedure**

Prior to implementing the intervention programme the consent of school, ICDS authorities, and parents was obtained. The investigator had developed a competency based instructional module for teachers and AWWs. In order to orient the caregivers to the intervention programme and to equip them with competencies necessary for dealing effectively in integrated class settings, one week training was given to teachers and AWWs with the help of the
instructional module. On the basis of results obtained on PCCh, baselines for children’s developmental functioning were established and accordingly activities from PCC were selected for intervention purposes. Similarly, on the basis of results on BTBC-PV lists of children who were weak on each concept were made which were used as ready reckoners by teachers and AWVs while providing remediation on concept development. For providing adequate reinforcement each concept was introduced in different situations.

Keeping the child’s psychology in consideration animated characters were created and introduced through the concept cards. Attractive animated concept cards were made with a tiger as the central character for ensuring greater association between the children and the animated character. Hand puppets and other aids made out of cost effective and waste materials were used for intervention on concepts. Similarly, two sets of aids were made for carrying out each activity of PCC. On the basis of pretest results heterogeneous groups comprising 6 to 8 children with varying abilities were formed.
Different coloured tags were used to represent different developmental domains which were pinned on the shirts of children who were weak in a particular domain. On an average 4 activities from PCC, and 2 concepts from BTBC-PV were planned per week for intervention. At the end of intervention period posttest was administered to all the children in models EG1 and EG2.

Results

A brief description of the results obtained is as follows:

(a) A significant increase in the all round development, concept development and IQ levels of children as a result of intervention, was observed in both the models (for details refer to Tables 7.1 to 7.16 and Figures 7.1.1 to 7.10.1). The paired t-test results employed for the model EG1 showed that the differences between the pre and posttest means of IQ, developmental skills, and concept development having values as 13.9889, 68.2667, and 16.1333 respectively were highly significant at .01 level of confidence.
Similarly, for model EG2 the differences between the pre and posttest means of IQ, developmental skills, and concept development having values as 14.0843, 60.5301, and 7.9036 respectively were highly significant at .01 level of confidence. This clearly proved that the Portage Classroom Curriculum is a desirable curriculum for regular and integrated classes at the preschool level.

(b) Environmental deprivation was the main cause of developmental retardation in most of the children belonging to the disadvantaged group (EG2). 27 children had pseudo developmental delays which were overcome as a result of intervention (for details refer to Table 9.3).

(c) The IQ (WPPSI), developmental skills (PCCh), and concept mastery (BTBC-PV) were highly correlated (refer Tables 10.5 to 10.8). The value of coefficient of correlation between WPPSI and PCCh was .917 and .895 for the pre and posttest respectively for the model EG1, which is highly significant at .01 level of confidence. Similarly, for model EG2 the value of coefficient of correlation between WPPSI and
PCCh was .792 and .905 for the pre and posttest respectively, which is highly significant at .01 level of confidence.

The value of coefficient of correlation between PCCh and BTBC-PV was .230 and .280 for the pre and posttest respectively for the model EG1, the pretest value is significant at .05 level of confidence and the posttest value is significant at .01 level of confidence. Similarly, for model EG2 the value of coefficient of correlation between PCCh and BTBC-PV was .478 and .669 for the pre and posttest respectively, which is significant at .01 level of confidence.

Inter correlation among the domains of PCCh namely, ‘Self Help’, ‘Motor’, ‘Cognition’, ‘Social Emotional’, and ‘Communication’ for models EG1 and EG2 were significant at .01 level of confidence (refer Tables 10.1 to 10.4).

(d) The effectiveness of the intervention programme was different for children belonging to different levels of intelligence namely, ‘Mental
Defective', 'Dull Normal', 'Average', 'Bright Normal', 'Superior', and 'Very Superior' (for details refer to Tables 8.1 to 8.8 and Figures 8.1.1 to 8.4.1).

(e) Positive outcomes of parental involvement were established on the basis of the posttest results on PCCh. Parents were periodically sent activity letters which aided them in reinforcing at home certain behaviours and skills that their child had newly acquired. This helped their children in practicing and thus acquiring certain skills at a fast pace. Owing to various causes like illiteracy, ignorance, lack of interest, and non availability of parents, the investigator could not ensure adequate involvement of parents in EG2 (refer to Table 9.2). With the result, the skill gains made by their children were less as compared to the gains made by the children in other model.

(f) The positive responses on the questionnaire given to the teachers and AWWs at the end of the intervention programme indicated that they were satisfied with the contents covered by the units of
the curriculum and found Multi-Level Teaching a very effective technique for instructional purposes at the preschool level (refer to Table 9.1).

**Conclusions**

The present investigation examined the effectiveness of integrated intervention in the context of early childhood education and special education. The inferences drawn from the obtained results allow the investigator to draw certain conclusions and make recommendations about early intervention programmes in integrated settings and regular classrooms.

1. From the results obtained on this investigation it can be inferred that integration of mildly handicapped children with the non-handicapped children at the preschool stage yields positive results. Therefore, mildly handicapped children must be integrated with their normal counterparts at this stage. The integration move suits our economy, and is beneficial for the children and the society at large.
2. Due to environmental deprivations, many children belonging to low socio-economic status families become developmentally delayed and mentally retarded.

3. There is a dire necessity of early intervention programmes for DD and MR children belonging to SES_L. These children benefit substantially from early intervention. It is beneficial for normal children also, as it helps them overcome their overall developmental deficits.

4. The children belonging to disadvantaged families (SES_L) are better in self help and large motor skills but lag in cognitive, and fine motor skills.

5. Parental involvement in child’s all round development and education has a positive effect on the child’s development.

6. The Portage Classroom Curriculum is a desirable model for enhancing the all round development of children who belong to different
levels of intelligence, and different socio-economic status families.

**Suggestions for further Research Work**

1. This investigation included only developmentally delayed and mildly mentally retarded children in the integrated classroom setting. Studies can also be conducted which include mild to moderate physical handicaps as well.

2. Curriculums like the Portage Classroom Curriculum that cater to the needs of diverse groups of children should be developed in India also.

3. The age range chosen for this study was 3 3/4 to 5 years. It would be beneficial to expand the age range from 2 to 6 years.

4. In the present investigation, only preschool children were given remediation on basic relational concepts. It would be quite fruitful if kindergarten children are also provided remediation on basic concepts which is a prerequisite for language
readiness and understanding classroom instructions.

5. The results obtained from this investigation have shown that developmental gains and concepts mastery leads to increase in IQs. To confirm these results, this study should be replicated.

**General Suggestions**

1. There is no provision for written and creative work in the ICDS centres due to which most of the children in the age range of 3 3/4 to 5 years lag behind in fine motor skills. The Government should make provisions for providing materials for writing, sketching, painting, and paper cutting in the ICDS centres. Some urgent steps should be taken in this direction.

2. It is of utmost importance that efforts should be directed towards improving the current services being provided to preschool normal as well as handicapped children. The various professionals and government officials should work together for improving the quality of integrated programmes that
assist in maximizing the potentials of the normal and handicapped children.

3. The AWWs in the ICDS centres are underpaid and have an excessive workload. Most of their time is spent in maintaining health and immunization records of children (0-6 years of age), pregnant ladies enrolled in their respective centres, and maintaining stock and booty records. This leaves them with hardly any time to instruct the children. The Government should increase the work force of AWWs per centre and some steps should be taken to increase the pay scales of AWWs. A dissatisfied and frustrated worker can not give an effective output. If children, who are the future of their nation, are to be helped, then it becomes imperative that their caregivers are satisfied with their jobs and are willing to help them in all possible ways.

4. It is very essential that preschool children should be periodically administered standardized developmental checklists, and their weaknesses and strengths identified in time so that timely intervention can be provided to help them overcome
their developmental deficits.

5. In order to maintain the developmental continuity, some intervention should be provided to school going children also.

Integration in education implies focussing on differences or deficits. This system emphasizes the humanness of all. At present it is envisioned as a stage in the evolution of education whereby all children are educated according to their individual needs. To make this system work, we cannot be over ambitious or over zealous in the very beginning as systems and attitudes change gradually. Careful preparation is required for bringing about changes in the current system while working within it, and always keeping in view the fact that the key to long-term success and change is through meticulous planning.
An eye opener — Need of the hour

In the low socio-economic group, to question no.5 of the subtest information on WPPSI, "What comes in a bottle?," the spontaneous answer from majority of children was "Country liquor". Though the answer gets full credit, it should be an eye opener and a matter of concern for the policy makers, educationists and social organizations of our society.