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Research in Early Childhood Education

A TREND REPORT

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INTRODUCTION

In our country organized education of the child below primary school age did not, untill very recently, receive the attention it deserved.

The concept of infant schools was introduced in India by the British missionaries in the latter part of the 18th century when such schools were set up in the western and southern regions of India. Some institutions for training teachers for infant schools were also started by these missionaries.

Mahatma Gandhi's scheme for pre-basic education formulated in the late thirties was the first indigenous scheme for education of very young children and several educational reformers and social workers endeavoured to put it into action at the field level. Jugatrambhai Dave, Nanabhai Bhatt and Tarabai Modak were some of the early pioneers of the early childhood education movement in our country. They were all inspired by the down-to-earth, grassroots level approach of Mahatma Gandhi's pre-basic-education scheme.

The most dominant influence that can be felt even today, as one surveys the contemporary Indian education scene, particularly with reference to early childhood education, is that of Madam Maria Montessori who came to India in 1939 as a refugee from the Fascist regime in Italy. Annie Besant, a Theosophist, was powerfully influenced by Madam Montessori and she and Rukmini Arundale helped Madam Montessori set up a teacher training centre at Adyar, near Madras. Many early childhood educators received their training under Madam Montessori at Adyar and then went out to various parts of the country and spread the movement for early childhood education. Gijubhai Badheka and Tarabai Modak were among the early educators who, inspired by Madam Montessori, adapted her methods to suit Indian conditions. They set up the Nutan Bal Shikshan Sangh in 1925. A training centre at Bhavnagar Dakshinamoorti was started by Gijubhai and, later, one was set up by Tarabai at Dadar, Bombay. The movement took strong roots in the Suarashtra region of the then Province, and also in Madhya Bharat and the Vidarbha region. The early pioneers attempted to develop an indigenous educational system, imbibing the basic Gandhian philosophy and integrating it with the educational principles and scientific pedagogy of Madam Montessori.

During the pre-independence period all these efforts were confined to the voluntary sector and received no support from the government. It was for the first time that, in 1944, a government document, popularly known as the Sargent Committee Report, emphasized the importance of pre-primary education and linked it with the child's educational performance in primary school. The report viewed pre-primary education as a necessary adjunct to primary education.

During the post-independence period, the movement for the education of young children drew great support from the private and voluntary sectors. Apart from its educational values, the 'welfare' dimension also gained recognition. The country's Five Year Na-

tional Plans, while paying lip service to the need and importance of early childhood education suggested no definite plan or policy in this behalf nor did it make substantial allocations for promoting this field. Many committees and commissions were appointed, both in the education and social welfare sectors, but no systematic efforts were made for the implementation of the recommendations of these committees.

It was in the Fifth Five Year Plan that the provision of an integrated package of essential services to young children and pregnant and lacting mothers was conceived and the integrated Child Development Scheme (ICDS) was launched in 1975 with 66 pilot projects. The ICDS is broadly conceived as an integrated intervention strategy for the holistic development of the young child in the wider context of the family and the larger social group in which the child lives. The integrated package of services, of which non-formal pre-school education is a component, is delivered through the anganwadi (courtyard school) by an anganwadi worker who is picked from the community and given a three-month training. ICDS is currently the biggest programme of early childhood development. It has demonstrated that even a modest investment in child development goes a long way in developing human resources.

The National Policy on Education (1986) has given a great deal of importance to early childhood care and education (ECCE). 'It views ECCE as an important input in the strategy of human resource development, as a feeder and support programme for primary education and as a support service for working women of the disadvantaged section of society'. (*National Policy on Education*, 1986, p. 2).

In the process of planning and formulating policies related to ECCE, one major drawback that one faces is the lack of a well developed body of research in this field. It is only in the last two decades that researchers from various disciplines have become interested in studying the young child's growth, development and learning process. Unlike in the West, where the young child has attracted the attention of anthropologists, psychologists, educators, nutritionists, linguists, etc. who have studied the child from their respective perspectives, in India the young child as a subject of research has been neglected. The little research that is available today is scattered, piecemeal and in small watertight compartments.

This would become evident as one reviews the researches conducted in the field over the last 30 to 35 years.

COVERAGE, ORGANIZATION AND FRAMEWORK

The main purpose of this paper is to trace the trend of research in early childhood education (ECE) by reviewing researches done in the field. This trend in research would naturally reflect the trend in the field of ECE itself. This report will therefore both review researches as well as reflect the overall trends in the practice of early childhood education as a whole. The term 'early childhood education' is comprehensive and refers to the education of children between the ages of 2 and 8 years. It focuses upon their developmental processes and educational procedures suited to them. In fact it would not be inappropriate to state that early childhood education encompasses all aspects related to or affecting a child and his/her development and education viewed in a very broad perspective. This review of early childhood education therefore includes what happens in pre-primary schools, day care centres, intervention programmes of a more broad-based nature, parent education and training of personnel.

It should be pointed out at this juncture that some of the researches included in this review may have been reported earlier either in professional journals or educational surveys. The reason for including these again in this report, even at the risk of repetition is that, for the first time, a trend report is being prepared in the area of early childhood education. The studies that have appeared elsewhere, earlier, were included under such general or broad categories as 'history of education' or 'guidance and counselling'. The present authors feel that these studies rightfully belong to the field of early childhood education and must be reported together under this umbrella. It is only through such an approach that the emerging trends in early childhood education can be delineated and understood.

Since early childhood education has a wide scope, to get some meaningful picture out of this corpus of studies it became necessary to impose some kind of organization on it without leaving out a single study in the field. It was decided to use age as the sole criterion for selection so that all researches that focused on children between the ages of 2 and 6 years were covered in this review report.

The researches on early childhood education that formed the corpus for our review included mainly doctoral researches and reports of research projects completed by various departments/institutions of education. The review therefore may be biased towards or

delimited to the educational aspects of early childhood, leaving out some other relevant dimensions (such as health and nutritional status of a child and its relation to his/her cognitive development).

It was also decided not to restrict the review to data based researches but to include some relevant theory-based papers. This was done mainly because, in some specific dimensions of early childhood education, there were a very limited number of studies. The reporting of theoretical papers has been done merely to enable the authors to reflect the overall trends in the field and to draw a picture of its current status.

Organization

The organization of this report is as follows: It opens with an overview of the domain to be reviewed in terms of volume and number of studies; next, a classification of researches into several broad content categories is presented. Salient features of researches in terms of themes covered, methodological aspects and findings are included under each category. These are derived through critical analysis of each individual research. This is followed by concluding comments. An attempt has been made to view the directions in which the field is moving. Some recommendations for action to be taken, based on the existing lacunae, are also made.

Coverage and Classification

Table 24.1 summarizes the data indicating the period and nature of the studies as well as the funding agencies, wherever these are reported. The table illustrates, at a broad level, the major content categories of early childhood education. The following major categories emerged:

1. History, need and status of pre-school education
2. Parent and community involvement
3. Personality and developmental traits of young children
4. Assessment of pre-school children
5. Training of personnel for early childhood education
6. Intervention and impact studies
7. Handicapped pre-school children

The early childhood researches included were undertaken as doctoral research or were funded by government or other funding agency. There were researches on a wide variety of themes with varying methodologies and purposes, different kinds of implicit or acknowledged assumptions and social pressures.

While viewing the coverage of the studies with reference to time periods, it became clearly evident that while hardly any studies were reported in the fifties, the sixties were marked by an increase in research activities in this field. The trend continued in the seventies and eighties.

It was also observed that the range of content covered became wider. While in the sixties the categories covered through researches were limited, in the seventies more areas were explored and this trend extended into the eighties.

From this rather broad-based overview of studies in the area of early childhood education as a whole, we may turn to each content category and the types of researches covered under each of these categories.

HISTORY, NEED AND STATUS OF PRE-SCHOOL EDUCATION

The historical overview of early childhood education in India given above indicates a steady increase in recognition of the need and value of early childhood education among educators as well as policymakers. This was reflected in the new education policy (NPE) (1986) which focused sharply on early childhood education.

All the literature reviewed under this category cannot be termed as research, in the true sense of the term, in that much of the work is more theoretical in nature. Literature consisting of theoretical papers, papers presented at seminars and reports of government committees or welfare boards are also covered.

History

For an adequate understanding of current developments and the situation in any field of knowledge, knowing and understanding its history becomes an important exercise. It not only helps to view current developments in the right perspective but also aids in meaningful planning of future action. Unfortunately, the researchers in the field of early childhood education have failed to do this.

There are two studies that report different aspects of development at a particular period of time. Guha (1969) describes the origin of nursery schools that took

Table 24.1

AREAWISE DISTRIBUTION OF RESEARCH STUDIES, 1956-87

	History need, status	*Dev. aspects and personality traits*	*Parent and community development*	*Assessment of children*	*Training of personnel*	*Intervention and impact*	*Handicapped children*	*Total*
I. DECADE								
1956–60	2	—	—	—	—	1	—	3
1961–70	12	4	1	—	1	1	1	20
1971–80	13	16	2	5	1	5	1	43
1981	4	4	3	—	4	11	3	29
not dated	—	—	—	1	1	1	—	3
	31	24	6	6	7	19	5	98
II. NATURE								
Ph.D. Thesis	7	16	2	1	—	3	3	
Research Projects	9	3	1	5	5	9	1	
Journal Articles	15	4	2	—	2	5	1	
Paper presented	—	—	1	—	—	2	—	
Monographs/Comp.	—	1	—	—	—	—	—	
III. FUNDING								
NCERT	1	—	—	5	2	2	—	
NIPCCD	2	—	1	—	1	5	—	
IIM, Bangalore	1	—	—	—	—	—	—	
ISEC, Bangalore	—	—	—	—	1	—	—	
ICSSR	1	—	—	—	—	—	1	
SITU, Council of Educational Research Madras	—	2	—	—	—	—	—	
MSBTPCR	—	1	—	—	—	—	—	
Princess Esin Women's & Educational Centre	1	—	—	—	—	—	—	
TISS	1	—	—	—	—	—	—	
NIRD	1	—	—	—	—	1	—	
SIE, Maharashtra	1	—	—	—	—	—	—	
Muni. Corpn. Delhi	—	—	—	—	1	—	—	
Agakhan Foundation	—	—	—	—	1	1	—	

place in the UK in 1911 through the efforts of the MacMillan sisters. The study by Pisharody (1972) focuses on the history and interpretation of the Montessori method of education. Neither of the studies have attempted to view the historical aspects in a comprehensive manner. Neither is there an attempt to trace the historical development from its early beginning down to its present status. Further, the studies are non-analytical in the sense that the historical facts are merely described without interpreting them in the light of the then existing conditions. There is no reflection on the educational system, the nature of programmes for children and their

development during the early period. As a result, these studies have hardly any value.

Need

There are several studies that emphasize the need for pre-primary education for a variety of purposes. Some major 'reasons' for pre-school education that were considered important may be listed as follows:

> The early years of a child's life are formative years for his/her overall development.
> Early childhood education serves to fulfill effectively all the needs of the young child—physical, social, emotional and psychological (Venkataram,1984).
> Early childhood education prepares a sound base for formal education, thus reducing stagnation and wastage in primary education. A few studies emphasize the Gandhian philosophy of education in planning early childhood education programmes (Saxena), 1971; Deenamal, 1978).

Studies during the eighties also reiterate the value and importance of early childhood education. However, these studies are a clear departure from the earlier studies that advocate early childhood education in global terms. The later studies are more specific in their reporting, emphasizing the psychological aspects of a young child's development (Mohanty, 1984; Venkatraman, 1984).

On the whole, the literature in this category is largely ideological and theoretical in nature, making a strong case for early childhood education.

Status

Under this category there are 20 studies/surveys/status reports done on the status of early childhood education in various states or cities. These studies evidence a rapid growth of nursery schools in Gujarat, Andhra Pradesh, Delhi, Maharashtra (Poona), Rajasthan, Assam, Tamil Nadu and Bengal. While the growth is rapid in the western, southern and some parts of the eastern states, there are very few studies undertaken in the north, barring Delhi.

Most of these surveys and reports prepared in various states and cities and highlight several problems confronting early childhood education programmes in the states and cities surveyed. Among the problems discussed are:

> Poor organisation of early childhood education services
> Poor infrastructure of the pre-schools
> High teacher-student ratio
> Lack of trained staff and inadequate training facilities
> Prevalence of uncongenial environmental conditions
> Lack of knowledge and understanding about children's developmental patterns
> Poor planning of programmes for children
> Lack of systematic maintenance of records

Most of the researches reported todate are predominantly those that have been conducted in urban areas. This is, however, no indication that the rural areas are completely neglected in terms of facilities for early childhood education.

In the fifties and early sixties various programmes of the Central Social Welfare Board were launched and a Grants-In-Aid Scheme for developing balwadis in rural areas was in operation. However, the outcome of these schemes in terms of specific details is not available. From this it can be surmised that there was no systematic evaluation or documentation of these schemes.

Since 1975 the government has launched a National Programme called the Integrated Child Development Scheme (ICDS) concentrating on nutrition, health and non-formal pre-school education for young children. Through this scheme children from rural, tribal and urban slum areas are provided basic services. An evaluation study by Singh, Gopal and Murty (1978) of 150 balwadis in six states (Gujarat, Maharashtra, Karnataka, Tamil Nadu, West Bengal and Andhra Pradesh) may be mentioned at this point. The respondents in the study were parents, community leaders and balsevikas. The study discusses in detail various aspects of balwadis such as timing activities, budget, staffing, etc. The findings reiterate the positive effects of preschool experience for a young child's development and learning. In the VII Plan the government proposes to establish 2.50 lakh ECCE centres by 1990. It is hoped that this will be the beginning of organized programmes for non-formal education in the country, covering a large population of young children.

However, it must be conceded that, for the present,

early childhood education in general is unsatisfactory by far and leaves much to be desired. In a nutshell, the studies under this category lead one to state that the need for pre-school education is widely recognized but the status of pre-school education needs to be steadily raised and improved in qualitative terms.

PARENT AND COMMUNITY INVOLVEMENT IN EARLY CHILDHOOD EDUCATION

A cursory glance at Table 24.1 indicates that this content area is yet to be explored fully by way of research. There are in all six studies of which only two are data based, one is library based, and three are theoretical in nature, all emphasizing the need and importance of parent education and community involvement in early childhood education. A common thread running through all the studies is that through parent and community education programmes, attitudinal changes have to be brought about among parents and communities. Suggestions offered for parent and community involvement include organization of voluntary services, celebration of children's festivals, publication of children's magazine, etc. (Swaminathan, M., 1970; Swaminathan, I., 1972).

The two data based studies are on the ICDS. Both were funded by the National Institute of Public Cooperation and Child Development (NIPCCD) in 1986. The study by Sharma (1986) is a review of ten investigations that assessed the extent of community participation in the ICDS in Andhra Pradesh, Haryana (Rohtak and Hissar districts), Rajasthan, Maharashtra, and Delhi. In her review, Sharma (1986) observed that there was a lack of consensus and clarity among the researchers on the very concept of community participation. She also pointed out the paucity of uniform and sensitive assessment measures. Another study funded by NIPCCD is an in-depth study on community participation in an ICDS block. Both studies are valuable as they are data based, have rigorous research designs and are evaluative in nature.

All the six studies emphasize the need for parent and community involvement by putting forward two major arguments:

> the pre-school has the potential to become the basis for a programme of social change;
> community cooperation is a strong influential factor in promoting early childhood education.

While both the arguments are valid theoretically, the crucial task is to work out their implications in the actual field by mobilizing communities. It is clear that parent and community programmes can neither be superimposed nor designed by a researcher in isolation from the field. They have to evolve in the community, only then will they be accepted and sustained over a period of time. The researcher's and educator's job is to identify and develop a variety of strategies and approaches that lead to awareness among people about the value and need of pre-school education for their children. The need must be felt by the community and the demand for inputs must come from them. That would be a right time to intervene and design programmes that best meet the felt needs.

Intervention programmes so planned would be naturally in the form of micro-level experimental studies. Once they show positive results, the next step would be to translate them into micro-level studies. This has its own problems and challenges that must be faced.

Researches may fruitfully focus on some pertinent queries. How is the parent and community programme consumed? What kinds of 'inputs' may be planned for what estimated outcomes? How does one plan strategies that ensure 'reaching out' to the target group? These are mere examples of a host of questions that the researcher needs to deal with. By addressing such specific queries one may hope to offer well-designed researches with well-tested, viable strategies for parent and community involvement.

It may be noted here that the primary and most powerful of the child's educators are the immediate caregivers-usually mothers or elder sisters and others in the immediate family group, especially during the first decade of life. It is increasingly evident that, when parents are encouraged to function as the young child's prime educators it has favourable effects on the child's subsequent development. It is also apparent that living in circumstances of deprivation, children do not get the necessary help to cope with demands of school, because the parents rely primarily on folk experiences and traditional resources to perform a task rendered increasingly difficult and complex with rapid social change. The family therefore needs support to provide children with the personal and intellectual skills society and schooling expect. Disrupted, hopeless, powerless and apathetic communities must be strengthened to generate the will,

attitudes and skills needed to face and surmount the challenges they face. What is really needed is a massive transfer of skills and knowledge without which, as we increasingly realize, formal organizations like schools can do little. Designing non-formal pre-school programmes in the larger community setting, involving the prime care-givers is then an area which needs greater attention from researchers.

DEVELOPMENTAL ASPECTS AND PERSONALITY TRAITS OF PRE-SCHOOL CHILDREN

As presented in Table 24.1 there are 24 researches conducted on various aspects of a young child's developmental process. The interest in studying the development of children began in the late sixties but it is mainly in the seventies and eighties that most of the researches were carried out.

The major variables studied by various researches are presented in Table 24.2. The most widely studied variables are language development, personal-social development, and physical-motor development. It can also be noted that most researches have attempted to study a child's development in relation to his/her age, SES, intelligence and sex.

Table 24.2 further reveals that the researchers have by and large confined their investigations to urban children, thus ignoring a considerable proportion of child population.

The sample size is quite small in some studies but fairly large in others. The trend is to include a sample range of 100 to 300. The major findings emerging from the various studies viewed can be summarized as follows:

A positive correlation between SES and language development was found (Mohite, 1979; Agnihotri, 1979).

No consistent pattern of relationship between age and language development was found, except a generic finding that children developed at a rapid rate during their early years (Chattopadhya, 1971).

Parental education had a positive correlation with language development and children from urban background were reported to have better language skill as compared to their rural counterparts (Pathak, 1975).

Sex differences in favour of girls in language development are reported (Mehta, 1972; Agnihotri, 1979).

Table 24.2

DEVELOPMENTAL AND PERSONALITY VARIABLES

Variables	Nature of Sample	Size of Sample
1. Personality traits and home environment	Urban	Small
2. Language development:		
—Relationship between physical language and cognitive development	Tribal children	
—Functional vocabulary	School-going/non-school-going urban children	Large
—In relation to SES	Urban upper, middle and lower classes	Small
—Of socially disadvantaged	Rural & urban	Fairly Large
3. Sex role identification sex stereotypes	Upper, middle & lower classes of urban children	Small
4. Social development and SES	Rural and urban children	Small
5. Intellectual, motor, language and social personal behaviour and competence	Rural & urban children	Fairly Large
6. Cognitive development	Urban	Large
7. Personality development in relation to working mothers	Urban low, middle and high SES	Large
8. Play preferences	Urban children	Large
9. Human figure drawings	Urban	Small
10. Reading-readiness	Urban	Large
11. Physical motor development	Rural urban	Large

Less than 200—Small Above 250 & up to 350—Large Above 350—Very large 200 and above—Fairly large

Sex differences in favour of girls in language development are reported (Mehta, 1972; Agnihotri, 1979).

Most studies focus on specific areas of language development, viz. comprehension, sentence formation, expression, vocabulary, articulation and grammar.

Sex differences in favour of boys were reported in physical development (Pathak, 1975).

No sex differences were found in social competence of pre-school children (Shukla, 1984).

It may be added that studies in the area of language development were conducted in different states and yet some common findings have emerged leading to valid generalizations. The same is not true of the researches in physical-motor and personal-social development. Since the different studies have focused on separate aspects of a developmental area, a uniform picture does not emerge.

It would not be out of place at this juncture to comment upon the child and family status variables such as age, sex, and socio-economic status studied by the researchers. Researches from western countries as well as from India have adequately proved that each of these variables affects a child's overall development. The next task is to go beyond these status variables and direct researches to processes that are generated through such status variables. To illustrate, we need to understand what types of verbal interactions take place with a female child which are different from those with a male child? What quality of verbal interactions result when parents are illiterate and poor? What specific types of stimulation exist within the home environments that favourably or unfavourably affect a child's abilities? Which are more crucial in relation to specific aspects of development? These are more examples of a host of crucial questions that researchers need to answer.

Most studies reviewed here have attempted to focus on relevant aspects of a child's development. Unfortunately the scope as well as the sample size in most studies are narrow and small. The studies are further weakened as they employ loose methodologies that lack rigour. As a result relevant generalizations are not warranted. A representative sample that controls crucial variables or a systematic variation in subjects may be the first step towards adopting a more rigorous methodology.

It would be pertinent to point out at this juncture that the field of early childhood education draws upon the researches of many varied disciplines both in terms of theory as well as empirical evidence. Among the contributing disciplines developmental psychology has played a leading role both in strengthening and giving direction to studies in the western countries. Unfortunately, however, this has not been the case in the Indian context, wherein clear geographical and cognitive boundaries exist between the two sets of professionals even when under the common roof of a departmental setting.

Even though a late beginner, when compared with other branches of psychology, developmental psychology in India, has amassed a substantial body of knowledge, especially during the past decade and a half.

Saraswathi and Dutta (1987) in their book, *Developmental Psychology in India, 1975-86,* have annotated and reviewed some 700 studies classified under the standard categories namely, physical, motor and mental, cognitive, perceptual and language, socialization and personality development. Besides these, studies contributing to child development policy and to cross-cultural psychology have also been annotated.

Viewed from the early childhood education perspective, the review of researches in developmental psychology indicates the following:

there exist some data bases on specific aspects of development of the young child, though these have been largely ignored or underutilized by those affiliated to early childhood education;

research related to the young child forms only a small proportion of the total body of knowledge in developmental psychology in India;

researchers have mostly preferred the easier alternative of studying the correlation of behaviour and development such as social class and sex differences, urban-rural differences and so on, leaving questions related to the how and why of development essentially unanswered;

cross fertilization between the field of early childhood education and developmental psychology is both feasible and necessary, particularly in the present Indian context wherein the young child and his/her education has been brought to focal attention with the blessings of political will (see Saraswathi and Dutta, 1988, for an extensive review of developmental psychology in India).

The experience of early childhood education in our country has thrown open a number of questions that need culturally sensitive answers. The search can bear fruit if those affiliated to early childhood education and to developmental psychology can work in partnership as has been the case in practically all developed countries. The partnership will be mutually beneficial by giving a socially relevant direction to theory and research on the one hand, and strengthening the *sans* theory, *sans* research base of early childhood education programmes on the other.

ASSESSMENT OF PRESCHOOL CHILDREN

Assessment is an integral and crucial component of the educational process at any level, more so in case of young children and their development. It is only through appropriate assessment that even the most basic information about a child's developmental processes can be obtained. Does a child's developmental status correspond to his age? Are there any developmental delays? What are his/her special abilities that must be invested in? Is his/her vocabulary adequate for his/her age? These and innumerable other such questions can be answered only through appropriate assessment measures.

On reviewing the studies related to children's assessment one is struck by the gross neglect and lack of interest by the researchers in this crucial area. In all there are only six researches reported. Five of these are by way of establishing developmental norms—personal-social, language, physical motor of pre-school children. These were undertaken and funded by the National Council of Educational Research and Training (NCERT). These norms serve a useful purpose in early childhood education mainly on three counts. Fristly, these are the only norms available for Indian children; secondly, these norms have been established on a large sample of preschool children from urban, rural and industrial areas drawn from several states; thirdly, in early childhood education, assessment mainly focuses upon developmental aspects, hence the developmental norms would lend themselves to multipurpose usage.

While the present review reports only six studies, it should be noted that it draws mainly from the researches that are predominantly carried out in the institutes of education. In the field of education, many tests are constructed of which only some are for pre-school children. Most are designed to measure scholastic abilities and achievement of school children. On the other hand, in psychology, assessment is a well investigated area with several psychological tests available to measure a variety of psychological constructs. These are not included in this review mainly because they did not form a part of the corpus available to us.

While these tests are useful, it must be borne in mind that tests are only one of the means of assessment and are probably not always functional with young preschoolers. 'Assessment of Children' is a specialized area in its own right which requires expertise in child development combined with a knowledge of psychometry. Assessment in child development not only includes assessment of children and their developmental aspects, it also encompasses assessment and evaluation of programmes and institutions.

Assessment in child development goes much beyond psychometry of mere scores. It must be objective, reliable and dependable and yet sensitive enough to capture the developmental changes and effects of different variables on very young children.

The key issues in the assessment of children pertain to early developmental changes and programme evaluations. To tackle these issues successfully, the researches need to answer recurring questions like, What characteristics or variables should be assessed? How adequate is their measurement? How good are the scores as dependable measure of various developmental aspects? How should observed changes be interpreted, in particular, do scores retain the same meaning over years? Can changes associated with intervention programmes be causally interpreted, i.e. can they be attributed to specific child care or educational treatment? How predictive are the scores of any specific developmental aspect?

That the government is gearing up its welfare plans and efforts towards the young child's development is indeed a heartening sign. However, for these efforts to pay concrete dividends, it becomes essential to tackle, on a war footing, the complex problem of psychological assessment of young children. Once we are able successfully to handle the task of assessment, it would go a long way in designing appropriate and effective inputs for child development.

Even a cursory glance at current researches in the field indicates that we still have a long way to go. In a country like ours especially, assessment poses a great challenge. This is in view of the myriad diversities between states and subcultures, which make it almost im-

possible to develop a uniform measure for children across states and subcultures.

It is time that early childhood educators pay serious attention to this complex task which is fraught with problems. They are the ones who are in the crucial position for developing viable assessment measures of children which would, in turn, act as a valuable springboard for planning successful inputs for a young child's development.

Most intervention studies have to resort to measurement of psycho-social development. These measurement scales, developed by researchers in advanced western countries, are often complicated in content and form, require expertise in their use and interpretation and are not culture free. Few measuring instruments standardized in our culture are a part of our repertoire. Attempts to adapt and re-standardize instruments such as Caldwell's Home Inventory and to develop Teacher Attitude Scales are going on but there is a definite need for the development of our own culture-specific instruments. Many of our researches suffer because of difficulties in finding a fully adequate armoury of tests and measures, attitude scales and observational techniques. Consequently, researchers have to develop and standardize often rather hastily their own instruments of investigation.

A pertinent question is whether simple tools of measurement based on a small number of essential indicators of psycho-social development can be devised which, with some adaptations and establishment of country norms, can be used widely by community workers, parents and para-professionals for assessment of the child's psycho-social developmental status. The development of the such scales, analogous to the Growth Chart, for assessing the nutritional status of the child, would be an enormous step forward in the promotion of child development research. The effort and expense devoted to their formulation would be a highly worthwhile investment.

TRAINING OF PERSONNEL IN EARLY CHILDHOOD EDUCATION

Before describing the status of researches in the area of training, it would be worthwhile to discuss the wide range of personnel required for early childhood education. The term encompasses a broad range of programmes requiring a wide range of staff—planners, policy-makers and administrators, trainers, supervisors, and teachers/grassroots-level workers. The number of workers required for a programme and the combination of skills needed in each team vary from programme to programme.

In the studies reviewed, this broad perspective is not reflected in any way. Firstly, most of the studies have been carried out with teachers as subjects, mainly investigating teacher perception of and attitude towards education, quality of teacher training, evaluation of teacher training models and the like. The number of studies reported is also small, only seven. Most have small sample size, ranging from 39 to 130, mainly drawn from the urban areas. Thus the studies are poor in quality and limited in number, revealing how neglected this crucial area of early childhood education is.

A study that surveys pre-primary teacher education carried out in Bangalore was the only one with a broad-based inquiry (Seetharamu and Usha, 1984). It surveyed 33 training institutions of which only 15 responded. However, it focused on non-evaluative findings, aiming to get factual information about the training and physical facilities available.

The Project on Cognitively Oriented Pre-school Programme for Pre-school Children (COPPPC) an in-service training course for grassroots-level workers was developed by Swaminathan (1967). Evaluation of the project revealed favourable changes in development of knowledge, skills and attitudes of pre-school teachers and supervisors.

The main findings of this small body of researches can be summarized as follows:

> Teachers themselves expressed the need for in-service training (Sathyavathi, Tirumalamma and Murthy, 1972).
> Highly trained teachers performed better compared to teachers with less intense training as measured through improved performance of children (Murlidharan and Pankajam, n.d.).
> A majority of the teachers considered play as essential for early childhood education (Seshamma and Karanam, 1986).
> Training in the Cognitively Oriented Pre-school Model helped improve skills and knowledge of pre-school teachers (Srivastava, 1987).

It would be meaningful at this juncture to comment upon the ICDS, especially its non-formal, pre-school education component, and the training of its personnel.

This ambitious national programme aims at providing an integrated package of services to young children. It includes in its organizational framework the training of anganwadi workers (with a three-month training programme), supervisors, and child development project officers (CDPOs). This is the first national-level attempt at multi-level training and is a clear departure from a rather narrow concept of training only the 'pre-school teacher'.

As we review intervention programmes, both in the industrialized Western world and in the developing countries, it becomes apparent that there is increased reliance on volunteers from the community to which the children belong—volunteers who have received short-term, practical training which may be field-based or institutionalized—or on para-professionals who also undergo a short-term training programme. An over-emphasis on 'professionalization' of personnel (rigid requirements of formal, institutional training, degrees and diplomas, and rigid training standards) is being rapidly replaced by providing guidance, technical support, and supervision for planning, management and operation to relatively 'untrained' personnel. Researchers need to study and evaluate these various training models and also the interaction patterns of these personnel with the children and the use they are able to make of resources within the communities for enhancing children's learning.

INTERVENTION AND IMPACT STUDIES IN EARLY CHILDHOOD EDUCATION

'Intervention' can be defined as activities designed specifically to enhance the physical, mental and social development of a child in the early years, from birth to six years. The intervention can be diverse, ranging from the small-scale nutrition supplementation and early stimulation programmes to large-scale public programmes of centre-based pre-school education for children from 3 to 6 years, all focusing on services to boost children and families.

Studies under this category offer wide variations in goals, coverage, theoretical assumptions and research design. On the one hand we have a broad-based national programme for children like the Integrated Child Development Scheme (ICDS) aimed at uplifting and improving the quality of life of poor children by providing an integrated package of basic services. On the other hand, there are several small-scale experimental studies aimed at bringing about improvement in crucial aspects of a child's home or school environment through educational inputs/treatment (Umrajvala, 1977; Saint, 1980).

This category is the largest, covering 19 studies. Table 24.1 shows that most of these studies were carried out in the 70s and 80s. They are data-based and empirical in nature. A close examination of these researches reveals the following:

> All the studies evidence positive effects of pre-school education in the areas of educational growth, scholastic achievement, reading readiness, cognitive skills and social maturity (Umrajvala, 1977; Saint, 1980).
>
> Several comparative studies are reported on different aspects of language development of pre-school children. These studies deal with different aspects of language development such as bilingualism, medium of instruction, vocabulary. Thus generalizations are difficult to make (Rao, 1975).
>
> There are several studies aimed at finding out the effects of teaching methods, especially the use of audiovisual aids. The findings prove that visual and audio aids are effective in relation to better pronunciation, reading readiness and rote learning (Malhotra and Dhamija/1981; Dixit, 1975).
>
> Quite a few studies try to establish a relationship between pre-school attendance and enhancement in school enrolment as well as reduced dropout rates. No definite relationships however are reported in the finding (Rao, 1980).
>
> There is one study which is by way of an experiment on the open learning approach in working with children of 5 to 9 years of age. The endeavour was to provide greater freedom to learners and teachers to plan learning experiences. The findings revealed improvement among pupils in terms of greater participation in class activities, social skills and learning (Saint, 1980).

There are a few studies that deal with different components of ICDS (Mistry, Kaul, Dhar, 1985; Sahani, 1986; Bajaj 1986; Tarapore, Deshpande, Pendse, 1986). Mistry, Kaul, and Dhar's study (1985) aimed at measuring impact of anganwadi experience in relation to primary education on children exposed and not exposed to an ICDS pre-school. The results evinced some differences between the two groups, but these differences were not significant. The researchers emphasized the

need to develop linkages between pre-school and primary education.

Bajaj's study (1986) is a review of researches on the impact of ICDS in the areas of non-formal pre-school education, immunization, health check-up, referal services, supplementary nutrition and nutrition education. The review indicated that children attending anganwadis performed better in listening comprehension, sequential thinking and time perception. However, no relationship or impact on dropout rate in primary schools was reported.

Tarapore, Deshpande and Pendse (1986) compared children in high and low quality anganwadis and reported that children from good quality anganwadis were better in the areas of personal information, gross and finer motor development, conceptual and readiness skills, comprehension and personal social skills.

It can be concluded from these observations that a limited range of dimensions, viz. language and cognitive development, have been investigated by the existing body of researches, leaving open a large area for future research and action.

Methodogically, the intervention studies employ experimental control group designs or pretest-post-test designs. The sample size ranges from a minimum of 100 to maximum 10,000 children selected from nursery schools, anganwadis and kindergartens. Most employ the procedure of randomization in selection of samples from rural, urban and industrial areas.

It can be concluded on the basis of these studies that they are limited in content and scope, and not sophisticated in the methodologies employed. Some of the important dimensions/areas that need to be investigated are the nature of child care centres/creches and their effects on children's development, home intervention programmes of different types, effects of television on children's development, and use of educational television with children and for personnel training.

Regarding methodological aspects, more rigorous methods of sample selection and research design need to be developed and employed. In fact, it is due to methodological weaknesses that we are still not completely clear about the effects of early childhood programmes on various aspects of child development. Considering the large body of data collected through various studies, the clarity of information generated is inadequate. While individual researches have their specific methodological limitations/weaknesses, one can identify certain common methodological problems that confront most intervention studies. Since intervention studies seem to be dominating the Indian research scene at present, it may be worthwhile to raise some of these methodological issues.

The main issues are those concerning the nature of the programme, 'treatment', research designs required to establish effectiveness, ways of measuring effectiveness and interpretation of the findings.

The main concern of the researcher as he/she moves from an experimental to a field study is to focus on relevance while maintaining the necessary elegance in research. The treatment is almost always complex, involving a configuration of factors on various dimensions. The issue of monitoring of consumption of educational intervention, so as not to loose sight of each specific variable, is a challenging and a crucial exercise.

Methodological issues in intervention research include sound sample selection procedure, attrition, evaluation, appropriate data analysis techniques, and extent of generalization of findings followed by realistic and correct interpretations.

These are only a few of the host of problems/issues that a researcher must encounter while conducting an intervention study. They show how challenging the task is for the future researchers. The routine events of a young child life pose a set of complex problems for a researcher. The future task is to untangle the intricate web of events that shape and order the equally intricate process of a young child's development (Clarke-Stewart, Fein, 1983).

EARLY CHILDHOOD EDUCATION FOR HANDICAPPED CHILDREN

The democratic conception of the innate worth of the individual and the obligation of the society to provide facilities for optimum growth of the child finds its greatest challenge in catering to the needs of handicapped children. If the research interest in the area is any indication, it is obvious that we have not met this challenge successfully. Only five studies were reported under this category.

Four of these five studies are data based (Azad, 1986; Mehta, 1969; Mallya, 1981; Majumdar, 1983), while the fifth is a theory based paper (Mercy, 1979) making a case for provision of special education to handicapped children. Azad (1986) developed the Portage home-based model on cognitive development of mentally retarded pre-school children. The model involved parents as effective home teachers for teaching the relevant cog-

nitive skills to their mentally retarded children. The findings reveal that children benefited considerably from the programme as manifested by their improved cognitive skills. The attitude of parents towards their children also improved. Mehta (1969) attempted to identify the factors leading to problem behaviour in young children. Family environment and parental behavior were reported as the main factors that led to problematic behaviour in children.

Mallya's study (1982) was an attempt to develop special play sessions to help pre-school children with special needs. Majumdar (1983) compared the perception of adaptive and maladaptive children on their parents, home and school environment. Adaptive children had more positive and richer perceptions.

As can be observed, there are no researches on special categories of handicaps, such as blindness, deaf and dumbness, orthopaedic disabilities, emotional disturbance and learning disabilities. The authors are aware of a few innovative programmes designed specially for such children but none of these seems to have been studied by educational researchers.

Our cultural and familial context, our resources and avenues are different from those in western countries. It is imperative that we should be able to view the field of handicapped children and their education from an Indian perspective. This requires a sound theory base backed by good researches, each feeding into the other and strengthening the knowledge base.

Future research needs to focus on designing culturally sensitive content and viable strategies of educating this special group of children.

It is heartening to note that in recent years a considerable organized effort is being expended towards promoting research related to handicapped children. The NCERT as well as various educational institutions are undertaking concrete research activities as well as staff training programmes. This provides a ray of hope for further expansion of future research efforts in this area.

CONCLUDING COMMENTS

The preceding review reflects the varied dimensions of early childhood education research undertaken over a span of 35 years. The four surveys of research in education threw up a corpus of only 98 studies, which is a clear indication of the sheer neglect of research as well as of documentation of various programmes in this very crucial field of education.

A comparative analysis of researches across the major categories reveals that high quality or quantity of research output cannot be claimed under any of them. Even after conceding that the corpus of studies available for review was neither extensive nor exhaustive and was mainly confined to researches at Ph.D. level and project research, the highly inadequate quantity and quality of researches cannot be easily explained away.

The researches seem to cluster under two main areas of early childhood education, personality and developmental traits of pre-school children, and intervention and impact studies. However, even in these two categories, the quality of researches is far from satisfactory. The few studies which have been carried out are too fragmented to have succeeded in answering basic questions about the intrinsic and complex processes of a child's development.

Similarly, even with the marked increase in the number of intervention and impact studies, we are still struggling to derive strategies and approaches that are truly Indian in orientation.

However, while in ending the discussion on the review of early childhood education researches, one is compelled to take a rather bleak view of the status of research in this field; it is clear that we have today a rich opportunity to prepare for expansion of programmes for early childhood development and education in the future through continued experimentation and by learning in a systematic and collaborative way from increased experimentation and investigation. Doing so will help raise the consciousness and commitment of the national government to investment in children.

LOOKING AHEAD

The development of a nation cannot be conceived without the full development of its human potential: a nation cannot attain full development without educating all its human resources who are, in the end, the actors of its development drama and its *raison d'etre*. One notes with a sense of hope and optimism that it is in this very spirit that the Government of India has clearly committed itself to investment in young children as a potential human resource. It has conceived and formulated plans and policies for the provision of basic services, inclusive of education, to young children. In place of a rather generic and global recognition of the worth of children, the government has acknowledged the need to make special policies and plans of action in favour of chil-

dren. This recognition has led to the establishment of the Department of Woman and Child Development within the Ministry of Human Resource Development. India is one of the few nations that have a National Policy for Children which, *inter-alia* has stated:

> The Nation's children are a supremely important asset. Their nurture and solicitude are our responsibility. Children's programme should find a prominent place in our national plans for the development of human resources so that our children grow up to become robust citizens, physically fit, mentally alert and morally healthy, endowed with the skills and motivations needed by society.

This resolution was followed up by setting up of the National Children's Board with the Prime Minister as its president. Social policy and social action plans that emanate from the National Board cannot be conceived in isolation but must be backed by research and a theory of child development. The present review of educational researches has left us with the realization that, at least for the present, our research base is rather weak and inadequate and does not easily lend itself to conversion to long-term research-based plans and policies. In view of this rather serious knowledge gap, it may help to view the status of our early childhood education research and theory in an international perspective. This may help in understanding the world-wide situation of early childhood education and thus in planning future directions in which we must move.

In many of the developed and industrialized nations as well as in many of the socialist countries, early childhood education has come into its own and got its rightful place in the education system, so that it has developed into a full-fledged discipline comparable to any other. It has its own body of research and theory and many major research outcomes and discoveries have been transferred to the field, strengthening the discipline of early childhood education in the process. Early childhood education plans and policies of these countries are formulated in consonance with theoretical knowledge derived from these researches.

In several Asian countries and also in the Latin American countries, young children's development and education are being given high priority in the government plans of action.

Some relevant areas of early childhood education which are currently the focus of research activities in both the developed as well as developing countries many be listed thus:

- Development of early childhood stimulation to enhance the child's physical, mental, and psychosocial development.
- Child rearing and its subsequent effects on developmental outcomes in early years.
- Parent/Mother education and involvement programmes to raise the stimulation levels of homes.
- Home environment predictors of the child's mental development.
- Early childhood intervention programmes providing a combination of non-formal education, health and nutrition activities directed to infants and young children.
- Training of para-professional child development workers.
- Strategies for linking pre-primary and primary education.
- Early identification of high-risk children and environments.
- Measuring long-term and lasting benefits of intervention programmes.
- Development and testing of varied curriculum models based on understanding of children in their cultural milieu.

In the west, the field of early childhood education has also benefited considerably from advances in related disciplines such as anthropology, developmental psychology and psycho-linguistics. Unfortunately, in India, the field of early childhood education has not benefited greatly from such interdisciplinary interactions. This is partly due to the fact that the various related disciplines have not evinced much interest in research in young children. It is only in the last two decades or so that developmental psychologists in India have studied various aspects of the young child's development. As has been stated earlier, few other disciplines have really risen to the challenge. Partly, the responsibility for this lack of interplay must be borne by institutions/departments of education who have not themselves taken a great deal of interest in the area. They have been content to concentrate on the secondary school level or with problems of higher education. It is only lately that a certain degree of urgency in studying the primary school years has been evinced and, understandably, this interest has largely stemmed from the high percentage of wastage, stagnation, dropout rates and poor enrolment rates, particularly of girls, in pri-

mary schools. The government concern and commitment for universalization of primary education has given an impetus to studies of the various factors related to primary school attendance and performance of children, particularly those from poverty contexts. Consequently the learning processes during early years have become an area of interest to educators.

Pre-school education in India, unfortunately, has been a sort of no man's land. Its development has occurred primarily in the departments of child development of Home Science institutions, many of which started laboratory nursery schools in which small-scale studies were carried out for the purpose of postgraduate research. The NCERT Child Study Unit has been a major source of research on young children. The National Institute of Public Cooperation and Child Development (NIPCCD) has of late been carrying out researches as a part of the monitoring and evaluation of the social component of ICDS.

Along with the NCERT and NIPCCD, mention must be made of the Indian Association for Preschool Education. It was established in 1964 and is the only national level association concerned with early childhood education. Since its inception, its efforts have been continuously directed towards promoting the field of early childhood education as a whole and in providing the necessary research directions. It has as its members the actual practitioners, early childhood educators as well as researchers from academic and research organizations. It has also played an important role in terms of influencing government policy on young children. Thus the NCERT, NIPCCD and the IAPE have in their own ways played an important role in generating research interest in early childhood education.

However, in spite of these efforts, the culture of research has not been established in this field. Historically, pre-school education has grown in the private and voluntary sectors. The field is by and large dominated by practitioners who do not have the time, interest, funds or competence to do research. A lot of work goes unnoticed because the organizers do not have the research techniques and personnel. Field practitioners fight shy of research and are too indifferent, timid or reluctant to accept responsibility as researchers. Thus there is a deep chasm that separates researchers and practitioners in the field of early childhood education. Because there is no coordination or meaningful interaction between the two, both operate as mutually exclusive groups.

Given the present scenario of early childhood education and the status of the field as a whole, one needs to take a realistic and pragmatic view about the future directions in which early childhood education programme and researches must move.

Strengthening the Research Base

Specific suggestions regarding the types of research needed is attempted within a two-fold perspective: first, the research efforts must be directed towards strengthening of the existing body of researches; second, they must also venture into crucial areas of early childhood education that have, to date, escaped the attention of Indian researchers.

The areas of research that need to be strengthened include education of handicapped children, training of personnel in early childhood education, assessment of psycho-social development of young children, assessment of 'at-risk' environments and evaluation of programmes.

Crucial areas of research that have been neglected, by and large, include play and creativity in young children, classroom interaction studies, teachers' characteristics, personality traits and behaviour, development of varied curriculum models, parent-child interactions and their development consequences. Studies of the pre-natal period and the first two years of life need to be given the highest priority, considering the vulnerability of children during these stages. Development of programmes of mothers in carrying out these activities must be therefore undertaken urgently.

Research on many unanswered questions should be supported. Research studies should be directed selectively to questions which need to be answered for a better understanding of child development interventions and for improving their effectiveness. Some topics that deserve high priority in research are:
(a) developing simple, widely applicable indicators and scales for assessing a child's psycho-social growth; (b) the consequence for children of a reduced energy balance as a result of malnutrition; (c) tools and methods for assessing the quality of interaction between the young child its mother and other care-givers in different socio-economic circumstances; and (d) evaluation of cost effective approaches for promoting psycho-social development in the early and late stages of childhood in different socio-economic situations. Evidence from developing countries suggests that early intervention can have an important effect on school readiness and, sometimes, on school programme and performance. Long-term ef-

fects have not yet been traced as they have been in USA. There is a need to sort out what kinds of early childhood education programmes are effective and under what circumstances.

Improving Research Design and Mathodologies

Researches in the field of early childhood education to date are small-scale, scattered and fragmentary, each taking a rather fractionalized view of the child or a process. Many of them are rather narrow in scope. Even when aggregated, these findings fail to contribute to our overall understanding of children or their learning processes. It becomes imperative therefore the studies of an ongoing nature are planned so that continued and sustained inputs are provided within a given area of study, over an extended period of time. Longitudinal studies are extremely necessary.

In many of the researches reviewed here the methodologies employed are loose and lacking in scientific rigour. Many of them also suffer due to very small sample sizes and inappropriate selection procedures. It is therefore difficult to derive any generalizations from their findings. Well conceived and properly designed studies, covering representative sample, however limited they may be, will lend themselves to a greater degree of generalizations.

Next is the question of concepts, designs and measuring instruments of western researchers which do not in many cases readily transfer from the USA or Europe to our country. Saraswathi and Dutta (1987) urge Indian researchers to move away from our current heavy dependence on western theories and researches for ideas, with little concern for their relevance to our ecological context.

We need to develop methods of studying children within the particular environment in which they grow, and develop indigenous service models of delivery for pre-school education, parent education, etc. The relevance and applicability of early childhood education programmes based on western models which emphasize individual initiative, curiosity and discovery learning in a culture in which cooperation and observational learning predominate have to be seriously thought about.

It is not enough for us to repeat/replicate in our context what has already been developed elsewhere. What is really necessary is innovativeness based upon a fundamental consideration of the major problems facing education and care of our young children, while keeping an eye open upon the bearing any successful solutions found may have upon similar problems elsewhere.

Coordination of Researches

A strategy for coordinating studies, each covering a particular geographical area and yet forming a part of a larger design, embracing different parts of the country is needed. Thus, we would have studies yielding data which are adequate to give an idea of the dimensions of the problem and help in constructing a national picture in a particular area of study.

We need to press forward in the direction of more, better integrated, comprehensive studies. In order to do this, agencies like the NCERT and NIPCCD can play a key role. Such institutions can coordinate efforts of various academic departments—education, psychology, child development, and anthropology. Each one of these has its own expertise and its special perspective from which critical issues concerning the child in its ecological context can be studied. To illustrate, various dimensions of a nationwide programme like the ICDS can best be studied through the coordinated efforts of several institutions. It has many components, such as training of anganwadi workers, strategies for parent and community involvement, curriculum development for non-formal, pre-school education, nutrition and health education, training of supervisors and such others. The evaluation and monitoring of such a programme would be a highly fruitful area for coordinated efforts of an interdisciplinary team of workers from various parts of the country. Searching for alternative models of service delivery and testing their efficacy on the field would also prove to be a fruitful area for coordinated studies.

Role of Government and Semi-Government Bodies

Institutions like the NCERT and NIPCID have to steadily adopt a more active initiatory stance, that of searching out, helping to shape, financing and guiding individual projects in many parts of the country. Instead of treating each project which they support as a separate activity, simply on its own merits, there must be an effort directed towards integrating all the projects into a 'Programme of Research'. There is a need for mutually supporting and concerted series of attempts to use and accelerate the process of change in educative ways, not merely to remove obvious impediments to human development but to actively promote better

child rearing, better ways of self-help involving appropriate technologies and the promotion of many kinds of communication.

Communication and Dissemination

Since many of our researches are not adequately communicated they often remain unimplemented. The status accruing to a field, is derived from the knowledge it produces that is valued by those responsible for administration, planning and policy formulation. It is therefore extremely important for organizations like the IAPE to pool together research findings on crucial areas of concern and present these to policy-makers in a convincing manner so that they form the basis of social policies and plans of action.

Dissemination of information gathered from research is another very important area to be addressed vigorously in the future. Saraswathi and Dutta (1987) draw the attention of journal editors and reviewers to their role as gatekeepers who can build the quality of published work in the field, thus enabling it to attain a prestigious standing. In order to promote sharing and exchange of information there is a need to organize documentation centres and clearing houses so that information on various aspects of early childhood education is available equally to practitioners, researchers and theoreticians. This would, hopefully, generate a research climate which would be conducive to the growth of research, to the generation of truly Indian theories, and to the discovery of innovative practices leading to the improvement of the overall status of early childhood education.

ABSTRACTS: 1409—1438

1409. ANANDALAXMY, S., *Cognitive Competence in Infancy,* Dept. of Child Development, Lady Irwin College, New Delhi, 1982 (ICSSR financed)

The main objective of the study was to assess the maternal components of affiliation and cognitive stimulation and their effects on the development of the infants. The hypotheses formulated were: (1) The infant's motor development is related to his health and nutritional status. (2) The infant's cognitive development is related to his health and nutritional status. (3) The infant's cognitive and motor development are related to the kind of mother–infant interaction.

This study was conducted in three phases. In the first phase, a large sample of infants (N=512) aged 6–24 months from three economic levels were assessed on their cognitive and motor development, nutritional status and their interaction with mothers. In the second phase, a part of the earlier sample of infants from the lower and lower-middle economic levels (N=70) was followed up after ten months to study the consistencies and inconsistencies in their cognitive and motor functioning. In the third phase, a Play Intervention Programme was conducted on a sample of infants in the age range of 9–15 months from the lower economic level where the performance of one experimental group of infants (N = 20) was compared with a control group of infants (N= 30). A representative sample of 6–24 month old infants (N=512) was drawn from neighbourhoods composed of people at various economic levels in Delhi. The research tools used for the assessment of infants were: (1) Modified Bayley's Scales of Infant Development (BSID), which consists of a Mental Scale, a Motor Scale, and an Infant Behaviour Record (IBR), and an observation of general behaviour at testing time, (ii) nutritional and health status measured by five anthropometric measurements and a 24-hour recall method of food intake of children, (iii) a three-point rating scale for assessing the maternal affiliation and cognitive stimulation the mother provided for her infant, and (iv) an open-ended structured questionnaire for the mother to elicit information on the family, details of the child's birth history, feeding patterns and health, and information about the use of facilities and mass media. t-tests were carried out and correlation matrices were calculated.

The major findings were: 1. For PDI, (Psychomotor Development Index) in various age groups 't' values between lower and upper, and lower-middle and upper socio-economic levels were significant for all age groups except for the youngest age group (6–9 months). 2. Children from the upper socio-economic level in the 18–21 and 21–25 months age groups performed significantly better on MDI (Mental Development Index) than their counterparts in the lower-middle and low socioeconomic levels. 3. Cognitive development in infancy as indicated by MDI was not related to nutritional status. However, motor development indicated by PDI was related to nutritional status. 4. The correlation between maternal cognitive stimulation and the child's performance on the Mental Scale was significant. 5. In respect of maternal affiliation, there was a trend towards increasing MDI with higher affiliation, although these differences were not significant. 6. Infants aged 18–21 months of the lower and lower-middle levels performed significantly poorly on verbal items in comparison with their upper-class counterparts, while in the 22–25 months age group, significant differences were found in both comprehension and verbal abilities. 7. PDI was found to be clearly related to per capita income. 8. The incidence of malnutrition showed clear class differences, with 60 per cent of the lower and 59 per cent of the lower middle socio-economic level infants suffering from some degree of malnutrition. 9. The results of the follow-up study indicated that most of the infants declined in their developmental indices (PDI and NDI) and a higher percentage of 6–9 months old infants declined in performance in comparison to 10–13 months old infants. 10. There was no significant increase in the development indices of either intervention or control group. 11. It was found that mothers who rated high on cognitive stimulation had infants with higher MDI in intervention and control groups. Furthermore, in the intervention group, mothers who were rated high, had infants who gained by an average of six MDI points in contrast to a two point gain in MDI of mothers who were rated low on cognitive stimulation. 12. The intervention group had significantly higher scores on all components of the Infant Behaviour Record (IBR).

1410. AZAD, F.F,, *Effectiveness of Portage Home-based Training Programme on Cognitive Development of Pre-School Mentally Retarded Children,,* Ph.D. Edu., Pan U., 1986

The objectives of the study were (i) to adapt the Portage

home-based model for pre-school mentally retarded children with cognitive handicaps, (ii) to individualize the Portage home-based training programme for pre-school mentally retarded children in accordance with their specific cognitive handicaps, (iii) to involve parents as effective home teachers for teaching the relevant cognitive skills to their pre-school mentally retarded children, (iv) to evaluate the effectiveness of the Portage home-based training programme on the cognitive development of pre-school mentally retarded children, and (v) to change the unfavourable attitude of parents towards their mentally retarded children.

A time series quasi-experimental design was used in the study with pre-school mentally retarded children. The sample of the study consisted of 19 mentally retarded children (11 boys and eight girls) whose age ranged from 37 months to 69 months with a mean age of 52.9 months. They comprised 13 moderately retarded and six mildly retarded children. Parents of these children also formed the sample. Ten of the parents of the subjects belonged to an upper social class and the remaining nine to the upper middle class. The sample subjects were underwent a 53-week training programme. The training programme consisted of home-based teaching in which the parents were involved and the investigator acted as a home adviser. At the end of the training, the subjects were evaluated through various psychological tests, including (i) the Bluma Cognitive Section of the Developmental Sequence Check List, 1976, (ii) a set of 108 curriculum cards to match each of the 108 behaviours on the Cognitive Section of the Developmental Sequence Checklist, (iii) Activity Charts, (iv) the Bharathraj Developmental Screening Test (1977) which measured intelligence quotient and was termed Development Quotient (DQ1), (v) the Vineland Social Maturity Scale (1965) which measured social quotient and was termed as DQ2, (vi) the Bhatti Parental Attitude Scale (1975) (vii) the Kuppuswamy Socio-economic Status Scale (Urban), and (viii) the Parental Questionnaire prepared by the investigator.

The findings of the study were: 1. Of all the cognitive activities in the activity charts set for the subjects, 865 (75.2 per cent) were learnt within one week, 282 (24.5 per cent) were learnt in more than a week, and three continued at the end of the programme. 2. Out of the 1380 total possible cognitive behaviour items present on the checklist, 327 (24 per cent) were recorded as being present in the very beginning of home teaching (T_1). After six months of home teaching (T_2) the subjects had learnt 297 (21.5 per cent), and at the end of the programme (T_3) the subjects had learnt 411 (29.7 per cent) cognitive behaviour items. 3. The differences between the mean gains of the subjects on the cognitive behavioural items from T_1 to T_2, T_2 to T_3, and T_1 to T_3 were large enough to be significant beyond the .01 level. 4. There was significant difference between mean gain Development Quotient (DQ1) scores of the subjects from T_1 to T_2, T_2 to T_3 and T_1 to T_3. 5. Each subject gained an average of 3.5 DQ2 scores during first six months and average of 5.3 DQ2 scores during second six months of the home-based teaching programme of VSMS (Vineland Social Maturity Scale). 6. In the case of DQ combined scores, there was an average combined gain of 10.3 DQ during the home-based teaching programme. 7. There was a significant difference in gain scores of the subjects from T_1 to T_2, T_2 to T_3 and T_1 to T_3 stages. 8. During the home-based teaching programme, the attitude of parents towards rearing their mentally retarded child improved. 9. In response to a parental questionnaire, parents unanimously expressed their overall satisfaction with the programme.

***1411.** BEVLI, U.K., *Language Development of Indian Children: Developmental Norms of Indian Children age 2½ to 5 Years, A Cross-sectional Study,* NCERT, 1974

This study attempts to study the comprehension aspect of language development and, in order to do so, Gesell's tests were adapted to suit Indian conditions.

Seven centres—Calcutta, Bombay, Madras, Allahabad, Ahmedabad, Hyderabad and Delhi—consisting of urban, rural and industrial areas were selected and children of six age groups—2½, 3, 3½, 4, 4½, and 5 years; 30 boys and 30 girls at each age level for each population were taken, thus making a total of 6997. Data were analysed quantitatively as well as qualitatively.

The main findings were: 1. On the whole, urban children were faster and earlier in language development than rural and industrial children. 2. The industrial children were slower than the urban children. 3. The inter-centre difference showed Bengali children to be faster in development than the children of other regions. This was true of all the areas—urban, rural and industrial. Those who were comparatively slow in language development were Allahabad urban children among the urban sample, and Bombay rural children among the industrial sample. 4. When compared to Gesell's norm, Indian children showed slower develop-

ment wherever handling of the printed material like picture books or picture cards was involved. On other items, urban children showed more or less the same or slightly faster development. Rural and industrial children on the whole showed slower development.

1412. BEVLI, U. K., *Language Development of Indian Children: Developmental Norms of Indian Children, Age 2½ to 5 years; Longitudinal Study,* NCERT, 1974

The longitudinal study was started in May 1965. It was confined to an urban population only. The total sample consisted of 294 children, 147 boys and 147 girls from the seven centres of Ahmedabad, Allahabad, Bombay, Calcutta, Delhi, Hyderabad and Madras. Some children were tested repeatedly at the seven centres at fixed intervals of six months.

Major findings of the study: 1. Urban children showed earlier and better language development as compared to either rural or industrial children. 2. The industrial children were more advanced than the rural, and slower than the urban children. 3. Calcutta centre children were far more advanced in language development than children of other regions. This was true of urban, rural and industrial areas as well. 4. Slower development was seen in Ahmedabad and Allahabad urban areas. 5. The longitudinal and cross-sectional results agreed, on the whole in showing that, whenever differences appeared, they were not more than six months.

***1413.** BEVLI, U.K., *Comparison of the Norms of language Development of Indian Children of Ages 2½ to 5 years as obtained by the Cross-sectional and Longitudinal Studies,* NCERT, 1974

The aim of the study was to see how far the results of the cross-sectional urban study were in agreement with the results of the longitudinal study. The language tests were adapted from Gesell's Scale. The original English test was translated into regional language. Responses were categorized, based on the degree of understanding a child possessed at different age levels and the level of abstraction he achieved.

The sample was drawn from seven centres of Ahmedabad, Allahabad, Bombay, Calcutta, Delhi, Hyderabad, and Madras. They were all distributed equally according to sex and in the age groups of 2½, 3, 3½, 4, 4½ and 5 years. The cross-sectional sample included 2510 nursery school going children from the urban population. The longitudinal sample consisted of 292 children, 146 boys and 146 girls.

Findings showed that the development of language is very important in the pre-school period, as it was at this stage that the child, for the first time, was able to speak freely. Language ability got gradually integrated with other fields of behaviour by the end of the pre-school stage.

1414. DUTTA, R. *Effect of Different Portage Training Intervention Models on Motor Development of Pre-School Mentally Retarded Children,* Ph.D. Edu., Pan. U. 1986

The objectives of the study were (i) to adapt the existing Portage guide to early education (check list items of motor development area) by Bluma *et al.* (1972), (ii) to find out the effect of Portage training for pre-school mentally retarded children on their specific motor handicaps, (iii) to study the effectiveness of different Portage models for imparting Portage training, (iv) to study the effect of socio-economic status of parents in determining gains of children due to Portage training, (v) to study the attitude of parents towards their mentally retarded children between pre- and post-training scores.

The study followed a time-series, quasi-experimental design, where success of treatment was studied through improvement in the child from time to time. The experimental period was 40 weeks. The sample of the study consisted of 24 mentally retarded school children with motor handicaps. The sample was divided into two equal groups. One group was trained by the home teacher through Model I and the other Model II. Each group was categorized into two sub-groups as belonging to parents of high socio-economic status and parents of low socio-economic status. In Modal I the home teacher visited anganwadi centres and gave training about the tasks which were to be accomplished. The home teacher visited these centres once a week and spent one hour with each child. In the case of Model II, the home teacher visited the centre once a week and gave training to parents of mentally retarded children about the tasks which were to be performed by the child during the week. The home teacher spent about one hour with each child and his/her mother once a week. The tools employed in the study were: (i) the Bluma (1976) Developmental Checklist; (ii) a set of 140 curriculum cards to match each of the behaviours on the checklist. Each

card included a behaviour description of the skill and suggested material and curriculum for teaching it; (iii) a weekly activity chart for each of the subjects; (iv) the Gesell Developmental Schedule (1949) to confirm motor handicaps;(v) the Vineland Social Maturity Scale (1965); (vi) the Bhartharaj Developmental Screening Test measuring intelligence from birth to 15 years of age; (vii) the Bhatti Parental Attitude Scale (1979); and (viii) the Srivastava Socio-economic Scale (1978).

The findings of the study were: 1. Portage training was provided only in the motor development area but each child gained check list items of other four developmental areas, viz. , social, language, cognitive development and self-help skills. 2. The teacher gave a larger number of prompts than parents to train their mentally retarded children. 3. A larger number of hours were spent by teachers with mentally retarded children to train them than their parents did. 4. Every mentally retarded child gained on Development Screening Test, Vineland Social Maturity Scale and Gesell Developmental Schedule as a result of Portage training, irrespective of the model and socio-economic status of their parents. 5. Mentally retarded children who were trained by teachers gained higher developmental quotient scores as compared to those who were trained by their parents. 6. Mentally retarded children of low socio-economic group scored as high as those of high socio-economic group due to Portage training. 7. As a result of Portage training, the parent's attitude towards child rearing, mental retardation and management of mental retardation considerably changed.

1415. GHOSH, S., *A Study on the Social Maturity of Preschool Age Bengalee Children of Calcutta City Belonging to Different Socio-economic Groups,* Ph.D. Appl. Psy., Cal. U., 1975

The major objectives were (i) to construct a scale for the appraisal of social maturity, (ii) to determine social maturity on the basis of the social quotient distribution of the sample concerned, (iii) to certify the value of social quotient in predicting the intelligence quotient, and (iv) to apply the scale for appraisal of social maturity of normal (longitudinal study) and different clinical groups.

Signs of agewise social growth and the characteristic pattern of behaviour expressing agewise social maturity were studied and, on the basis of the findings, a scale for the appraisal of social maturity, viz., a Social Maturity Inventory, was constructed. Thirty-six nursery and kindergarten schools were randomly selected from the different regions of Calcutta and 40 pre-school children (20 boys and 20 girls) were selected from each school at random equally distributed in each age group. Data were also collected by using a standardized interview schedule on the mothers of these selected children. The final sample included 1410 cases. Social age scores and social quotients (SQ) were found out for all the children. The reliability, predictability, validity and norms for the inventory were established. The capacity of the scale for the clientele was testified. Possible deviations were determined. Influential modes that might affect the growth signs of social behaviour and thereby the social quotient of a child were looked for.

The study revealed that: 1. Sex had very insignificant role in imbibing social maturation. 2. Economic status was insignificant as testimony of ability to enrich the social maturity level. 3. Social competency was the consequence of acculturation feedback, irrespective of any training or controlled environment. 4. The instrument was highly reliable and valid. 5. The derived equation for determining social maturity was sound.

***1416.** KHANDEKAR, M., *The Disadvantaged Pre-Schoolers in Greater Bombay,* Tata Institute of Social Sciences, Bombay 1973

The study aimed at (i) obtaining data on selected aspects of pre-school children in terms of their demographic and physical environment, the conditions constituting health hazards therein and their nutritional level, morbidity and pattern of care and treatment during illness, community resources, and their parents' understanding of the problems and needs of pre-school children, (ii) determining the parents' attitude towards the existing welfare programmes for pre-school children, (iii) studying the existing institutional framework for child welfare in the selected areas, and (iv) suggesting guidelines for formulating a minimum programme of integrated services for pre-school children in urban areas.

This was a descriptive survey conducted in four parts. It covered 2000 households from two wards, one from the city of Bombay and the other from a suburb. A quota sample of 1000 was drawn from each ward which was selected on the basis of percentage distribution of children, population, birth, infant death rate, etc. the community sample consisted of 100 functionaries serving in various essential services/organizations.

The study revealed: 1. The housing situation was worse in city although in both wards it was satisfacto-

ry. 2. Suburban parents were comparatively more educated. 3. The city ward contained more non-studying unemployed youth. 4. Mothers receiving prenatal care were fairly large in number and those receiving postnatal care were about 40 per cent of the total.

1417. MALLYA, I.P., *Special Play Session--A Play Way Method to Help Children with Special Needs,* Dept. of Child Development, MSU, 1982 (ICSSR financed)

The main objectives of the study were (i) to compile case studies of children with special needs helped through special play sessions in order to understand (a) the nature of special needs, (b) the behaviour of children with special needs, (ii) to share with other teachers some guidelines for integrating the special play sessions in the regular nursery school programme, and (iii) to understand the values and functions of special play sessions.

The primary sample consisted of 17 boys and two girls aged 2½ to 5½ years selected out of the general population of 85 children in Chetan Balwadi who had special needs and were referred to special play sessions. The secondary sample consisted of the team of Chetan Balwadi which included the teachers, paediatrician, student social workers and child development students participating in the balwadi, and the parents of the children and their family members and four experts in the field of early childhood education. The research tools used were: (i) the Classification Guide to define the children with special needs by classifying them into different categories, (ii) the Information Guide to collect initial data on the children referred for special play sessions, (iii) an interview schedule to assess the progress of the child from time to time, (iv) the cumulative record to collect overall information about the child, (v) the developmental testing record to collect information on the child's progress in the area of perceptual, motor, language and pre-mathematics skills, and (vi) incidental observations made whenever possible. The 17 studies of the children with special needs were compiled which reflected the nature of special needs and the behaviour of children with special needs.

The major conclusions were: 1. From the case studies, four principles of the helping relationship seemed to emerge: (a) the child should be accepted as he is. (b) A permissive atmosphere should be created for the child when he plays. (c) The child should be allowed to set his own pace. (d) Warmth and friendliness should be reflected in the relationship with the child. 2. The findings of the case studies demonstrated the fact that the class teacher herself could help the children with special needs if she had a little sensitivity, some knowledge and awareness of individual differences in children, some observational and handling skills, and an insight into children's behaviour. 3. Based on the findings of the study, an orientation programme for teachers working with children having special needs was worked out as follows: Part I consisted of 'Guidelines for the class teachers for developing skills in working with children', which had three modules (a) The Identification Stage, (b) the Helping Stage, (c) The Adjustment Stage. Part II consisted of guidelines for conducting group play sessions.

1418. MATHEWS, C.M.E. *et.al. Education to Overcome Malnutrition in Rural Pre-school Children,* Christian Medical College, Vellore, 1977 (ICSSR financed)

The objectives of the study were to (i) develop a method of education which could be used to change behavior in such a way as to reduce prevalence of malnutrition in pre-school children, (ii) to increase knowledge about causes of malnutrition in the project village, and (iii) to improve motivation and to influence attitudes in the project village so as to produce social pressure for adequate feeding of pre-school children.

The study was conducted in Tamil Nadu. The experimental area included three hamlets, Thuthipet Main Village, Thuthipet Harijan Colony and Sirukalambur. The control area included Nelvoy Main Village, Nelvoy Harijan Colony, and Pangalathan. The questionnaires were administered to mothers of children between five months and five years in experimental and control areas. Weights of children from five months to five years were taken at the beginning and at the end of the project and also monthly in the experimental area from the opening of the nursery schools.

The project had the following positive effects: 1. A high level of immunization was maintained continuously which the researchers had not been able to do in any other village. 2. Attendance improved at nursery schools. 3. After the end of the project, a youth group started in Edapalayam and offered to help run the nursery school, collect subscription, etc. 4. Reddys agreed to contribute Re 1 per month per child for the nursery

school. 5. There was considerable improvement in appearance of Harijan nursery school children. 6. When the nursery schools were first suggested, little interest was shown. Later there was considerable interest and participation.

***1419.** MISHRA, J., *Impact of Home and Socio-cultural Environments on Infant Behaviour and Development,* Ph.D. Psy., Utkal U., 1986

The major objectives of the study were (i) to find out the patterns of home environment in tribal, rural and urban upper and lower caste homes, (ii) to find out the specific types of differences in caste groups with regard to home environment, (iii) to find out differences, if any, in infant development and behaviour, and (iv) to find out the effect of parental education on infant development.

The sample was classified into five categories, viz., higher caste and lower caste babies of both urban and rural areas, and from tribal homes. In all, 150 babies, 30 from each of the five groups, were tested with the Bayley Scales of Infant Development. The Home Observation for Measurement of Environment and the Minnesota Child Development Inventory were also used for data collection. The data were analysed using ANOVA, correlation, multiple regression and factor analysis techniques.

The major findings of the study were: 1. The home environment of the five groups of infants differed significantly. 2. The rural and lower caste babies had lower home scores than the urban and upper caste babies. 3. The tribal babies had the lowest home scores and lower Bayley Scores than the babies of all other groups, except the urban lower caste group. 4. The highest predictability of the Bayley Scores was observed for urban upper caste group. 5. The Bayley and the Minnesota Child Development Inventory Scores could be predicted to a much greater extent for the tribal babies than the other groups.

***1420.** MISTRY, V., KAUL, S., DHAR, H., *Indepth Study of Non-formal Pre-school Education Component of the ICDS Project,* Dept. of Child Development, MSU, 1986

The specific objectives were (i) to compare the development of children from highest and lowest ranking anganwadis, (ii) to compare the performance of the children exposed and not exposed to the ICDS pre-school programme, and (iii) to compare the awareness and involvement of mothers in child care and development of children coming from highest and lowest ranking anganwadis.

On the basis of the assessment made through the investigator's observation pro-forma used in general monitoring, all the anganwadis under study were ranked on a continuum. Based on the ranking two anganwadis were selected on two extreme polarities, i.e. the highest and the lowest ranking anganwadi. A total of 60 children in the age range of 3–6 years from the above anganwadis were selected and compared with 20 children who had no exposure to pre-school education.

The major findings were:1. Both the exposed groups performed almost at equal level in all the aspects of development and there was not much difference in the performance of children from anganwadis at the two extreme polarities. 2. The impact of the anganwadi experience on the exposed children was significant. But the impact was not dramatic. 3. In relation to primary education, the trend was in favour of the exposed group. But it was evident that, to have a lasting effect, there was a need for developing linkages between pre-school experience and primary education and for improving the quality of schooling as well as community based services.

***1421.** MURLIDHARAN, R., *Personal-Social Development of Indian Children: Developmental Norms of Indian Children,* NCERT, 1968

The purpose of this study was to explore qualitatively the pattern of personal social behavior in children. The patterns of behaviour were expected to be used as guidelines by parents and teachers.

Thirty boys and 30 girls at every level from 2½ to 5 years (2½, 3, 3½, 4, 4½ and 5 years) from the urban, rural and industrial areas of Ahmedabad, Allahabad, Bombay, Calcutta, Delhi, Hyderabad and Madras were selected. The total sample consisted of 6997 children.

The findings were:1. Differences in pre-school social development between urban, rural and industrial children were only to be expected as cultural influences exercised their maximum effect perhaps on this aspect of development. 2. Indian samples were found to be faster than Gesell's samples. In drafting and communication

it was only the urban sample that compares favourably against Gesell's. The industrial and rural children were slower in these aspects. In play interests and sleep habits, the samples were totally different.

*1422. MURALIDHARAN, R., and BANERJI, U., *Effect of Pre-school Education on the Language and Intellectual Development of Underprivileged Children,* NCERT, 1974

Fourteen children from school 1, and 15 from school 2 were selected. The former group had two years of pre-schooling and were in kindergarten class. The second group belonged to class I of a local free primary school and did not have the advantage of pre-schooling. Phatak's Draw-a-Man Test was used. Mean, S.D. and 't' ratio were calculated.

Results showed the trend that the children in pre-school had done consistently better in all aspects of language development than the children in the primary school. However, the differences reached the level of significance only with regard to the number of words and in degree of comprehension. The pre-school was found to have a much higher score in intellectual development than the primary school group. The differences were found to be highly significant.

*1423. MURALIDHARAN, R., and KAUR, B., *A Study of the Relationship between Physical Development and Language and Cognitive Development of Tribal Pre-school Children,* NCERT, 1987

The objective of the study was to examine the relationship between indices of physical development and indices of language and cognitive development in the tribal pre-school child. The indices of physical development were height, weight, mid-arm circumference, head circumference. The indices of cognitive development were: shape and colour discrimination, time perception and sequential thinking.

The sample consisted of 12 anganwadis from Tokapal block of Bastar district of Madhya Pradesh. From each anganwadi 12 children (six boys and six girls) were selected. Thus the total sample consisted of 144 children.

The results indicated:1. All test scores in language and cognitive development were significantly correlated with height and weight of children. 2. No significant correlation between mid-arm circumference and language test scores was found. 3. A significant positive correlation was found between colour discrimination and sequential thinking and head circumference. On the whole, it may be said that there did exist a positive correlation between physical development of children and their development in language and cognitive areas in the three age groups.

In the second part of the study it was observed whether educational intervention on heavier children as compared to lighter children, and taller children as compared to shorter children had any effect or not. A pre-test, post-test, experimental-control group design was used. From the experimental and control group, those children who formed the two extreme groups in height and weight were focused upon to study the effect. The sample comprised 16 heavier and 16 lighter children, and 16 taller and 17 shorter children in the experimental group. The control group consisted of 17 heavier and 18 lighter children, and 18 taller and 17 shorter children.

The results showed that no matter whether the children were tall or short, heavy or light, the experimental group children made positive gains in language and cognitive tests after educational intervention. The control group too made some gains which was expected due to maturation.

*1424. MURLIDHARAN, R., and KAUR, B., *The Impact of an Intervention Programme on the Language and Cognitive Development of Pre-school Children from Tribal and Urban Slum Areas,* NCERT, 1987

The tribal study was conducted on 144 children drawn from the anganwadis of the Tokpal Project, Bastar district, Madhya Pradesh.

The design followed was experimental control, pre-test post-test design. Both the experimental and control (C) groups were given pre-tests in language and cognitive tasks. The anganwadi workers of the experimental (E) group were given pre-tests in language and cognitive tasks. They were then given a ten days orientation in techniques of story telling, conversation, picture reading, songs and games, art activities, etc. These workers were later supplied with picture books, picture cards, songs and games for use with children. The anganwadi workers were asked to use the materials con-

stantly, and after about eight weeks post-testing was done.

The major findings were:1. In most of the tests, the E group of tribal children showed a higher gain than the C group. It thus emerged that no matter how disadvantaged the children were, well-planned early childhood education strategies did make an impact and foster the development of children. 2. In all cognitive tasks, the E group of slum children scored consistently and significantly higher than the C group. In language tasks, the direction was the same but differences were significant only in two tasks.

*1425. MURLIDHARAN, R., and PANKAJAM, G., *An Evaluation Study of the Different Models of Pre-school Teacher Training Programmes from the point of view of their Impact on Children*, NCERT, 1987

The objective of the study was to examine the differences in the different models of pre-school teacher training, particularly from the point of view of what teachers trained under different schemes were able to do with young children and how children gained from them.

The study was done on 128 children in the age group of 3-5 years. Thirty-two children each were randomly drawn from schools where teachers had two years training, one year training, six months training and four months anganwadi training. The study was done in Gandhigram, Tamil Nadu. Children were tested in cognitive and language development.

The result showed: 1. In most of the tasks, the children whose teachers had two years training scored highest. Next came the anganwadi children, followed by the children whose teachers had six months training. 2. The differences between the anganwadi children and the children whose teachers had two years training were, however, minimal and therefore not significant. 3. AWWS, if well trained, could organize effective preschool programmes. In this case, the AWWS were trained by the Rural Institute, Gandhigram, which had a good infrastructure and competent staff.

1426. MUTHAYYA , B.C., *Child Welfare: Existing Conditions and Purposive Study in Andhra Pradesh*, NIRD, 1974 (Netherland Foundation for Child Welfare financed)

The objectives of the study were (i) to find out methods and techniques for the care of children in India (ii) to evaluate the education programmes for children, and (iii) to find out the attitude of parents towards child education.

The sample of the study was drawn from 17 villages. From each village a household was taken as a unit. In this way 1369 households were selected. In all, 1369 males and 1369 females formed the sample of the study. Information in the case of villages was about existing conditions in terms of geographical conditions, physical conditions, etc. Information about socio-economic conditions was collected about the households through observation and interview. Attitude of the males and females was measured through an attitude scale about health and family planning, hygiene, nutrition, education of children and economic activities of women. The scale consisted of 301 itmes of which there were 14 awareness items, 273 attitude items and 14 open-ended items about the family set-up.

The findings of the study were: 1. The majority of the male respondents were illiterate. They had children of different age groups who were not attending schools. 2. The respondents incurred household expenditure mainly on food, clothing, liquor, social and religious ceremonies. 3. A majority of them had taken loans during the year 1969-70 and owed as much as Rs 2000 to Rs 10,000. 4. They were not mobile enough to come into contact with official agencies like taluka, block and district offices. 5. A majority of the respondents had three to six children. 6. Deaths of children were more frequent in the pre-school age group. 7. Private doctors were more popular than government doctors. 8. There was widespread occurrence of contagious disease. 9. The majority of respondents reported having normal delivery, which was mainly conducted by the untrained dais. 10. The majority of the respondents breast fed their children in the age-group of 0 to 1 year. The majority of respondents did not use family planning methods. 12. The males had a more favourable attitude to child education than the females. 13. The males had a more positive attitude to education of girls than the females. 14. The attitude of respondents regarding education of young children and the role of money for education was uncertain. The male respondents maintained a more favourable attitude than the females. So also, the high socio-economic group had a more favourable attitude than the low socio-economic group. 15. As far as attitude towards teachers and Harijans was concerned, it was most favourable. But males had a more favourable attitude than females. 16. The attitude of respondents

towards child rearing practices and parental attitude was uncertain. The males had a better attitude than the females. 17. In the case of attitude towards rights and privileges of girls, females had a better attitude than males. 18. The attitude of respondents towards insurance of self, wife and children was unfavourable. 19. A higher percentage of respondents felt that the child could live on mother's milk alone till one year old. 20. A higher percentage of respondents aspired for higher secondary education for their sons. But for daughters a higher percentage of respondents aspired for some level of education, up to primary level only.

1427. MUTHAYYA, B.C., NAIDU, K.K., AND RANGA CHARYULU, *Evaluation Programme of Child Welfare,* NIRD, 1974 (Netherland Foundation of Child Welfare financed)

The objective of the study was to evaluate child welfare programme covering childhood to adulthood launched through the Indo-Dutch Project for Child Welfare in Andhra Pradesh.

The Indo-Dutch Project was implemented in Chevella block of Hyderabad district in Andhra Pradesh. The 671 beneficiaries, 189 leaders of different categories, 77 officials, both at the village and block levels, and 48 nonbeneficiaries formed the sample of the study. The beneficiaries availed of the schemes like health, trained dai, balwadi, mahila mandals, creche, dairy units and demonstration plots. The questionnaire covering different aspects of the programmes was used for collecting data from various categories of the sample.

The findings of the study were: 1. The health programmes had fulfilled a felt needs of the villagers as they were able to avail of the facilities proximal to the village. 2. Mahila mandals and balwadis were not functioning in a coordinated way. 3. The poultry and dairy schemes were a little more beneficial than the hectare demonstration plots. 4. As mahila mandals were not registered bodies, it was not possible to hand over the profits accrued to them for their use in the manner that was decided by the management committee of mahila mandals. 5. The people's participation in all the programmes was not encouraging as per the reports of leaders. 6. The programme brought an understanding among the people and officers that through effective coordination it was possible to achieve certain results. 7. Most of the beneficiaries had favourable views about the programmes. The programmes like training of dais and mobile health clinics were found very useful. 8. The beneficiaries had a favourable opinion of the educational programmes like balwadis. 9. The nutrition programme concerning poultry was not found to be encouraging. 10. The beneficiaries had a favourable opinion about creche programmes, especially for working mothers. 11. The increasing number of backyard poultry and dairy schemes were ensuring milk and egg supply to balwadis. The mothers' committees helped in supervising cooking and feeding the children in balwadis effectively.

1428. NARULA, P.K., *Play Preferences of Nursery School Boys and Girls as related to Their Cognitive Development, Socio-economic Status, Reactions to Frustration, and Patterns of Social Behaviour,* Ph.D. Edu., Raj. U., 1982

The objectives of the study were (i) to explore the main play preferences of the nursery school children in indoor and outdoor situations, (ii) to find out the preferences of nursery school children as related to their cognitive development, (iii) to find out the relationship between play preferences of nursery school children and their socio-economic status, (iv) to investigate how far the play preferences of nursery school children were related to their reaction to frustration, (v) to investigate how far the play preferences of nursery school children were related to their pattern of social behaviour.

A sample of 500 children (250 boys and 250 girls) was randomly selected from the nursery schools of eight districts of Jaipur and Ajmer divisions of the state of Rajasthan. Out of this sample 250 (125 boys and 125 girls) belonged to junior nursery and 250 children (125 boys and 125 girls) belonged to senior nursery. The sample children were tested for intelligence through the Senguin Form Board, for perception through 20 cards prepared on the lines of Perceptual Speed Test of Thurstone, for language development through 20 different objects, and concept formation was studied for the concepts of colour, shape and size. The latter were studied through 30 cards having ten cards bearing a circle drawing, ten cards a square drawing, and ten a triangle drawing, in different sizes and ten different colours. Reactions to frustration were studied with the help of an Indian adaptation of the Rosenzweig Picture-Frustration Test. Play preferences and patterns of social behaviour were studied through the Obson and

Cunningham Observation Chart. The data were analysed and interpreted using correlation and analysis of variance, supplemented with critical ratio.

The findings of the study were: 1.Most of the boys and girls preferred to play with building blocks,ball frames,coloured trays, fruit sets, building sets, beads, bricks, hole fixing boxes, musical instruments, picture boxes, alphabets and water 2. In the case of outdoor games, boys and girls preferred to play with double ladder, jungle jim, sand boxes, swings, merry-go-round, rocking boat, rocking horses, slides, sea-saw, balls, jumping mats and rings. 3. Play preferences of boys and girls did not differ significantly at junior levels both in case of indoor as well as outdoor games. 4. Socio-economic status did not influence the play preferences of boys and girls at junior or senior stages, if given equal opportunity. 5. Play preferences of extreme groups of boys and also of girls formed on the basis of cognitive variables, viz., intelligence, perception, concept formation and language development, were found significantly related in both indoor and outdoor areas. This disclosed that the factors of intelligence, perception, concept formation and language development did not influence significantly the play preferences of boys and girls in indoor and outdoor areas. 6. Play preferences of extreme groups of boys and also of extreme groups of girls, formed on the basis of various reactions to frustration were found significantly related. This disclosed that play preferences of both the sexes were not influenced by various reactions to frustration. 7. Boys and girls displayed different patterns of social behaviour. Boys displayed more patterns of rivalry and teasing whereas the girls displayed more patterns of cooperation and sympathy. On other patterns of social behaviour, the sexes differed but not significantly. 8. The boys and girls at the senior stage displayed better perception in comparison to those at the junior stage. The girls at both junior and senior stages displayed better perception than the boys. 9. The boys and girls at the senior stage displayed better concept formation than those at the junior stage. 10. The boys and girls at the senior stage displayed better language development than those at the junior stage. Further at the junior stage, the girls displayed better language development than the boys, but such differences were not noted at the senior stage. 11. Out of the six reactions to frustration, significant differences were not noted in obstacle dominance, ego-defence, need persistance, intropunitiveness and impunitiveness, between groups of boys and also between groups of girls at the two stages. Such differences were also not displayed between boys and girls at the senior and junior stages. Of course, the girls at the junior stage displayed significantly more tendency of extrapunitiveness than the girls at the senior stage, and the boys at both the stages.

The study has its implications for the nursery schools, where different play activities need to be provided to the children, irrespective of sex and socio-economic status. These activities will help in cognitive development, handling reactions to frustration, and above all for proper social development.

***1429.** NIPCCD, *Indepth Study on Community Participation in Kanjhawala ICDS Block: A Report,* New Delhi, 1986

Two anganwadis ranked at the polarities from representative sample of 15 anganwadis were selected as the experimental group. Two nearby anganwadis were treated as the control group. Thirty-five respondents from each anganwadi were selected.

A test—retest design to ascertain the impact of intervention was used. A set of interview schedules, specially devised to collect information in various dimensions of community participation, were used.

Intervention made a difference not only in awareness but also in participation and perception as observed from the post-indepth phase. The experimental group showed a significant rise in the scores on all dimensions of community participation in both the better performing and poorly performing anganwadis.

***1430.** NIPCCD, *Pre-School Education in the ICDS, An Impact Study,* New Delhi, 1980

The major objectives were (i) to study the perception of ICDS functionaries about pre-school education, (ii) to study the perception of parents regarding the pre-school education component of the ICDS, (iii) to study the delivery system of pre-school education in the ICDS, (iv) to gauge the impact of pre-school education in terms of the cognitive and language development of the child, and (v) to suggest ways and means of strengthening the pre-school education components of the ICDS.

The findings were: 1. The majority of the anganwadis (90), were located at sites that were easily accessible to children. 2. All centres were in fairly good condition. 3. No separate kitchen, toilet or water service was found in

a majority of the centres. 4. Play space in 83 per cent of the anganwadis was insufficient. 5. All the respondents were aware of the ICDS programme—two major components of the scheme, nutrition and pre-school education. 6. An equal percentage of children from the SC, ST and upper castes were enrolled at the centres. 7. A significant increase in the attendance was found at meal times as compared to that during the pre-school activities, particularly in Delhi, Rajasthan and Uttar Pradesh. 8. About 96 per cent of parents of non-beneficiaries were aware of the existence of an anganwadi in their area, yet they did not send their children. 9. Children who attended the anganwadi dressed well, and children in urban and rural areas were cleaner than tribal children. 10. Only 30-35 per cent of parents understand the importance and need for pre-school education. 11. Teaching of the alphabet and numbers was the primary activity of the anganwadis. 12. Action songs formed a part of the daily schedule. 13. Socialization of children i.e., teaching them to sit properly in place etc., were among the expectations of parents from the anganwadis.

1431. PATEL, S.K., *Development of Reading Readiness Programme and to Study its Effect on Reading Readiness of the Pupils of Pre-primary Schools,* Ph.D. Edu., SPU, 1983

The objectives of the study were (i) to develop a reading readiness programme (RRP) for pre-primary pupils, (ii) to study the effect of RRP upon the reading readiness of pre-primary pupils, (iii) to study the effect of RRP upon the reading readiness of urban and rural pupils, (iv) to study sex differences in the effect of RRP upon reading readiness, (v) to study the effect of RRP upon the reading readiness of pupils of highly educated parents and those of lowly educated parents, and (vi) to study the effect of RRP upon the reading readiness of pupils of high income parents and those of low income parents.

In order to study the impact of the reading readiness programme, a criterion-referenced test of reading readiness was constructed to measure concept formation, visual discrimination, auditory discrimination, knowledge of alphabet, acquisition of vocabulary, associating meaning with printed symbols and copying simple figures. The reliability of the test was established by the test-retest method, split-half method and K.R. formula 20 and 21. The RRP was prepared to develop the components of concept formation, knowledge of alphabet, vocabulary, visual discrimination, and auditory discrimination. The experiment was carried out on 320 pupils of which 160 were boys and 160 girls. A second group of 320 pupils, of which 160 were boys and 160 were girls, was the control group. To draw conclusions a factorial design was developed.

The major findings were: 1. The reading readiness programme had a positive impact on the reading readiness scores of pupils of the experimental group. 2. The children of the urban group were better in reading readiness than those of the rural group. 3. The children of the higher income group parents were superior in reading readiness to those of the lower income group. 4. Reading readiness appeared to be dependent on treatment as well as parents' education. 5. Reading readiness was also dependent on area (rural and urban) and parents' education. 6. The development of reading readiness was dependent on treatment, parents' education, parents' income and sex of the pupils.

Some of the educational implications of the study are: 1. The pupils coming from low income group should be administered a reading readiness programme. 2. In order to minimize an occurrence of reading disability, wastage and stagnation in education, children seeking admission in class I should be administered an RRP. 3. The poor readers in class I and II should be treated as disabled readers and a remedial programme in reading should be prepared and used.

***1432.** SAHNI, S., AGARWAL, S., *A Study of an Intervention in On-going ICDS Programme to Promote Cognitive Abilities of Pre-schoolers,* NIPCCD, New Delhi, 1986

The objectives of the study were to determine the knowledge and skills of anganwadi workers for providing cognitive experiences to the children before and after an intervention programme, and to study the impact of intervention on the cognitive activities of anganwadi children drawn from five villages of Hissar Block II.

Close-ended inventories were used to assess the knowledge and skills of anganwadi workers and a test of cognitive development by Bishnoi was used to measure cognitive abilities.

The major findings were: 1. There was significant difference between pre and post intervention in the knowledge and skills of anganwadi workers and also in the cognitive abilities of children before and after interven-

tion. 2. In addition, analysis of the data also showed that a majority of children in the anganwadi were males and belonged to well-nourished homes having an annual income between Rs 15,000 and Rs 25,000 (the finding is indeed a jolt on ICDS as it is meant to serve children from disadvantaged homes).

***1433.** SESHAMMA, N.V., and KARANAM, A., *Attitudes of Pre-school Teachers towards Pre-school Education Programme,* NIPCCD, New Delhi, 1986

The major objectives were to determine the difference in the attitudes of pre-school teachers toward play in three different set-ups (anganwadi, laboratory schools and other nursery schools) and to find out if there were any differences in facilities available for play. The study covered 30 per cent of pre-schools in urban Tirupati (2 lab schools, 35 anganwadis, and 10 other nursery schools). Observations and interview schedules were administered to 56 teachers.

The major findings were: 1. A majority of the teachers in all set-ups considered play as very essential. 2. Amongst anganwadi workers, 97 per cent accepted play as essential, 80 per cent had positive attitudes towards water play, sand play, organized play, etc. and 93 per cent of anganwadis had play activities. Of the 35 anganwadis surveyed, 27 emerged as 'B' grade and eight as 'C' grade on the basis of the scores on pre-school evaluation scales.

1434. SHUKLA, R., *A Study of Social Competence of Five-Six Year Old Children in relation to the Family Structure and Preschool Background,* Ph.D. Edu., Luc. U., 1984

The study was designed to determine the effect of the structural composition of the family, ordinal position of the child, school environment and socio-economic status on the social competence of children between the age of five and six years.

The sample for the study consisted of 100 children drawn from eight pre-basic schools of Lucknow. The data regarding social competence were collected with the help of the Social Behaviour Check List originally written by Danier Ogilvie and Bernice Shapiro and with an appendage by Jane Attanucci and Barbara Kaben. For assessment of intelligence, the Board Form of Raven's Progressive Matrices Test (Coloured Series) was administered to the students. Information regarding family composition was collected with the help of a Family Information Form. With the help of an unstructured interview schedule, responses from the mothers about children's interaction with adults and siblings at home were collected.

The main findings of the study were: 1. Family structure did not have any effect on children's ability for social interaction. 2. Family size did not have any effect on social competence of children. 3. Presence of grandparents did not have any effect on the social competence of children. 4. Ordinal position of the child did not have any effect on the social competence of the children. 5. Both rewards and punishment had effect on social competence of children. 6. With age, the students acquired greater social competence. 7. Sex did not have any influence on social competence. 8. School environment had a significant effect on social competence of children.

1435. SINGH, K.K., Gopal, A.K. and MURTY, N.R., *Balwadis in India—An Evaluation Study,* NIPCD, New Delhi, 1978

The objective was to evaluate the existing programmes to determine the relative effectiveness of balwadis and suggest ways of making maximum use of existing services.

An *ex-post facto* study of the balwadis under the CSWB and ICCW was undertaken. A multi-stage sampling procedure was adopted to select the states, districts and villages and the respondents from each village; though the balwadis under the CSWB and ICCW were in all the states, for convenience only six states were selected for the CSWB and ICCW balwadis—Gujarat, Maharashtra, Karnataka, Tamil Nadu, West Bengal and Andhra Pradesh. A total of 150 balwadis, 135 of the CSWB and 15 of the ICCW were selected. The respondents were parents of beneficiaries, ex-beneficiaries, non-beneficiaries, community leaders and balsevikas. Thirty-nine interviews were conducted in each balwadi using an interview schedule for balsevikas, another for parents of beneficiaries and ex-beneficiaries and a separate schedule for parents of non-beneficiaries and also one for community leaders; besides, an observation schedule on the working of balwadis, a balwadi pro-forma for their timing, activities, budget, staff particulars, volunteers and possessions of balwadis, along with an activity pro-forma for

information about local and other contributions, and interview guidelines for state and district level officials concerned with the balwadi programme were used.

The study revealed: 1. The proportion of scheduled caste and scheduled tribe children accounted for approximately 17 and 4.4 per cent of the total enrolled, the differences among states were minimal while those from Andhra Pradesh steadily declined and those from Karnataka steadily increased; only in West Bengal were scheduled caste children adequately represented. 2. By and large, the beneficiaries had a larger monthly income as compared to non-beneficiaries; differences in housing were in favour of beneficiaries; the proportion of illiterates among the non-beneficiaries, 45 per cent, was nearly double that of beneficiaries; nearly one-fourth of beneficiaries had completed higher secondary while only slightly over one-tenth of non-beneficiaries had done so. 3. A majority of beneficiaries as well as non-beneficiaries were from nuclear families with a family size of five to seven members. 4. Where there was one balwadi-aged child in the family, the child attended the balwadi but as the number of such children increased the proportion of families from which children attended the balwadi decrease significantly. 5. Reasons given by parents of beneficiaries for sending their children to balwadis were attainment of 3 Rs followed by acquisition of good habits, development of creative abilities, personal hygiene, children being cared for in the absence of parents, provision of nutritional supplements, persuasion by others and advantages for later schooling. Parents from Gujarat, Karanataka and Tamil Nadu were more aware of the multiple advantges. As many as 42.7 per cent of parents of non-beneficiaries did not give any reason for not sending their children to balwadis, others indicated lack of escort, parents' lack of interest, inaccessibility of balwadi and inability to bear expenditure as some of the reasons; some others gave caste discrimination, refusal of admission, uncongenial atmosphere in the balwadi, unsuitable timings, poor programme and lack of nutrition programme as some of the reasons. In more than 90 per cent of the cases, the balwadis were located within a distance of half a kilometre from the houses of the beneficiaries. 6. The average annual expenditure per child in the balwadis was Rs 78 by beneficiaries and Rs 70.00 by ex-beneficiaries; the major items of expenditure were clothes and footwear, followed by fees, tonics and medicines, toys and play materials, books and stationery. 7. The balwadis served slums, depressed localities and resettlement colonies in urban areas, drought-prone areas, rural areas populated by scheduled castes and tribes, landless labourers and low-income groups. 8. With the exception fo balwadis under the family and child welfare projects, in all states, except Gujarat, there was little contact between the block development officers and PHCs on one hand, and balwadi staff on the other. Grants from state boards/councils for child welfare accounted for 53.5 per cent of the funds while local contributions were 11 per cent, grants from other government departments amounted to 9.1 per cent, fees 8.1 per cent, membership fees was 0.7 per cent and miscellaneous 12 per cent. The major expenditure was salaries of balsevikas and helpers followed by the feeding programme, celebrations, travelling expenditure of heads while the expenditure on purchase of new equipment and replacements was not considered seriously, probably because it was negligible. 9. Progress cards were not maintained in 58 per cent of the balwadis while the record was up-to-date in only 32 per cent of them; health records and menus were non-existent in 34 per cent of the balwadis, immunization and home visit records were even poorer. 10. Locations were unhealthy in 29 per cent of the cases, the worst being in West Bengal, followed by Maharashtra and Gujarat. Balwadis had inadequate space and furniture as well as equipment for education, health and nutrition. 11. A majority of balwadis run by the ICCW in Andhra Pradesh had no provision for outdoor play, creative handwork, drawing, painting and nature study. In CSWB balwadis, learning was formal, with emphasis on acquisition and memorization of the alphabet, numbers and nursery rhymes; emphasis on developing the creative faculty was rare. Parents of beneficiaries and ex-beneficiaries perceived the main activities of balwadis as singing and dancing while parents of non-beneficiaries felt they were reading, writing and playing sometimes; most parents of the three groups were unaware of other activities. 12. Karnataka and Tamil Nadu, where the balwadis were sponsored or run by the CSWB, had the maximum number of untrained balsevikas; no marked differences were found in training and educational qualifications of balsevikas from rural, urban and tribal balwadis. 13. A majority of balsevikas from Gujarat, Karnataka, Maharashtra and Tamil Nadu played some role in enrolment of children in the balwadis while 66.7 per cent in Andhra Pradesh and all in West Bengal played no role in enrolment; most non-beneficiaries had never been contacted by balsevikas. 14. There was no significant difference in job satisfaction of trained and untrained balsevikas. 15. Benefits of balwadis to locality/villages were both direct

(benefits of children) and indirect (adult community), the major share going to the elite, upper castes and dominant class. 16. As many as 69 per cent of teachers reported that children of balwadis learnt easily in primary schools and three-fourths of the teachers in Andhra Pradesh and Karnakaka said children were also more regular and punctual, more neat and clean, with better socialization, adjusted easily in schools and showed ease of learning.

***1436.** SRIVASTAVA, S., *Cognitively Oriented Preschool Programme for Children: Formative and Summative Evaluation,* Dept. of Child Development, JBAS Women's College, Madras, 1987

A project cognitively oriented programme for preschool children (COPPC), an in-service training course for grassroots-level workers, was developed. The activities and achievements of the COPPC project were evaluated by examining the impact of this innovative training methodology. The change in development of knowledge, skills, and attitudes of pre-school teachers and supervisors and also their pre-school children in terms of their language, cognitive development, personality and creativity were evaluated.

The sample consisted of seven batches of trainees from the seven districts of Karnataka. COPPC training designed to accomplish behaviour changes in the adult, leading to changes in the method of conducting cognitively oriented pre-school activities and finally resulting in stimulating young children to be active, creative and independent in thinking and to develop effective language skills.

Totally, about 140 women workers in seven batches of 20 each attended a 12-day course.

The findings showed: 1. Skills and knowledge of COPPC workers improved with training. 2. There were positive changes in 'attitudes' especially attitudes towards self, other and one's own job.

***1437.** TARAPORE, F.Z., DESHPANDE, K., PANDSE, S., *Study of Non-formal Pre-school Components of ICDS Project, Junar,* SNDT College of Home Science, Pune, 1986

This was a two-phase study. The first phase dealt with general monitoring of social components of ICDS. The second phase was an in-depth study on the component of non-formal pre-school education in ICDS.

Fifteen anganwadi workers from the block were selected. About 570 women beneficiaries formed the sample. For phase II, the sample consisted of children with and without exposure to non-formal pre-school education, children of I and II standards of primary schools, and mothers and teachers of these children. Data on the beneficiaries caste, type of family, land they held, educational status, etc. were collected. Observation on the service being implemented were made. The performance of children from Higher Rating Anganwadis (HRA), Lower Rating Anganwadis (LRA), and non-ICDS was compared in the areas of personal information, gross and finer motor development, conceptual and readiness skills, auditory and visual discrimination, language skills and comprehension, and personal social skills.

It was found that HRA and non-ICDS children performed better than the LRA group.

1438. VAZIR, S., *Influence of Maternal Psycho-social Functions on the Nutritional Status of Rural Preschool Children,* Ph.D. Psy., Osm. U., 1983

The objective of the study was to test the hypothesis: The maternal psycho-social factors like maternal intelligence, attitude toward child, maternal childhood experience, supportive system and family socio-economic status influence current as well as chronic malnutrition among pre-school children in a family.

Two hundred families having one or more than one pre-school child within the age-group of one year to five years were readomly selected from a village situated near Hyderabad city municipal limits. The women in the family were measured on, (i) maternal intelligence through Raven's Coloured Matrices, (ii) maternal attitude towards the child using randomly selected items from Rohner's Parental Acceptance and Rejection Scale (1980). (iii) maternal childhood experiences through a locally developed scale, and (iv) the supportive system in the microenvironment of the mother through a locally developed scale. The nutritional measures of the children and mothers were measured through the Harvard and the NCHS (Nutrition Council of Home Science) standards.

The findings of the study were:1. The weight for age index of the child was strongly associated with maternal psycho-social functions. 2. The socio-economic status of the family was related to the nutritional status indices

of the children. The lower middle class had a less nourishing climate for the child as compared to middle, higher and high class status. 3. Better maternal intellectual ability was positively related to the nutritional indices of the children as compared to low maternal intellectual ability. 4. Positive trends were seen in the mean nutritional status indices of children in the high maternal support category. 5. The maternal attitude toward the child was related significantly to the child's weight as a percentage of standard. 6. Height and weight of the child were dependable indices of his/her nutritional status when any psychological factor was included as an independent variable and, further, was correlated with nutritional parameters. 7. The intellectual ability of the mother was positively related to her nutritional status. 8. Though the support to the mother did not directly influence the nutritional status of children, it had an important direct effect on the nutritional status of the mother herself. 9. The socio-economic status of the family was significantly related to the nutritional status of mothers. 10. The maternal weight and socio-economic status of the family were significantly correlated with the children's nutritional status as assessed by weight. 11. Supportive systems and socio-economic status of the family were significantly correlated with maternal weight.

The study has implications for researchers and educationists. Researchers should establish anthropometric indices for nutritional value. Educationists should help in changing the attitudes of mothers by organizing adult education and literacy classes. Programmes directed towards improving the health of mothers and children need to be organized.

ALSO SEE

1440. ACHARYYA, S.C., *Pre-Primary and Primary Education in Tripura and Cachar, Development and Problems*, Ph.D. Edu., Gau. U., 1984

1448. DASS, J.R., and GARG, V.P., *Impact of Pre-Primary Education on Dropout, Stagnation and Academic Performance*, Education Department, Municipal Corporation, Delhi, 1985

618. GHOSH, S.E.R., *Measuring Intelligence of Bengalee Pupils of Infants' Schools*, Ph.D. Psy., Cal. U., 1958

116. GOSWAMI, K., *A Study of the Problems of Working Mothers and Their Impact on Their Pre-School Children with special reference to the City of Gauhati*, Ph.D. Edu., Gau. U. 1987

402. KHOKHAR, C.P., *Parenting, Sex and Economic Status as Correlates of Sociogenic Need Satisfaction of Children*, Ph.D. Psy., Mee. U., 1983

1464. LAL, S., *Early Childhood Education—An Effect to Enhance School Enrolment*, NIPCCD, New Delhi, 1986

470. SARASWATI, T.S., *Perceived Maternal Disciplinary Practices and Their Relation to Development of Moral Judgement*, Dept. of Child Development, MSU, 1978 (ICSSR financed)

1138. SEETHARAMU, A.S., and Usha, M.N., *Pre-Primary Teacher Education*, ISEC, 1984

763. SURIAKANTHI, A., *A Study of Language Development of Socially Disadvantaged Rural Pre-Primary Children of Madurai District*, Ph.D. Edu., Ker. U., 1982

690. VERMA, A., SARASWATHI, T.S., *The Child Development Curriculum and its Relevance to Job Competencies Expected in the Field*, Dept. of Child Development, MSU, 1983 (ICSSR financed)