

Research in Special Education

A TREND REPORT

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CONCEPTUAL FRAME

There are individuals who learn very fast. There are others who do not learn very fast but, with reasonable teaching-learning input, can learn prescribed tasks, maybe over a relatively longer time segment. There are some individuals who find it difficult to learn without special inputs. These are the individuals who have special learning needs which arise out of sensory, intellectual, psychological or socio-cultural deficits. For example, persons with visual, hearing or neuromuscular impairment have learning problems. So have persons with a low level of intellectual functioning and those with disorders in psychological processes. Emotionally disturbed persons have learning problems of their own. These conditions, impairments or disabilities, impede the normal development of individuals—intellectually, socially, emotionally and physically. Needless to say, the discrepancy in their development and the development of those without such impairment depends on the type and degree of the disability. There are, however, ways to reduce this discrepancy through restorative, habilitative and rehabilitative inputs, including education. Thanks to significant developments in medical science, technology and education, the lives of disabled persons can be normalized through special inputs. These persons can also be educated using special instructional methodology and instructional material, and learning aids and equipment specific to special learning needs. It also requires additional teaching competencies in the general teacher and, in some cases, spe-

cial teachers are indispensable. These needs have given rise to the component of education known as *Special Education*. Special Education, therefore, is that component of education which employs special instructional methodology, instructional materials, learning-teaching aids and equipment, and special teaching and managerial competencies to meet educational needs of persons with specific disability (ies). These needs may be congenital or may arise out of conditions appearing at any stage of life.

Special education also covers persons who deviate from their peers because of *excellence* in certain functions. As against special needs arising out of impairments, the special needs of the gifted are identified on the basis of positive discrepancy from an accepted norm and mostly reflect the positive extreme of the potential continuum. These persons are considered to have special needs because the education system in general fails to cope with their educational needs for full development of their potential. Special inputs are required for this target group to this end.

If special education is to be viewed as a system of education catering to the educational needs of persons with special characteristics, then it should logically also cover persons with socio-cultural disabilities—tribals, scheduled castes, minorities, a section of women, refugees, orphans, persons coming from below poverty line families, etc. This chapter however is confined to the education of persons with special needs arising out of sensory, intellectual, neuromuscular and psychological impairments, and those arising out of giftedness. Spe-

cial educational needs arising out of socio-cultural disabilities have been covered in other chapters.

Considering the nature of special education, the organizational scheme of this review can be conceptualized along several dimensions. For example, one broad dimension refers to the 'excellence' and 'deficit' aspects of the continuum of special education needs, i.e. education of the gifted and education of persons with special needs arising out of disability. Another dimension relates to the process of special education covering identification, assessment, educational setting, educational programming, curriculum development, instructional methodology, managerial input, and instructional outcomes. Yet another dimension can be conceptualized on the basis of the type and methodology of research employed. Research in special education being in the embryonic stage, the coverage of dimensions is also very limited. An eclectic approach synthesizing different dimensions seems to be a viable proposition. If research is to provide an empirical base to special education, research and studies are required within this framework in terms of coverage of the area. There will be surveys for assessing the magnitude and status of services, correlational studies to generate hypotheses, experimental and quasi-experimental research for studying effectiveness of intervention strategies; development studies for understanding phenomena, development of tools and techniques; case studies and ethnographic studies for providing support to special education programmes. The conceptual framework following this approach has been mapped in Figure 27.1.

Special education being a multidisciplinary area, it involves active interaction of personnel from different sectors like medicine, education, psychology and sociology. The literature in different sectors uses terminology with their respective discipline bases. This chapter uses the following operational definitions.

Hearing Impaired: Hearing impaired persons have hearing loss in one or both ears due to impairment in the auditory mechanism. The hearing loss is a continuum ranging from mild to severe and profound loss. Deaf persons on this continuum are those whose auditory channel fails to serve as a means of processing speech. There are hearing impaired persons on this continuum whose auditory channel is viable at some level of amplification for processing speech. Hearing impairment can be congenital or acquired at any stage of life.

Visually Impaired: Visually impaired persons are those who have significant loss of or defect in vision due to

impairment in one or both eyes. The visual loss presents a continuum. The partially sighted persons are able to use their eyes in some way to read, but blind persons cannot read by any means of vision and use their fingers to read Braille or use talking books. The impairments causing damage to or loss of vision can be congenital or acquired at any stage of life.

Orthopaedic and Neuromuscular Impairments: These conditions refer to motor impairment causing problems relating to muscles and joints affecting gross or fine movement. Neurological impairments, along with muscular impairments can lead to sensory deficits and problems relating to intellectual functioning. Polio, cerebral palsy, spinabifido and muscular dystrophy are some of the conditions of disability in this area. Persons with only orthopaedic impairments, though they have locomotor problems, do not have learning problems as such. But those with neurological impairments have learning problems also.

Speech Impairment: This is condition of speech that interferes with communication. It includes problems of articulation, stuttering and voice disorders. It may be due to damage to or loss of the speech organ. It may be a condition associated with sensory impairment like cerebral palsy, hearing loss, or mental retardation.

Mental Retardation: Mentally retarded persons are those with significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behaviour and manifested during the developmental period. Their performance on developmental/intelligence tests and adaptive behaviour scales fall two or more standard deviations below their chronological age peers.

Learning Disability: Persons with learning disability are average or above average in intelligence and have no visual or hearing impairment, but have specific learning problems in reading, writing, spelling, speaking, and arithmetic due to a disorder in psychological processes like memory, attention and perception. These conditions are presumed to be associated with dysfunction of the central nervous system.

Behavioural or Emotional Disorders: These are manifested in behaviour of individuals deviant from age-appropriate expectations to the degree that it signifi-

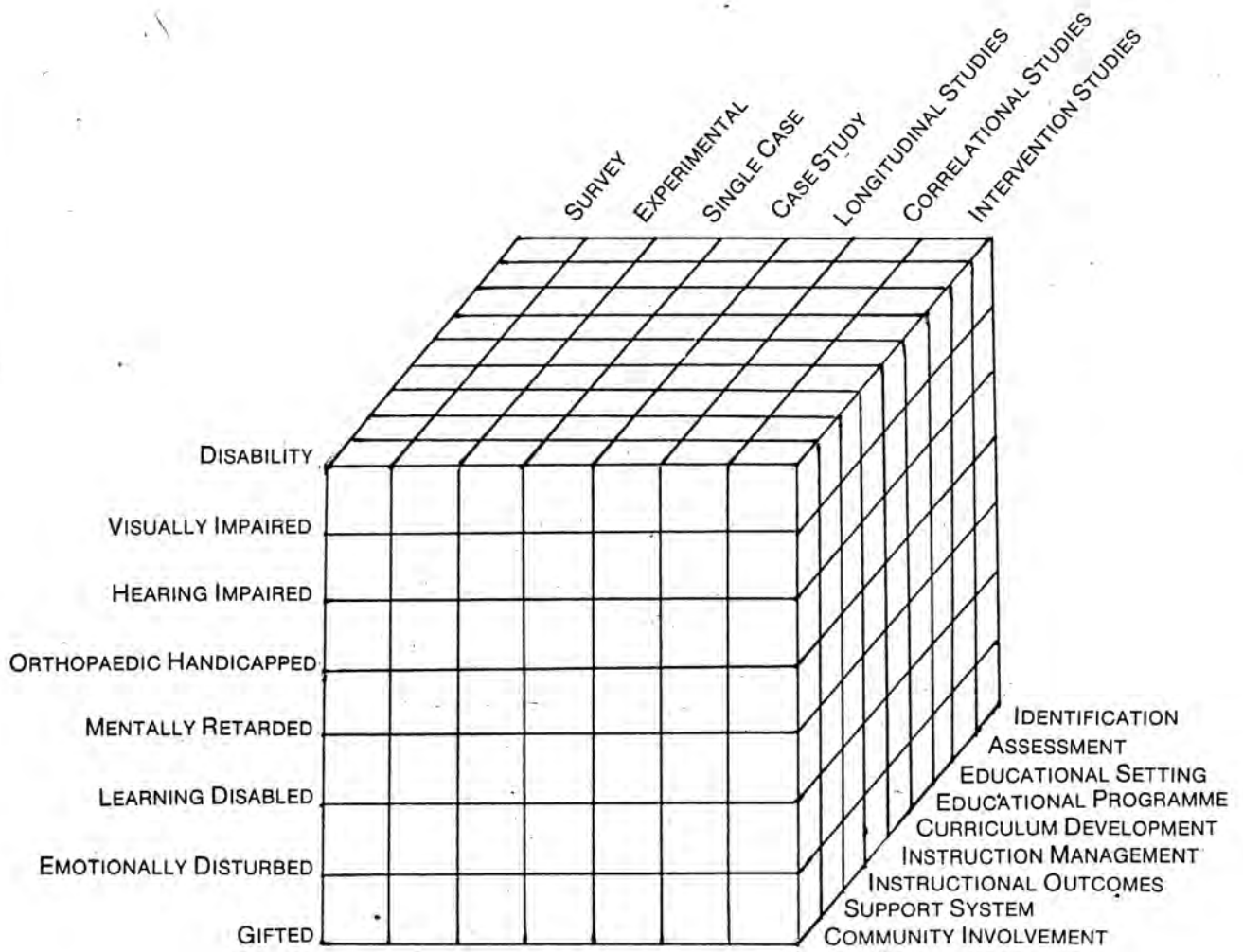


Figure 27.1: CONCEPTUAL FRAMEWORK OF RESEARCH IN SPECIAL EDUCATION

cantly interferes with their development and/or the lives of others. In extreme cases, these behaviours can be self-injurious or can be injurious to others.

Gifted: This term describes persons who fall on the positive extreme of the measurement of intellectual functioning, usually on a test of intelligence. They are represented by an IQ of 110 or more. Of late, the scope of giftedness has been broadened to include persons high on other such cognitive characteristics as those relating to creativity.

Integration: Integration is the opposite of segregation. In the context of special education, it implies educational provision for persons with special needs within the educational system for *all*: persons with special needs study side by side with other persons in general educational institutions, of course, supported by special services as per their needs, so as to enable them to develop to their full potential. From this emerges the integrated education setting, which implies education of disabled persons in general institutions.

Special Schools: Special schools provide segregated educational facilities for children with a particular special need. For example, schools for the blind, deaf, mentally retarded and gifted. The recent trend, however, is towards special schools also serving as resource centres for integrated settings.

QUANTITATIVE TRENDS

Research in Special Education, as a subject of independent existence in literature on educational research, is a recent development. The first review of research in special education in the *Encyclopaedia of Educational Research* (Mitzel, 1982) appeared in 1982 and in the first *Handbook of Special Education* (Kauffman *et al.*, 1982) in 1983. The first *Encyclopaedia of Special Education* (Reynolds *et al.*, 1987) is as recent as 1987. In our own country, this area has received attention only in the current *Survey of Research in Education*. The first three surveys did not identify sufficient researches to warrant independent review of trends (Buch, 1974, 1979, 1986). Prior to this, an attempt was made at the NCERT by Jangira and Mukhopadhyay (1986) to catalogue and review research in special education in India. The review covered 108 studies at postgraduate level, seven at doctoral level and 35 studies conducted by different institu-

tions. This survey, however, did not cover research on the gifted.

The present survey does not cover research at post-graduate level. Table 27.1 presents yearwise and disabilitywise distribution of doctoral and institutional researches.

Table 27.1

YEARWISE AND DISABILITYWISE DISTRIBUTION OF RESEARCHES

Year	VI	HI	OH	MR	LD	Gifted	Misc.
1965	1						
1968	1	1		1		1	
1969				1		2	
1970		1					
1973				2		3	
1974		1	2		1	1	
1975	2			1			
1977					1		
1978				5			
1979			1	2			
1981	2	1	4				
1982				1	1	1	1
1983			1			1	1
1984					1	2	
1985	2	1	2		1	1	2
1986	1	1	1	3			
1987	1	1		1			

VI: Visually Impaired HI: Hearing Impaired OH: Orthopaedic and Neuromuscular Impaired MR: Mental Retardation LD: Learning Disability

The first doctoral research was conducted by Advani (1965) in the area of visual impairment in the University of Bombay. In all, 57 studies have been recorded covering a span of three decades since then. The largest number of studies in a single year (7) covering practically one in each area of disability appeared in 1985.

Special education being a multidisciplinary area, studies were conducted in different departments. Table 27.2 summarizes yearwise and departmentwise studies.

It can be seen that during the period under review 18 studies were reported in education, two in sociology, 15 in psychology, and one each in economics and linguistics. Out of these 20 have been institutional studies financed by such agencies and organizations as the NCERT, ICSSR, UGC and UNICEF.

Table 27.2

YEARWISE AND DEPARTMENTWISE SUMMARY OF STUDIES

Year	Edu.	Psy.	Socio.	Eco.	Lingu.	Institu- tions	Total
1965	1						1
1966						1	1
1968	1					1	2
1969	1					2	3
1970						1	1
1973	1	4					5
1974	2	2					4
1975			2			1	3
1977	1						1
1978		4			1		5
1979		2				1	3
1980	2						2
1981		1				5	6
1982	2					1	3
1983		1				2	3
1984	2	1					3
1985	3	1				3	7
1986	3			1			4
1987	1					2	3
<i>Total</i>	18	15	2	1	1	20	60

Education of Visually Impaired

In all, ten studies on education of visually impaired persons were reported since 1965 when the first doctoral study was conducted by Advani at the University of Bombay. The nationwide study, following survey methodology, purported to identify educational and psychological problems of blind children. The problem relating to a blind person's access to education was highlighted as the study revealed that on an average, only one special school existed for each 8,000 blind children in the country. It is, however, difficult to draw a valid conclusion regarding the adequacy of facilities from this survey as neither the basis of assessing the population of visually impaired children in the education age group is stated, nor the nature and degree of disability specified. With the expansion of educational facilities for visually impaired children in general schools, under the centrally sponsored scheme of Integrated Education of Disabled Children, the survey of facilities should be updated. The NCERT conducted a survey of institutions for the blind in 1968, and in 1981 a study of Regional Centres for the training of teachers for the visually impaired was conducted. Bhalerao conducted a so-

ciological study in this area (1975).

Two studies investigated the adjustment of blind children (Williams, 1981 and Pandey, 1985). Bala (1985), Goel (1986) and Rohidekar and Usha (1981) carried out comparative research across disability. Paknikar developed an intelligence test for the blind in 1975 at Bombay.

Table 27.3 shows distribution of studies in education of the visually impaired according to the areas and set-up, i.e. institutional or individual, in pursuit of a doctoral degree.

Table 27.3

DISTRIBUTION OF STUDIES ON EDUCATION OF VISUALLY IMPAIRED

Period	Nature Ph.D.	Inst.	Survey Trg.	Tests & Materi- al Dev.	Inter- vention	Others	Total
1965-69	1	1	2				2
1970-74							
1975-79	1	1	1	1			2
1980-84		2	2				2
1985-	2	2	3		1		4
<i>Total</i>	4	6	8	1	1		10

As is evident from the Table 27.3, very few studies have been conducted on education of the visually impaired. Most of them are surveys of educational facilities, teacher training or problems and adjustment of visually impaired children.

The lone intervention study, relating to an integrated setting as a learning environment for visually disabled children, was conducted by Jangira (1987). The study investigated sociometric choices relating to small group work—academic, managerial and play related. It also provides the direction of choices from visually disabled to visually disabled peers, visually disabled to non-disabled peers, and non-disabled visually disabled non-disabled peers. Ranking of the visually disabled children has been used as a criterion to get an assessment of academic achievement. The study indicates that visually disabled children are neither isolates nor are they below average in achievement.

Major reasons for low yield of research is lack of interest among the universities and research institutions and lack of expertise. Location of the educational structure for disabled children in the Departments of Welfare for many years also contributed to the alienation of

university departments of education (Jangira and Mukhopadhyay, 1986).

Education of Children with Neuromuscular and Orthopaedic Impairment

Eleven studies have been reported in this area. These include Bala (1985) and Goel (1986) reported earlier since both compared variables across disability. Pinto (1974) compared orthopaedically handicapped children with non-disabled children on selected variables like need achievement and reaction to frustration; Deshmukh (1979) compared on the variables of locus of control, belief, anxiety and dependence proneness; Mathew (1974) compared them in respect of the feeling of inferiority; and Bala (1985) compared them on measures of personality. Srivastava (1981) studied stress and the coping mechanism adopted by orthopaedically handicapped children. Nirmala (1981) surveyed the work done by the voluntary agencies. Usha (1981) covered problems relating to education of the physically handicapped in the state of Karnataka. Pathak's (1983) is the only study covering the learning environment. Personality traits of children with orthopaedic handicap placed in an integrated setting were studied. The study claims the results to be satisfactory, but in the absence of comparative data the validity of the claim remains doubtful.

The distribution of the studies on a time scale and according to the study type has been summarized in Table 27.4.

Table 27.4

DISTRIBUTION OF STUDIES ON EDUCATION OF ORTHOPAEDICALLY HANDICAPPED CHILDREN

Period	Nature Ph.D. Inst.	Survey	Tr. Trg.	Tests & Materi- al Dev.	Inter- vention	Others	Total
1965-69							
1970-74	2	2					2
1978-79	1	1					1
1980-84	1	4	4		1		5
1985-87	3	3					3
Total	7	4	10		1		11

The spread of studies over different aspects of educa-

tion of OH children as well as over a period of time is very sketchy. Most of the studies have been done by doctoral scholars. Only four studies have been done at the institutional level. All the studies, including the lone study relating to setting as an intervention, have followed a survey methodology.

Education of the Hearing Impaired

Only six studies could be located in this area. Banerjee *et al.* (1970) investigated the nature of deaf children in comparison to normal-hearing children in the age group of 14-18 years. The study revealed that, even under similar environmental conditions, interests differed. Four studies covered hearing impaired as a subsample (NCERT, 1968; William, 1981; Bala, 1985 and Goel, 1986). These are the studies comparing hearing-impaired children with non-hearing-impaired children on selected variables. Jangira (1987) studied the socio-metric choices of hearing-impaired children in an integrated setting as well as their academic achievement as reflected in ranking in respective classes. It was discovered that hearing-impaired children also received choices from non-hearing-impaired children for the selected tasks and most of them were near average or above average in academic achievement.

Education of the Learning Disabled

Five studies on learning disabled children have been reported since 1974, when the first study was conducted for a doctoral degree in a department of psychology. Barf (1974) investigated auditory perceptual disorders in children with reference to language learning and tried to focus on the listening experience as the foundation of language acquisition. Syntactical complexities rather than auditory memory *per se* was found to be the critical factor in correct sentence repetition. Bhattacharya (1977) and Bhattacharya (1982) studied learning disabilities in algebra and arithmetic respectively. Rama (1984) studied diagnosis and remediation of dyslexia. An attempt was made to identify dyslexic children among Kannada readers, carry out error analysis, develop a remedial programme and study its effectiveness. Desai (1985), the only funded study, purported to investigate learning disabilities in primary schools in Ahmedabad. Learning disabilities being language-based, it calls for research among different language groups. Considering the magnitude of the task, the limited research so far is insignificant.

Education of Mentally Retarded

Nineteen studies have been reported in this area. It represents almost one-third of the research studies reported in special education. One reason for the larger number of studies in this area is that cognitive development forms a component of psychology courses. The distribution of studies period-wise and in different types is given in Table 27.5.

Table 27.5

DISTRIBUTION OF STUDIES IN MENTAL RETARDATION

Period	Nature Ph.D. Inst.	Survey	Tr. Trg.	Tests & Materi- al Dev.	Inter- vention	Others	Total
1965-69	1	1	2			2	
1970-74	2		2				2
1975-79	7	1	3	5			8
1980-84	3		3				3
1985-87	4		1		3		4
Total	17	2	11	5	3		19

It is evident that the maximum number of researches appeared during 1975-79. The trend, just as in other areas of disability, is towards surveys. Eleven studies involved a survey of one kind or another. St Xavier's (1969) attempted to estimate the number of mentally subnormal children in Greater Bombay and services available to them. The survey detected 4,031 subnormal children. Out of these, only 17.1 per cent were in special schools. Ankolve's (1980) survey covered Maharashtra. It revealed that the maximum number of schools (31) were located in Maharashtra out of a total of 81 in the whole country. Out of 31 in Maharashtra, 22 were located in Bombay alone. Shortage of trained teachers was also highlighted in the survey as only 35 per cent of the teachers in special schools for MR were trained.

In studies comparing the family background of MRs and other children revealed that more mentally retarded children came from poor family background (Biswas, 1975; Ghatak, 1980; and Ishtiaq, 1973). The studies were correlational and did not establish a cause-effect relationship.

Socio-emotional and learning problems and personality patterns were studied by Empar (1973), Varma

(1968), Ishtiaq (1973), Jaiswal (1978), Singh (1982) and Savitri (1986). Most of these studies used standardized tests and compared the results with those with children in the normal range of intelligence. Singh (1982) compared the gifted with MR children on selected variables.

Curriculum design and intervention studies have appeared in this area. Shukla (1979) designed a curriculum covering all subject areas for Gujarati and Marathi medium students with IQ ranging between 50 and 70. Its effectiveness was also studied in the three schools of Greater Bombay. Sharma (1978) studied language retardation in Hindi-speaking MR children with IQ in the range 50-60 and compared it with children having average and above average IQ. The phonology in educable MR children was found to be normal but on other measures, like discordance of number and gender, lexical elements and basic vocabulary, they were found to be at a disadvantage. Goel (1978) investigated the Von Restraff phenomenon in serial learning among MR. It has implications for working out instructional strategies. Azad (1986) and Dutta (1986) studied the adaptation and effectiveness of the Portage home-based training programme for cognitive and motor development of young children. Both studies followed a quasi-experimental time-series design. Both studies report improvement in MR children on different measures accompanied by improvement in parents' attitude. Pandit (1987) carried out an experiment of training parents of MR children for educating and managing them. Only 67 per cent of the parents accepted the programme, but they were reluctant to assume the role of a teacher.

Omnibus Studies

There are four studies dealing with special education for disabled persons which have considered disabled persons as a group. Lata (1985) studied the impact of parental attitude on social, emotional and educational assessment of handicapped and non-handicapped students. Parental attitudes did not differ significantly, but the attitude of parents of the MR girls correlated significantly with adjustment of handicapped girls. Mallaya (1982), in study of children with special needs during play sessions, observed that acceptance of the child and a permissive atmosphere during play were found to be helpful. The study also came out with guidelines for teachers to organize play sessions.

Rane (1983) and Cawasji (1985) studied the implementation of the Centrally Sponsored Scheme of Inte-

grated Education for Disabled Children. Rane (1983) evaluated IED programme implementation in Maharashtra. The study brought out several deficiencies. Inadequate assessment procedure, lack of training of general teachers, heads of institutions and educational administrators, inadequate adaptive learning-teaching aids, and inadequate monitoring and evaluation were highlighted. The Maharashtra Government has considerably improved implementation of the scheme since then (Jangira, 1988). Cawasji (1985) studied the effectiveness of the orientation course for teachers in improving the quality of the IED programme.

The Reasons for Low Yield

Studies in special education for the disabled are very few indeed. Jangira and Mukhopadhyay (1986) summarized the reasons for low yield of research in this area. Special education, particularly education of the disabled, born as a social welfare activity, continued to be considered so far too long. Even teacher training activities continued to be out of the ambit of the universities. So university departments and apex organizations like the NCERT, NIEPA and UGC remained alienated from special education. The organizations working under the umbrella of welfare activities lacked capabilities for research. Some research did emerge in rehabilitation centres, but the focus of such research has been on diagnosis and medical aspects, not on special education. With the IEDC scheme being transferred to the Department of Education in the MHRD and the consequent involvement of the NCERT, UGC, NIEPA and universities in development and training activities, research activities in special education are expected to improve in range and quality.

The continuance of special education as a welfare service also creates the impression that it does not require serious research. This misplaced notion becomes conspicuous by the absence of allocation for research in special education. Even where allocations were made, research efforts continued to be elusive because of the lack of trained personnel to design and conduct practice-oriented research. With the establishment of the National Institutes for the Handicapped, the situation should improve.

Another misconception which has impeded research in special education is that the problems of education of disabled persons do not transcend the boundaries of psychology. Even now a psychologist's role is equated with that of a special educator. This misconception

deterred educational researchers from investigatory effort in the area of special education.

Lastly, culturally we are tuned to ad hoc decision making for planning and implementing development programmes rather than to decision making based on data-based research. As a result, the demand for research, particularly in social planning, remains rather low. The conspicuous absence of policy research in education supports this contention. This cultural conditioning has resulted in lack of concern for research in special education too.

The inclusion of special education for disabled persons in the NPE under the section on equal education opportunity for all, the concern voiced about research in special education in the NPE Programme of Action, the increased involvement of agencies of educational research in special education, the emergence of National Institutes for the Handicapped, and improved funding augurs well for a quantitative growth of research in special education for disabled persons.

Education of the Gifted

Twelve studies were identified in this area. Research in this area also is a recent phenomenon as the first study appeared only in the second half of the sixties, while educational research activity started only in 1980. This may be due to the fact that the basic educational need in these years was improvement of the qualitative range of educational provision to meet the demands of universalization of education. Special areas receive attention only after achieving a certain level of general educational development. Qualitative domains receive attention at an appropriate moment or receive a thrust from a researcher with an initiative in an area.

Ten out of 12 studies reviewed under this head have been conducted in pursuit of a doctoral degree. Only two funded studies were identified during the last two decades. One cannot say whether the trend is due to lack of concern for the area, or absence of demand for funding, or non-availability of funds. Maybe it is all three. Nevertheless, it is a matter of serious concern. Another disturbing trend is the absence of intervention studies. There is an evidence that most of the gifted in the educational system, particularly those who are at the developing stage, are *underachievers*. With the huge investment in education and the demand for talent and excellence for securing a reasonable quality of life, this condition cannot be allowed to continue. The NPE, 1986, itself has stressed this aspect. It cannot be accom-

plished without adequate research support. The policy formulators, funding agencies and educational researchers will have to be made conscious of this need.

In terms of the range of variables covered, Bhatt (1966) and Deo (1969) attempted to develop criteria for measuring giftedness. Shah (1969), Walia (1973) and Arya (1984) studied the characteristics of the gifted. Wallia studied self-concept and found that gifted females have higher ideal self than gifted males. Arya studied emotional maturity and values of superior children in the family. Pandit (1973) studied adjustment problems of gifted children and frustration reactions. Singh (1983) studied need patterns, need achievement and adjustment of gifted children in five areas, namely, social, emotional, health, education and home. The study reports a positive relationship between need patterns and need achievement. Maitra (1985) studied affective correlates like self concept, self esteem, self image of achievement of the gifted following a case study approach.

QUALITATIVE TRENDS

Qualitative trends refer to the range of operational areas of research in special education, methodology followed, tools used, analyses carried out and utilization of research results. This section presents trends in these areas.

Coverage

Across the disabilities, learning disability is the least researched area, followed by hearing impaired. Low yield of research in special education is understandable because of reasons catalogued elsewhere in this report, but imbalance in research developments across disabilities is disturbing. Although there is need for research in all areas of disability, these two areas need special attention. Within disabilities also there is an imbalance in research developments. Most of the studies are surveys of characteristics of disabled and non-disabled children or facilities and programmes for their education. There is very little work on development of tools for identification and assessment, intervention strategies; development of instructional materials; effectiveness of technologies in improving access of disabled persons to curriculum and training personnel, and transfer of training effects and management of special education. Intervention strategies require resources, material and

learning aids, and a lot of human effort. Lack of support to institutional research and lack of direction in selecting problems of research for a doctoral degree may be the reasons for this situation. There is a need for coordinated effort to identify areas, prioritize them, and fund research projects, both at individual and institutional level, cooperative master projects with farmed-out studies to individuals and institutions backed by an effective monitoring and evaluation mechanism, can result in a coordinated research programme in this area. The NCERT, National Institutes for the Handicapped, ICSSR, UGC and NIEPA can develop a cooperative action design.

Methodology

Although all abstracts do not provide sufficient information about the design and procedure of studies, some trends are conspicuously discernible. Most of the studies have followed a survey methodology. In surveys, sampling is an important component. In most of the studies, the population and sampling selection procedures are not satisfactory. For example, stratified random sampling does not precisely define the strata nor is the random procedure specified. Only one study has adopted the case study approach which is so important in this area. Even experimental methodology has been used in only a couple of studies. Single-subject research designs have not yet been attempted. Qualitative analysis in research in special education is very important. Ethnographic research methodology coupled with single subject designs and case studies should increase with increase in intervention studies to improve the range and quality of education. Comparative studies of children in special schools and schools with integrated programme do not adequately define the conditions. Even disability conditions are not defined adequately. These methodological inadequacies make it difficult to compare findings of similar studies and sometimes raise doubt about the fidelity of inferences. Designing of studies matched to objectives needs systematic effort taking into consideration the nature of special education.

Tools

There is dearth of tools of research in special education. Tools developed in alien culture, which have been used in a number of studies reviewed in this chapter, are far from relevant, particularly with disabled children.

Some adapted tools have been used, but very little technical information is available regarding these tools. The reliability and validity measures are not available even for non-adapted tools. Technical information is still less available about the tools developed by the investigators. Some tools are reported to be administered to sensory impaired children, but the mediums through which these tools have been administered are not available. Besides, there is dearth of research tools in several areas. For example, diagnostic educational tools are needed in several areas and in different media of instruction. Language development tests, articulation tests, visual discriminatory skills tests, etc. are not available. An ecological assessment inventory needs to be developed not only as a tool but as a technology for assessment. The need for tests for the assessment of disabled children in different areas should be identified and a coordinated programme for their development should be supported by the funding agencies. This is a basic need in building educational programmes for disabled children.

Analysis

It is not the level of statistical analysis that is a source of worry in these studies but the selection of appropriate statistics. Despite the fact that data relating to disabled children neither fulfil the normality assumption nor random selection, parametric statistics have been applied to test significance. Only one study has used a non-parametric test. It is not indicated whether small sample test or a large sample test was used in the case of a small sample. In several cases, the reported findings are

much beyond what is warranted by the analysis carried out. The analysis and interpretation of the data leave much to be desired.

Concluding Remarks

Research in special education is still at an embryonic stage. It has remained in the backyard because special education activities being conducted outside the mainstream of education for long. The institutional infrastructure for research in this area has also remained quite inadequate. The present decade, however, is full of promise for special education. It is during this decade that special education acquired its rightful place in the educational system, culminating in the momentous recommendations of the NPE, 1986, and the Programme of Action. The NCERT and UGC have adopted this as one of the operational areas. The Ministry of Welfare has established National Institutes for the Handicapped. The decade is also promising for research in special education. In recent years, funding of research in this area from the NCERT, UGC, ICSSR and National Institutes for the Handicapped is showing a marked increase. Training of personnel in research in this area in India is picking up. The NCERT has developed a Learning Workshop on Research in Special Education (Jangira and Mukhopadhyay, 1988). The guidance to research workers is also improving. Considering these developments, the present review should be a precursor of a new research perspective for the next five years.

ABSTRACTS: 1506—1522

- 1506.** ARYA, A., *Emotional Maturity and Value of Superior Children in Family*, Ph.D. Psy., Agra U., 1984.

The objectives of the study were (i) to find out the relationship between intelligence and emotional maturity of boys and girls separately, (ii) to find out the relationship between intelligence and value of boys and girls on the VOC Scale as rated by mothers and fathers, (iii) to compare the value of boys and girls of three residential locations, (iv) to compare the ratings of mothers and fathers for boys and girls, (v) to observe the significant difference between the value of boys and girls on the VOC Scale, (vi) to study the effect of sex, age and residence on emotional maturity of superior children, (vii) to examine the effects of sex, age and residence on valuation of children. The hypotheses were: (1) There is no significant relationship between emotional maturity and intelligence on the one hand and value in the family and intelligence on the other. (2) Intelligence is related to positive valuation in the family. (3) Superior boys have higher positive valuation in the family than superior girls. (4) Boys of superior intelligence have better emotional maturity than girls of superior intelligence. (5) Sex, age and residence are significant factors for differences in emotional maturity and valuation in family.

The sample comprised 300 subjects superior in intelligence. Of these, 150 were males and 150 females. They belonged to urban, semi-urban and rural areas and their age ranged from 13 to 16 years. The Group Intelligence Test developed by P.N. Mehrotra was used. The split-half, test-retest and Kuder Richardson Coefficients of Reliability were 0.88, 0.86 and 0.85 respectively. The Emotional Maturity Scale developed by Y. Singh was used. The test-retest coefficient of reliability for subtests of scale ranged from 0.42 to 0.86. The VOC Scale was used for measuring value of children. The test-retest reliability coefficients for males and females were 0.91 and 0.94 respectively. The data were analysed with the help of correlation and two-way analysis of variance.

The findings were: 1. Superior boys and girls did well on the emotional maturity tests. Superior intelligence showed high relationship with emotional maturity. 2. On the values of children (VOC), differences were observed for urban boys and girls on continuity, tradition and security (boys rated as the highest) and role motiva-

tion (boys treated as the lowest). 3. In VOC, girls of urban residence were rated the highest for happiness and affection and the lowest for social status. 4. Semi-urban boys were rated highest for happiness and affection and lowest for role motivation. 5. Semi-urban girls were rated highest for happiness and affection and lowest for role motivation. 6. Rural boys were rated highest for goal incentive value and lowest for the parenthood satisfaction. 7. Girls of rural background were rated highest for role motivation and the lowest for goal incentives. While fathers of all the three residential locations rated both boys and girls similarly, the mothers of all the three locations rated boys and girls differently. 8. Age-wise (four age-levels 13,14,15,16 years) there were no significant differences on emotional maturity. 9. Age-wise no significant overall differences were found in the value of children but for boys of 13-15 years and 13-16 years age-groups, significant values were obtained. 10. Boys proved to be more mature. 11. By sex, differences on values were noticed in the ratings of mothers and fathers. 12. Residence did not link with emotional maturity. 13. By residence, differences between urban and rural and urban and semi-urban boys and girls were observed. Intelligence and value of children were positively related. Value of superior boys was higher than that of superior girls.

- 1507.** BALA, M., *A Comparative Study of the Mental Make-up and Educational Facilities for Physically Handicapped and Normal Children*, Ph.D. Edu., Kur. U., 1985.

The objectives of the enquiry were (i) to study physically handicapped and normal children with respect to personality traits, values, self-concept, mental make-up and adjustment, and (ii) to compare educational facilities provided in schools of normal and handicapped children.

The study was limited to the state of Haryana and the children of age range 12 to 18. In order to select the sample of handicapped children, three institutions were taken—the Haryana Welfare Centre for the Deaf, the Blind School, and the Institute of Orthopaedically Handicapped. Five hundred handicapped students were taken. Similarly a sample of 500 normal students was selected from the normal schools. These schools were situated in an environment similar to that of the schools for physically handicapped children. The tools used were the record for each child regarding age, place of

residence, parental occupation, and family history, an interview schedule to gauge societal reaction and the impact of institutionalization, the High School Personality Questionnaire of Cattell, the Allport-Vernon and Lindzey Inventory of Values, the Deo Personality Word List, the Jalota General Mental Ability Test, the Bhatia Battery of Performance Test, the Sinha and Singh Adjustment Inventory and a questionnaire for comparing educational facilities. Testing was done at different intervals in different institutions. The variables controlled were age, grade, economic and educational status. The data collected were analysed using analysis of covariance.

Major findings of the study were: 1. Deaf, blind and orthopaedically handicapped children differed significantly from normal children in personality traits and values. 2. Personality characteristics common to all physically handicapped children were that they were reserved, stiff, detached, emotionally less stable, submissive, serious, with weak super ego, withdrawn, dependent, more shy, and apprehensive. 3. Deaf children were deliberate, inactive, phlegmatic, prudent and tender minded. 4. In values, deaf children were less theoretical, economical, aesthetic, religious, political and more social. 5. The self-concept. 6. The deaf children were less intelligent. 7. The adjustment of deaf children was socially, emotionally and educationally less stable. They had poor home and health adjustment. 8. Blind children were restrained, worried and untidy. 9. In the case of values blind children were less economical and religious but had more social and aesthetic values. 10. Blind children possessed poor ideal, and social and perceived self-concept. 11. Blind children had poor home, health, emotional and educational adjustment. 12. Orthopaedically handicapped children were affected by feelings. They were obedient and untidy. 13. In values, orthopaedically handicapped children were less theoretical, less economical, less religious and more social and aesthetic. 14. Orthopaedically handicapped children had a poor concept of their power and strength and had more negative tendencies. 15. Orthopaedically handicapped children were less intelligent, had poor home, health, emotional, educational and social adjustment. 16. The facilities available in the institutions for handicapped children were quite inadequate as compared with those provided in the schools for normal children.

The study has its implications for all those concerned with education of the handicapped as it brought out the need to apply special methods and techniques for devel-

oping personality, values and adjustment of the handicapped.

1508. COWASJI, H.J., *A Study of the Effectiveness of the Orientation Programmes for Teachers working in the Integrated Education for the Disabled Children in Rajasthan*, SIERT, Rajasthan, 1985

The objectives of the study were (i) to find out the present position of available resources, system of working and implementation of institutional plans in the schools selected for orientation by SIERT, Udaipur, (ii) to assess the effectiveness of the teachers after their orientation, and (iii) to make suggestions for improvement in the system of working and in the orientation programme and ways for providing more resources.)

The study covered five schools in Rajasthan—in Ajmer, Udaipur, Jaipur, Bikaner and Kota, where the Integrated Education for the Disabled Children Scheme was introduced. Five headmasters and 17 teachers of these schools were selected. Five questionnaires were used to evaluate the different kinds of work done and to find out the utility of the orientation programme.

The main findings were: 1. The headmasters of the selected schools had high qualifications, were experienced and were experts in the field of teaching. 2. The academic and professional qualifications of the teachers were of the expected level and all of them were trained. They had adequate experience of teaching normal students as well as those covered by this scheme. 3. The special reference rooms in these schools were in good condition. 4. The number of beneficiary boys belonging to scheduled classes was greater than that of those from scheduled tribes. 5. No one was trained in English teaching. 6. Psychological and medical tests were taken in all the schools. 7. Financial assistance was being received from the government. The greatest beneficiaries were the physically handicapped. 8. Teachers maintained their diaries regularly in all the schools. The position of teaching aids was not good and repairs were needed. Teachers were not trained in preparing them. There was slackness in the preparation and use of teaching aids. 9. Special activities were being run in all the schools and each school had a special project. 10. Written work helped in improving examination results. 11. Teachers read books and took training to add to their knowledge. 12. There was improvement in pronunciation and spelling after the orientation. 13. The teachers felt that the orientation helped in raising their standard

and it was useful. 14. Because of orientation, special activities like sewing and toy-making were introduced for the first time in schools.

*1509. DHARAP, N.Y., *An Investigation into the Problems of the Education of the Mentally Retarded Children*, Ph.D. Edu., Poona U., 1986

The major objectives of the investigation were (i) to study the facilities provided by special schools with a view to ascertaining their utility in relation to the needs of the mentally retarded, (ii) to ascertain the difficulties of mentally retarded children attending special schools in completing the instructional and other courses, (iii) to identify problems of parents of mentally retarded children, in the development of personal adequacy and effective scholastic and social adjustment of their mentally retarded child, (iv) to locate problems which teachers and headmasters of special schools for mentally retarded children faced in their day-to-day classroom teaching and in the adjustment of such children to school environment, and (v) to analyse different methods of teaching, used by teachers, in teaching different subjects to the mentally retarded.

The study included all special schools in Maharashtra and some of the special schools in neighbouring states. The tools used were visits, interview schedules, questionnaires and observation. Some case studies of mentally retarded children were done.

Some of the major findings were: 1. The mentally retarded were not recognized as handicapped children by the government. They were, therefore, deprived of certain facilities that were given by government to the other approved categories of handicapped children. Besides this, they did not get employment opportunities because of their subnormal intelligence and behavioural problems. 2. Parents wanted to ensure the social security of their mentally retarded child, without burdening their other children or relatives and they wanted to end the anxiety of their mentally retarded child. 3. Parents did not have proper know-how about bringing up their mentally retarded child and they did not have precise and proper knowledge about the physical and mental development of such children. They did not know how to teach their mentally retarded child at home and bring him up to the best of his ability. 4. Parents had unrealistic expectations and high hopes about their mentally retarded child, out of sheer ignorance of the mental capacity of such children. If their expectations did not get

fulfilled, they started hating the child. In such an atmosphere of absence of love and care, there was every chance of antisocial elements weaning such children away from their parents and, eventually, of such children becoming juvenile delinquents. 5. Many qualified teachers were not being paid according to the prescribed pay scale. 6. There appeared to be some misunderstanding between the parents and teachers. They complained about each other. Most of the mothers wanted more help from the school during holidays, by way of keeping their mentally retarded child at school. 7. People knew very little about mentally retarded children and made fun of them. 8. For rural areas, there was no provision of trained persons who would educate the parents there in training their mentally retarded child. People in the rural areas were not aware of the facilities available in the cities for the training and rehabilitation of mentally retarded children. 9. Toys for mentally retarded children needed to be specially made.

1510. LATA, K., *Impact of Parental Attitude on Social, Emotional and Educational Adjustment of Normal and Handicapped Students*, Ph.D. Psy., Agra U., 1985

The objectives were (i) to investigate the difference of parental attitude towards the normal and handicapped school students, (ii) to study the difference between normal and handicapped students in adjustment, (iii) to find out the difference between normal students and handicapped students in the field of social, emotional and educational adjustment, (iv) to trace the effect of the attitude of parents on the adjustment of normal and handicapped students. The hypotheses were: (1) Parent attitude does not differ between normal and handicapped students. (2) The sex of the child has no effect on the parental attitude towards normal and handicapped students. (3) Normal students do not differ from the handicapped students in adjustment. (4) Normal students do not differ from the handicapped students in the fields of emotional adjustment, social adjustment and educational adjustment. (5) The attitude of parents does not affect the adjustment of either normal students or handicapped students.

The sample consisted of 150 subjects (75 normals and 75 handicapped). Of the normals, 46 were boys and 29 girls. The Adjustment Inventory developed by A.K.P. Sinha and R.P. Singh was used to measure adjustment. The test-retest and split-half reliability coeffi-

cients ranged from 0.90 to 0.96 and 0.93 to 0.95 respectively. The Parents' Judgement Scale regarding a particular child developed by Irkin was translated into Hindi and used to measure the parents' reaction to their child. The split-half reliability coefficient was 0.95. The data were analysed with the help of t-test and chi-square technique.

The findings were: 1. The parental attitude did not differ for normal and handicapped students. 2. The attitude of fathers and mothers of normal and handicapped students did not differ significantly for boys and girls. 3. Normal children showed a significant difference from handicapped children in adjustment. 4. Normal boys and handicapped girls showed better emotional adjustment than normal girls and handicapped boys. 5. Normal students did not differ significantly from the handicapped in the field of social adjustment. 6. Normal students differed significantly from the handicapped students in the field of educational adjustment. 7. Parental attitude did not significantly affect the adjustment of normal students. 8. The attitude of parents affected significantly the adjustment of handicapped girls but did not affect the adjustment of handicapped boys.

1511. MANDAL, B.B., *The Physically Handicapped in Bihar*, Institute of Social Research and Applied Anthropology, Calcutta, (N.D.)

This is an evaluation of the scholarship scheme of the government of India for the physically handicapped in Bihar.

Between 1971 and 1974 the total number of beneficiaries under this scheme were 118. One hundred beneficiaries were interviewed out of whom 48 were blind, three deaf and 49 orthopaedically handicapped.

The major findings were: 1. The notion that the onset of the disability at an early age led to late schooling was not true. Two-thirds of the respondents started their school career from the age of seven though the majority of them showed onset of disability during the first six years of their life. 2. The belief that disability during student life stopped educational development was not supported as one-third of the respondents developed their disability at this time but they pursued their study undisturbed. 3. However, the disability prevented most of them from participating in sports and extra-curricular activities. Most of the respondents' performance was average. 4. The students found the integrated system of education better than studying in separate schools.

5. The scholarship came as a great help for most of the students. 6. There was much delay in the disbursement of scholarships. 7. Forty-three respondents were in a position to take up gainful employment. 8. Employers were not always fair in selection. 9. Inadequate training and employer's reluctance to engage handicapped persons were considered to be the major obstacles to their employment. 10. The high incidence of handicaps in rural areas caused by curable diseases demonstrated the absence of awareness among the masses about the available preventive measures for diseases as well as the lack of medical facilities in the rural areas. 11. There was poor awareness of these facilities among the guardians of the handicapped children.

1512. MATHUR, ABHA, *A Comparative Study of the Adjustment Problems, Level of Aspiration, Self-concept and Academic Achievement of Crippled Children and Normal Children*, D.Phil. Edu., All. U., 1985

The major objectives of the study were (i) to compare the home adjustment, health adjustment, social adjustment, emotional adjustment, school adjustment and total adjustment of crippled and normal children, (ii) to compare the level of aspiration of crippled and normal children, (iii) to compare the self-concept of crippled and normal children, and (iv) to compare the academic achievement of crippled and normal children.

The sample comprised 50 crippled children ranging in age from 13 years to 16 years, studying in high schools and intermediate colleges of Allahabad city and 50 normal children matched with crippled children in age, sex, IQ, socio-economic status, institution and class. The matching was made in pairs. The tools used in the study were, (i) General Mental Ability Test by S. Jalota, (ii) Vyaktitva Parakh Prashnawali by M.S.L. Saxena, (iii) L.A. Coding Test by A. Ansari and G.A. Ansari, and (iv) Self-concept Inventory by U.P. Singh. Personal interview, school records of students and the Educational Problem Check List Prepared by the investigator were also used. Wilcoxon's Matched-pairs Signed Ranks Test was used to examine the hypotheses.

The major findings were: 1. Crippled children differed significantly from normal children in school adjustment, emotional adjustment and total adjustment. However, when comparison was made separately for boys and girls, it was found that crippled boys differed

significantly in social adjustment only while crippled girls differed significantly from normal girls in social adjustment, emotional adjustment and total adjustment. 2. Significant differences were found between crippled children and normal children, crippled boys and normal boys and crippled girls and normal girls in the level of aspiration measured in terms of goal discrepancy score. 3. Crippled children, crippled boys and crippled girls differed significantly from normal children, normal boys and normal girls in self-esteem as well as in social esteem. 4. When academic achievement of crippled children, boys and girls was compared with that of normal children, boys and girls respectively, no significant difference was found between them. 5. About 20 to 84 per cent of the crippled children were found to be facing various educational problems.

1513. NAGPAL, A., *Effectiveness of Punishment Procedure in the Discrimination Learning Processes of the Mentally Retarded and the Relation to Some Personality Aspects*, Ph.D. Psy., Del U., 1979

The major objective of the study was to find out the effect of punishment procedures in the discrimination process of the retarded.

In the study a sample of 30 mentally retarded children from four institutions of Delhi was taken. There were 20 males and 10 females having an IQ range of 45-52 and with a mean age of 191.57 months (age range 159-216 months). The subjects were categorized as first session learners (FSL) and latent learners (LL) on the basis of their performance on learning tasks. The tools used in the study were: (i) the Seguin Form Board Test, (ii) the Draw-a-Man Test, (iii) the Stanford Binet Intelligence Test, (iv) the Dvorine Pseudo-isochromatic Colourblindness Test, (v) six wooden forms having such shapes as square, circle, triangle, star, cross and hexagon. Each of these was coloured with six different colours—red, yellow, green, blue, black and white. The data so collected were analysed with the help of Bartlett's Test.

The findings of the study were: 1. The variable of punishment contingency had its effect in both the measures, i.e. trials to criterion and percentage of errors. 2. With a preferred dimension being employed as an irrelevant dimension, a trend of a direct relationship existed between the amount of interference caused and the number of variable cues. 3. Statistically insignificant results were obtained with regard to the differences

between the means of the two groups on chronological age, the Stanford-Binet Mental Age score and the Seguin Form Board Mental Age score. 4. Within analysis of the group of FSL indicated that their performance reflected a superiority unexplained by the presence or absence of punishment contingency. 5. Latent Learners (LL) as a group showed a significant betterment over their performance when operating in the presence of punishment. 6. Compared to the performance of FSL, the performance of LL even when facilitated by punishment, was distinctively inferior which indicated that the FSL as a group found these tasks to be very easy. 7. FSL as a group manifested a stronger ego organization, better reality perception, lesser pathogomy, more overall maturity and lesser anxiety content in their fantasies. 8. LL seemed to possess a group personality characterized by weaker ego organization, frequent flight into fantasies, greater pathogomy, lesser overall maturity and higher anxiety content in their fantasies. 9. Latent potential could be brought to the surface with a punishment contingency. 10. The LL could not match the performance of FSL due to cognitive deficit.

1514. PANDEY, R.N., *A Study of Affectional Deprivation, Ego-strength and Adjustment Pattern among Visually Handicapped Children and Their Rehabilitation*, Bapu Degree College, Pepeganj, Gorakhpur, 1985 (ICSSR financed)

The main objective of the study was to make a psychological study of affectional deprivation, ego-strength and adjustment among visually handicapped children and their rehabilitation. The hypotheses formulated were: (1) There is no significant difference in the patterns of affectional deprivation between urban and rural visually handicapped children. (2) There is no significant difference in the patterns of affectional deprivation between the congenitally and post-natally blind children. (3) There is no significant difference in the level of ego-strength between urban and rural visually handicapped children. (4) There is no significant difference in ego-strength between congenitally and post-natally blind children. (5) There is no significant difference in adjustment patterns between urban and rural visually handicapped children. (6) There is no significant difference in the pattern of adjustment between congenitally and post-natally blind children. (7) There is no significant difference in the ego-strength, affectional deprivation and adjustment pattern between the

male and female visually handicapped children.

Out of 18 schools for blind children in U P, two schools were randomly chosen for selecting the sample. A sample of 40 students (32 males and eight females) was selected from two out of 18 schools for blind children in U P using the random sampling method. Out of 32 males, 16 belonged to congenitally blind (eight urban and eight rural) and 16 were post-natally blind (eight urban and eight rural). Out of eight female students, four were (two urban and two rural) congenitally blind and the remaining four were post-natally blind, (two urban and two rural). The research tools used were: (i) Ego-strength Scale and an adaptation of Barron's E S Scale by S.Q. Hasan (ii) Prolonged Deprivation Scale (PDS; Mishra and Tripathi), (iii) Adjustment Inventory—the adapted version of Eysenck's and (iv) Maudsley Personality Inventory (MPI; Jalota and Kapoor, 1965). The t-ratios were computed in order to determine the differences between various pairs of groups.

The major findings were: 1. The deprivation as felt by rural blind children was significantly more acute than that felt by urban blind children. 2. There was no significant difference in the pattern of affectional deprivation between congenitally blind children (CBC) and post-natally blind children (PBC). 3. Regarding hypotheses 3, 4, 5, 6 and 7, the data gathered were too inadequate to reject the hypotheses, as all the t-values computed in relation to these hypotheses came to zero. 4. It was found that 10 blind children had poor ego-strength and poor adjustment. Emotionally they appeared immature and hence there was need for their rehabilitation.

1515. PANDIT, A.S., *Assessing the Relevance and Effect of Training Rural-based Parents from Wai Taluka to Manage and Educate Their Mentally Retarded Children*, Ph.D. Edu., Guj. U., 1987

The major objectives of the study were (i) to establish a service for training the parents of mentally retarded children in a rural area, (ii) to observe how the parents responded to the availability of such a service and whether they participated in the programme of the service, (iii) to observe how the parents received the training given to them and how and to what extent they applied the knowledge obtained through training, (iv) to observe how the child responded to the work done by the parents (v) to observe whether and how the changes in the child affected the behaviour of parents, (vi) to ob-

serve if the service had any effect on other members of the primary group of social contact, and (vii) to evaluate the scope for continuing such a service.

The study was confined to organizations concerned with rural development programmes in Western Maharashtra. The research was non-experimental with only one group of subjects. The study was pretest post-test designed. The independent variables were age of the child, sex, ordinal position, educational levels of parents, occupational levels of parents, size of the home, type of family and family income. The dependent variables were developmental status of child, behavioural status of parents and performance of parents in carrying out the assignments. The sample consisted of 30 units (mentally retarded child and his parents formed one unit). The tools consisted of the American Association on Mental Deficiency Adoptive Behaviour Scale (AMMD)—adapted for Indian conditions, Parental Involvement Project Developmental Charts, the Parents' Behaviour Progression (Indian adaptation), a Follow-up Sheet and a questionnaire.

The major findings were: 1. The parents of all rural-based mentally retarded children did not accept training for managing and educating their children. Only about 67 per cent of 30 units accepted training for educating their children. The reasons for this appeared to be parents' apathy towards changing their living conditions or daily routine, their inability to appreciate the child's needs, the social politics of the rural community and parents' perceptions that their participation in the study was the need of only the researcher and not their own. 2. The parents of rural-based mentally retarded children did not accept training only because their children were dependent upon them in all respects. 3. The programme of carrying out management assignments was closely followed by a few parents and not followed closely by other parents. 4. The study did not bring out clearly whether the parents continued the training only if the child responded positively to the assignment. The finding was inconclusive. 5. The parents tended to work only in that area which they felt was inadequate in their child at the time of referral. 6. Parents' behaviour in relation to their mentally retarded child changed as the programme continued. 7. The major conclusion was that in Wai Taluka, rural-based parents were not ready to take up the role of teachers of their mentally retarded children.

1516. PATHAK, A.B., *A Study of Disabled Children in Normal Schools*, V.B. G.S. Teachers' College, Udaipur, 1984 (NCERT financed)

The major objectives of the study were (i) to study the personality traits, adjustment and aspirations of disabled children in normal schools, (ii) to study their sociometric status in the classroom, and (iii) to suggest ways to achieve better integration with normal children.

The sample was drawn from among the orthopaedically disabled children in normal schools of three districts of Rajasthan—Udaipur, Banswara and Jodhpur. The final sample consisted of 79 boys of 32 higher secondary and secondary schools from urban and rural areas. The age range of the students was 12 to 18 years with a majority in the age range 14 to 17. The tools included the Personality Questionnaire by Kapur and Mehrotra, Adjustment Inventory by Sinha and Singh, an aspiration questionnaire and a personal data blank. Percentages were calculated for data analysis.

The major findings were: 1. Most of the disabled children came from families with poor economic background. 2. Sixty-three of the 79 children's fathers had studied only up to higher secondary or below. 3. Parents of 46 children had a family income below 500 rupees per month. 4. Most of the disabled children were from large families having four to five children. 5. The disabled children were somewhat reserved, emotionally stable, satisfactorily adjusted but low in scholastic ability, demanding and easily excitable, obedient, expedient, vigorous and not very tense. 6. Overall adjustment was average. Emotional adjustment was good, social and educational adjustment was average. 7. Sociometric status was satisfactory. Only three children were isolates. 8. Most of the children wanted to continue studies upto postgraduation. 9. Teaching was the most preferred pursuit while intellectual or political pursuits and material comforts received least preference. 10. The few problems which disabled children faced were fear of the school, difficulty with classroom learning, dissatisfaction with teachers, ridicule by other children and inability to participate in cocurricular activities.

1517. RAMA, S., *Diagnosis and Remediation of Dyslexia—An Attempt*, Ph.D. Edu., Mys.U., 1984

The objectives of the study were (i) to identify dyslexics from among Kannada readers studying in grades III and IV of elementary schools, (ii) to develop tests required

at different phases of the study, (iii) to find out in which of the neuropsychological processes essential to learn to recognize words dyslexics were deficient in comparison with non-dyslexic poor readers and normal readers, (iv) to analyse the types of errors committed by different groups of children while reading Kannada, (v) to study the developmental history of dyslexic children, and (vi) to study the effectiveness of the remedial programme in improving the speed and accuracy of Kannada word recognition in case of dyslexics.

The study involved three phases: (1) Identification phase: Dyslexics were identified from among a group of 550 children who were studying in grades III and IV and having Kannada as their first language at school through an exclusionary approach by using a set of criteria. Out of those 550 children only 14 could be identified as dyslexics. An equal number of non-dyslexic poor readers and normal readers matched on the required variables were also selected from among the same group of 550 children for purposes of comparison. (2) Diagnostic phase: This phase involved comparison of the neuropsychological process of dyslexics, non-dyslexic poor readers and normal readers, comparison of the errors committed by all the three groups while reading Kannada, analysis of the developmental history of the dyslexics.

Data on the neuropsychological process of all the three groups were collected by administering the following tools individually: (i) Visual Discrimination Test (Devaki 1978), (ii) Visual Recognition Test, (Cattell) adopted by the investigator, (iii) Visual Recall Test, (iv) Visual Sequential Memory Test of ITPA (Kirk, McCarthy, *et al.*, 1968), (v) Auditory Discrimination Test (Kumudavalli, 1973), (vi) Auditory Sequential Memory Test of ITPA (Kirk, McCarthy, *et al.*, 1968), (vii) Word Analysis Test in Kannada, (viii) Word Synthesis Test in Kannada, and (ix) Visual-Verbal Association tests. One-way ANOVA and chi-square techniques were used to analyse the data. The data about different kinds of errors committed by all the three groups while recognizing the words were collected by administering the Kannada Word Recognition Test individually. The data which were in the form of actual responses given while recognising each word on the test, were analysed qualitatively. Structured interviews were conducted with parents of dyslexics to collect information related to developmental factors—pregnancy and birth, medical history of the child, early development and learning difficulties among siblings. The remedial programme included a number of lessons written in Kannada to meet

two broad objectives, viz., to teach all the letters, 'Kagunitha', 'double consonants', and other accessory forms of Kannada alphabets and to give practice in word analysis and synthesis.

The major findings were: 1. Dyslexics were differentiated from the other two groups by visual-verbal association ability. 2. Dyslexics may or may not have deficiency in one or more visual and/or auditory processing skills. 3. The majority of normal readers were deficient in visual processing skills in comparison with the other two groups. 4. Like dyslexics, even non-dyslexic poor readers were relatively more deficient than normal readers in auditory processing skills. 5. There was no qualitative difference in the reading errors committed by the three groups of readers. 6. All the three types of readers got confused usually between letters with auditory or visual or auditory-visual similarities. 7. In most of the cases the substitute for the correct response while recognizing a letter or a word was same in all the groups of children. 8. 'Visuo-spatial' difficulties observed among dyslexics while reading English could not be observed among dyslexics while reading Kannada. 9. Though, in individual cases there were behavioural symptoms like delay in speech and/or motor development, cross laterality, hyperanxiety and impulsivity, there were no such symptoms common to most of the dyslexics. 10. The etiology of dyslexia could not be traced in all the cases. 11. The remedial programme was found to be effective in improving the accuracy of letter and word recognition to a considerable extent among all types of dyslexics. 12. The remedial programme was less effective in improving the speed of letter and word recognition. 13. In almost all the dyslexics the level of reading comprehension improved after the remediation.

The major implications of the study are: (1) Since dyslexics find it very difficult to learn reading and writing in one language, learning of more than one language should not be insisted on for dyslexics. (2) The mastery of any academic subject should be tested orally rather than through writing at the lower primary level. (3) Non-dyslexic poor readers should also be taught through special methods of teaching reading as they may be also poor in auditory processing skills. (4) Programmed books to teach reading with clear instructions about the method of teaching should be supplemented to the prescribed textbooks for all the children of grade I. These books with instructions may guide not only teachers but also parents, so that they can supplement the efforts made at school to enable their children to master reading and writing skills.

1518. RANE A.J., *Integrated Education of Disabled Children: An Evaluation of the Scheme of Integrated Education for Handicapped Children Based on a Study of the Working of the Scheme in Maharashtra*, TISS, Bombay 1983

The objectives of the inquiry were (i) to study the objectives and operational framework of the scheme of Integrated Education of Handicapped Children, (ii) to examine the administrative infrastructure of the implementing agency, i.e. Department of Education, Government of Maharashtra, for operation of the scheme, (iii) to conduct a survey of schools providing integrated education for handicapped children in Maharashtra under the provisions of the scheme, (iv) to study socio-economic characteristics of the beneficiaries of the scheme, (v) to examine the role of agencies in Bombay working in the field of education, training and rehabilitation of the handicapped in the formulation, publicizing and implementation of the scheme, and (vi) to conduct a survey of schools in Maharashtra which provided integrated education to handicapped children but were not implementing the scheme.

The survey method was employed and the method of simple random, purposive and stratified sampling was used for the selection of the sample. This report was based on primary data collection from 33 schools and 37 resource teachers functioning under the scheme, 103 beneficiary families of disabled children, the heads of eight residential institutions sending handicapped children to ordinary schools, 22 institution-based beneficiaries in Bombay, the representatives of 15 welfare agencies in Bombay, working in the field of education, training and rehabilitation of the disabled and 141 schools providing integrated education, but not implementing the scheme. The sample covered those who were studying in class I and who had attended preprimary education in special schools in Maharashtra State. The sample included handicapped of all categories, viz., the blind and the orthopaedically and mentally handicapped. The questionnaires were sent to 345 schools in Maharashtra State except Bombay but responses were received from only 141 principals of the schools. The tools employed in this study were an interview schedule for the resource teachers, handicapped children and their families and principals of schools, questionnaire and interview guides for the officials of the Department of Education, heads of the residential institutions and representatives of agencies in Bombay working in the field of education. The data

were analysed with the help of the method of content analysis, mean and percentages.

The main conclusions of the study were: 1. No. assessment was available either at the headquarters of the state or in the State Institute of Education, the administrative agency. 2. No separate monitoring cell had been set up so far in the Directorate of Education, Government of Maharashtra, to implement, monitor and evaluate the work under the scheme. 3. Officials of the Directorate of Education had many difficulties in implementing the scheme, such as non-availability of trained and experienced teachers, lack of orientation on the problems of disabled children and their educational needs, lack of proper machinery to identify disabled children, non-availability of equipment and educational material, etc. 4. There was no definite intake policy and admission procedure for selection of suitable disabled children for their placement in the integrated education programme. 5. Almost all blind children and 26.8 per cent of orthopaedically handicapped children placed under the integrated programme of education were institution-based. 6. Many schools did not utilize the full grant for books, stationery and equipment. 7. Almost a third of the schools had no resource teachers. 8. Fathers of more than 50 per cent of the handicapped children were engaged in white-collar jobs. 9. Of the 103 disabled children in the sample, 58.3 per cent were boys and 41.7 were girls in the age range of 13 to 20 years. 10. The disabled children under study had no problem of social relationship in the school and they had happy school experiences. 11. A large majority of the parents/guardians found integrated education useful for their child. 12. Most of the institution-based beneficiaries belonged to poor families in rural areas. 12. The parents were reported to be unable to take the child home and continue his education there.

1519. SAMPAT, URMI, B., *A Study of the Characteristics and Problems of the Intellectually Gifted Children*, Ph.D. Edu., Bom. U., 1984

The objectives of the study were (i) to enumerate and study the characteristics of the intellectually gifted children, (ii) to enumerate and study their problems, (iii) to study the leisure-time activities of these children, (iv) to study their educational and vocational interests, (v) to study the opinions of these children towards religious belief prevalent in the society, (vi) to study their opinion

regarding sex and marriage, and (vii) to study their personality characteristics.

The survey method was used for this investigation. To achieve the best result in the selection of the gifted children, a judicious combination of all the methods of sampling was used. A pilot study was conducted on a small sample of the population which helped to make modifications in the questionnaire. The sample was drawn from six boys' school, seven girls' schools and 27 co-educational schools. The sample of 1300 children was broken up into linguistic groups, on the basis of screening by using Raven's Progressive Matrices. Those children who scored above the 90th percentile and more were selected. The final sample consisted of 406 pupils of standard VIII, IX, X and XI, of which 182 were girls. The tools employed in this study were school records, teachers' ratings, Ahuja's Group Test of Intelligence, Desai and Bhatt's Group Test of Intelligence, the DAT Abstract Reasoning Test, Standard Progressive Matrices (Raven's), questionnaires for gifted children, their teachers and parents. The data were analysed by using descriptive statistics.

The major findings of the study were: 1. There were no major problems of health of the intellectually gifted children. 2. There were few children whose family members were educated. The growth and physique of the gifted children did not differ much from the general population of children of the same age group. 3. Community membership, religion and the mother-tongue had no effect on the giftedness of the intellectually gifted children. 4. The home environment and facilities for study did contribute to the intellectual development of these children. 5. Social and economic quarrels among family members and neighbours hindered the development of gifted children. 6. The joint family system, where the number of family members was large also created problems. 7. Gifted children were profusely interested in reading on various subjects in both dimensions of width and depth. They were interested in variety of radio programmes and movies. 8. In most cases, gifted children were found to be high achievers at school examinations. 9. Gifted children believed in the existence of God and in religious rituals and in the idea of charity. 10. Gifted children showed a preference to marrying at an older age because they felt that they must be economically independent before they did so. 11. They preferred arranged marriages but they desired to have an important say in the selection of their partner. 12. They were socially well adjusted and well balanced.

1520. SAVITRI, V.V., *A Study of Personality Characteristics and Behavioural Dimensions of the Educable Mentally Retarded Children Studying in Bangalore City*, Ph.D. Edu., Ban. U., 1986

The objectives of the research were (i) to study whether differences in sex of the educable mentally retarded children, their chronological age, their birth ordinal position in the family, type of family to which they belonged, size of family which they came from and their parents' socio-economic status would account for significant differences in the personality characteristics, in the adaptive behaviour and in the deviant behaviour of the children, (ii) to study whether the interaction between any of the independent variables with regard to the children's personality characteristics, their adaptive behaviour and their deviant behaviour was significant, and (iii) to study if there was a significant association between the sex, type of family, birth ordinal position of the mentally retarded children on the one hand and their personality characteristics, their adaptive behaviour and their deviant behaviour on the other hand.

The independent variables in the study were sex, chronological age, birth ordinal position, size of family of the mentally retarded children and also their parental socio-economic status. The dependent variables were the personality characteristics, the adaptive behaviour and the deviant behaviour of the mentally retarded children. The personality characteristics studied included excitability and frustration. Adaptive behaviour studied included self-help in general, self-help in eating, self-help in dressing, locomotion, occupation, communication, self-direction, and socialization. Deviant behaviour studied included a behaviour that violated a social norm in a given society. The sample of the study was 75 educable mentally retarded children in the city of Bangalore who were in the age range of 9-12 years. These children were in the IQ range of 50-70. For measuring personality characteristics, O'Connors Excitability Rating Scale and an Indian adaptation of the children's form of the Rosenzweig Picture Frustration Test were used. For measuring adaptive behaviour, Maline's (1961) adaptation of the Vineland Social Maturity Scale was used. Deviant behaviour was measured using Rutter's Children's Behaviour Questionnaire. To analyse data two-way analysis of variance and the chi-square test were employed.

The following were the main findings of the study: 1. Differences in the socio-economic status of children did not account for significant differences in their adaptive

behaviour. 2. The interaction effect between the chronological age of the children and their socio-economic status, and the interaction effect between the chronological age and the size of their families on the respective levels of adaptive behaviour they exhibited were found to be significant. 3. The interaction effect between the birth ordinal position and the socio-economic status of the children accounted for significant differences in their deviant behaviour. 4. Differences in sex, chronological age, size of family, and birth ordinal position of the children did not account for significant differences in the extra-punitiveness shown by them. The interaction effect between the birth ordinal position of the educable mentally retarded children and their socio-economic status accounted for significant difference in their extra punitiveness. 5. The interaction effect between the size of the family and the birth ordinal position of the children, the interaction effect between the birth ordinal position and the socio-economic status of the children were found to be significant. 6. Differences in the size of the family of the children accounted for significant difference in their intrapunitiveness. 7. Impunitiveness, the obstacle dominance type of reaction to frustration shown by the educable mentally retarded children was not accounted for by the differences in their sex, type of family, chronological age, birth ordinal position, size of family and their parents' socio-economic status. 8. The interaction effect between any combination of the demographic variables did not account for significant differences in their impunitiveness. 9. An obstacle dominance type of reaction to frustration shown by the educable mentally retarded children was not accounted for by differences in their demographic variables, such as the sex of the educable mentally retarded children, the type of the family to which they belonged, their birth ordinal position in the family, the size of the family which they came from, their chronological age and their parents' socio-economic status. 10. An obstacle dominance type of reaction to frustration shown by the educable mentally retarded children was not accounted for by the interaction effect of various combinations of demographic variables of the study. 11. Differences in a need persistence type of reaction to frustration shown by the educable mentally retarded children were not accounted for by differences in their chronological age, the size of family to which they belonged, the type of family which they came from, the socio-economic status of their parents, their birth ordinal position in the family and their sex. 12. The interaction effect between any combination of

the demographic variables did not account for significant differences in the need persistence type of reaction to frustration shown by the educable mentally retarded children. 13. Differences in the chronological age of the educable mentally retarded children did account for significant differences in their ego-defence type of reaction to frustration. 14. Differences in the sex of the educable mentally retarded children did account for significant differences in their ego-defence type of reaction to frustration. 15. The interaction effect between the sex of the educable mentally retarded children and their birth ordinal position in the family accounted for significant differences in their ego-defence type of reaction to frustration. 16. Differences in excitability shown by the educable mentally retarded children was not accounted for by differences in their chronological age, the size of the family to which they belonged, the type of family which they came from, the socio-economic status of their parents, their birth ordinal position in the family and their sex. 17. Excitability shown by the educable mentally retarded children was not accounted for by the interaction effect of various combinations of demographic variables of the study. 18. Type of family to which the educable mentally retarded children belonged, did not account for significant differences in their adaptive behaviour, deviant behaviour, excitability, directions of aggression and reaction to frustration of the Rosenzweig Picture Frustration Test. 19. Based on the chi-square analysis, it was concluded that there was a significant association between the sex of the educable mentally retarded children and their ego-defence type of reaction to frustration.

1521. SINGH, R.P., and PRABHA, S., *Evaluation of Integrated Educational Facilities for Physically Handicapped in the Schools of Bihar*, Dept. of Education, Pat. U., 1987 (UNICEF sponsored)

The study was an evaluation of integrated facilities programme for the physically handicapped organized by the Government of Bihar with 100 per cent assistance from the Government of India. A survey method was followed.

The objectives were (i) to evaluate the availability of facilities and to ascertain the gap between the facilities granted and the facilities available, (ii) to study the extent of integration and the problems faced by the handicapped in this process, (iii) to compare the adjustment of the handicapped students with that of the others, (iv)

to study the measures adopted and efforts made by the schools for integrated education, (v) to examine the intake process for admitting handicapped students, and (vi) to evaluate the monitoring and administration of the programme.

The findings were: 1. Facilities granted by the government were not availed of by the schools. 2. The facilities available in the schools were not enjoyed by the students for whom they had been provided. The schools were utilizing only 33 per cent of the resources allotted for this purpose. 3. The admission policy was defective. 4. Physically handicapped students were well adjusted with their families but there was lack of communication between such students and their non-physically handicapped class-fellows. The resource teachers were not trying to bridge this gap. 5. The schools had not taken advantage of the training facilities extended to them for the resource persons for the handicapped students. 6. None of the schools had a separate resource room. Facilities like grants of books and stationery were not being availed of by some schools. 7. Out of a provision for 400 students only 130 were on the rolls. The monitoring by the SCERT was indifferent. The allotments were received in the schools at the end of the session. 8. The resource teachers, instead of receiving 15 per cent of their basic salary as their allowance, received only Rs. 75/- per month.

1522. SINGH, S.D., *Need Patterns, Achievement and Adjustment of Mentally Superior Children*, Ph.D. Psy., Agra U., 1983

The objectives were (i) to study and compare need patterns of mentally superior children with those of average children, (ii) to investigate and correlate the achievement of mentally superior children with their IQs, and (iii) to study and compare the adjustment in social, health, home, emotional and sexual areas of superior children with those of average children. The hypotheses were: (1) Need pattern achievement, and adjustment in social, emotional, health, home and educational areas and intelligence (needs and intelligence of superior children) do not bear a positive relationship. (2) Mentally superior and average children differ on sexual and social traits of personality. (3) SES and family adjustment are not related to intelligence. (4) Intelligence and achievement are positively related for both superior and average children. (5) There is a significant relationship between adjustment in health,

home, social and emotional areas and intelligence of superior as well as average children.

The Mixed Type Group Test of Intelligence by P.N. Mehrotra was used for the selection of superior and average groups. The sample consisted of 450 subjects belonging to different levels of SES and intelligence. Tripathi's Personal Preference Schedule, the Adjustment Inventory by A.K.P. Sinha and R.B. Singh, an Indian adaptation of Rotter and Rafferty's Incomplete Sentence Blank for measuring adjustment in social and sexual areas and the SES scale by Kuppaswamy were used for collecting data. The achievement scores were taken from the annual examination marks. The data were analysed with the help of correlation technique.

The findings were: 1. Need patterns, achievement, and adjustment in five areas (social, emotional, health, home and education) had a low positive relationship. 2. Superior girls had better adjustment in social and sexual attitudes. 3. High intelligent subjects belonged to high and upper-middle SES categories. 4. There was a positive relationship between intelligence and achievement for the superior group but a negative relationship for the average group. 5. There was a significant relationship between adjustment in four areas—health, home, social and emotional, of superior as well as average children.

ALSO SEE

586. AJGAONKAR, V.R., *A Study of Juveniles in*

Government Certified Schools from Greater Bombay and Effect of Institutional Environment on their Behaviours, Ph. D. Edu., SNDTU., 1983

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
1450. DESAI, K.G., *Learning Disabilities of Primary School Children*, Dept. of Education, Guj. U., 1985 (NCERT Financed)
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
291. GOEL, M.M., *Investment in Physically Handicapped Persons in Haryana*, Ph.D. Eco., Kur. U., 1986
375. GUPTA, P., *Self-Concept, Dependency and Adjustment Pattern of Abandoned Institutionalized Preadolescents*, Ph.D. Appl. Psy., Cal. U., 1984
950. MAITRA, K., *Affective Correlates of the Gifted Under-achievers*, Ph.D. Edu., Del. U., 1985
1417. MALLYA, INDIRA, P., *Special Play Session—A Play Way Method to help Children with Special Needs*, Dept. of Child Development, MSU, 1982 (ICSSR Financed)
144. MANJU KUMARI, *A Sociological Study of the Inmates of Children's Correctional Institutions*, Ph.D. Soc., BHU, 1985