Volume 1, No. 2 July-December 2005

Journal of Rehabilitation Council of India (JRCI)

Rehabilitation Council of India
(A statutory body of Ministry of Social Justice and Empowerment)

Volume 1, No. 2 Journal of Rehabilitation Council of India (JRCI)

Volume 1, No. 2
July-December 2005

ISSN No.: 0973 - 2497

JOURNAL OF REHABILITATION COUNCIL OF INDIA (JRCI)

REHABILITATION COUNCIL OF INDIA
(A Statutory Body under the Ministry of Social Justice and Empowerment)
B-22, Qutab Institutional Area, New Delhi-110016
Ph.: 91-011-26532408, 26534287. Fax: 91-011-26534291
E-mail: rehabstd@ndc.vsnl.net.in, rehabstd@nde.vsnl.net.in
Website: www.rehabcouncil.nic.in

DISCLAIMER

COPYRIGHT

ISSN No. : 0973 - 2497

Journal of Rehabilitation Council of India

Prof. P. Jayachandran,
Director, Vijay Human Services,
Chennai.

Dr. Manmohan Singh,
Osmania University, East Marredpally,
Secunderabad.

HEARING IMPAIRMENT & ASSOCIATED DISABILITIES

Dr. (Ms.) S. Nikam,
former Director, AIISH, Mysore

Dr. M. Jayaram,
Director, AIISH, Manasgongotri,
Mysore.

Mr. R. Rangasayee,
Director, AYJNIHH,
Bandra(W), Mumbai.

Dr. (Mrs.) R.A. Ghate, Secretary,
Society of Education for Betterment of
Education for the Disabled,
Janki Jeevan, Mathunga,
Mumbai.

Dr. (Sr.) Rita Mary,
Director, Guidance Home for the Adult
Deaf Girls, Chennai.

LOCOMOTOR & ASSOCIATED DISABILITIES

Dr. U. Singh,
Professor & Head, Department of
Rehabilitation, AIIMS,
New Delhi.

Dr. H.S. Chhabra,
New Delhi.

Dr. H.C. Goyal,
New Delhi.

Mr. K. Chappal,
Bangalore.

Dr. S. Hariharan,
Thiruvananthapuram.

MULTIPLE DISABILITIES

Mrs. Aloka Guha,
New Delhi.

Mrs. Shyama Chona,
Principal,
Delhi Public School, Vasant Kunj,
New Delhi.

Mrs. Merry Barua,
Action for Autism,
New Delhi.

Ms Radhika Alkazi,
New Delhi.

Ms. Mathyli Chari,
Chairperson, Institute for Remedial
Intervention Services, Chennai.

EDITORIAL ASSISTANCE

Dr. Sneha Singh,
Assistant Programme Officer (Research)
Rehabilitation Council of India,
New Delhi.

Chairman's Message

The Journal of the Rehabilitation Council of India aims at providing a forum where rehabilitation professionals are able to offer their views and opinions on important issues concerning disability. The Journal offers opportunity and space for professionals in the field of disability to publish their views on issues they consider critical and important. It is hoped that issues raised in this Journal will encourage professionals to do further research so as to bridge the information gap in these areas.

I have during the past few months visited a number of institutions taking care of persons with disability and have seen the great work being done in the rural areas. These professionals remain unsung and unrecognized in the field of disability but they are doing excellent work. Their work relates to the ground realities and it is important that their work is seen, analysed, researched and published so that others can learn from their experience and their work improved upon. Our activities tend to be urban focused. We understand this but do not take the necessary steps to move into the rural areas. If we accept that the majority of persons with disability are in the rural areas then we need to make that extra effort.

I also feel we need to take the issue of prevention of disabilities more seriously and for this research is important. I look forward to thought provoking articles in the Journal on the status of persons with disabilities in the rural areas and also on prevention of disabilities so that these issues can be thrown open for discussion and the situation improved.

Another aspect is that notwithstanding the high quality of programmes and syllabi for various courses created by experts in the field of disability, the content of these courses needs to be updated so as to keep pace with the developments in the world in general and in India in particular.

The Council welcomes suggestions for improving the quality and contents of the Journal.

I would also like to take this opportunity to thank the contributors and members of the Editorial Board and others who have helped in making this Journal possible.

Major General (Retd.) Ian Cardozo, AVSM, SM,
Chairman,
Rehabilitation Council of India, New Delhi.

Chief Editor's Note

The second issue of the, 'Journal of Rehabilitation Council of India', is an attempt to raise primary issues that severely affect the lives of the Person with Disability. Attempt has been made to include wide ranging subjects of specific interest is the focus on "Qualities of special teachers" as these have direct bearing on the educational achievements of the person with disability. In the context of the present day school realities and current discourse, relating to the aim and objectives of integrated education.

A school teacher in the integrated system is expected to perform the role of a manager of class room instruction and resources facilitator of learning, organiser of systematic evaluation of special need children, researcher, innovator, mentor and counselor of special need students, in real sense he/she is a service provider for the community and the parents. Above all a teacher is a catalyst who can motivate any child to succeed, so do the best he can, wherever he is, with whatever he has. So, take a chance as the saying goes, '**The turtle only makes progress when it stick its neck out**'.

Education of children is incomplete without their families' involvement. The impact has been well studied and siblings are emerging as very strong resource in training and rehabilitation of Persons with Mental Retardation. It is my personal belief that the siblings are the strongest source of learning for any child, not just the child with disability. A lasting relationship with siblings and other members within the family can go a long way in cementing social assimilation making Special Education and Rehabilitation a lot easier and effective task. Nevertheless the role of the teacher is not undermined.

Our policies have been ideally framed to suit the inclusion of children with disabilities in schools. Under the 'Sarva Shiksha Abhiyan' country is embarking upon a mammoth task of creating an inclusive environment that should facilitate children with disabilities in the regular school system. The future holds promise that very soon every child will find a place in the neighborhood school and the Education system with disability will convert to a barrier free intellectually challenging and stimulating system that promotes individual growth and competence.

The Research based articles on Visual Impairment should successfully give more than adequate information on acquisition skills and promoting of cognitive development which should prove beneficial. Special section has been included for application of information technology and management of funds for all to benefit from.

The successful experience and innovative ideas from various institutions call for sharing, healthy discussions and exploration for replications.

If we do not want to drag our feet and wish to leave our foot prints on the sands of time, let us maintain high academic standards, provide qualitative services and disseminate the information for the benefit of all.

I invite, once again, papers for the publication in the Journal that are research based with strong empirical evidences.

Dr. J.P. Singh
Chief Editor
Rehabilitation Council of India
New Delhi

Letters to the Editor .....

Dear Sir,

JRCI is a very good Journal, which carries useful research oriented articles and papers of eminent people in the field of special education.

Madhu Gupa (Reader)
Directorate of Distance Education
Rohtak (Haryana)
E-mail: Madhu_uh12yahoo.com

Dear Sir,

We are happy to inform you that JRCI is really wonderful, simple and valuable for a good cause.

Charity Home for the Mental Retardation
12/172-C, Makkamoola, Gudalur
(Tamilnadu)

Dear Sir,

First of all I want to give thanks for publishing such an informative Newsletter and Journal; there is a great lack of information in the area of special education. Please send it regularly. I want to become its regular subscriber.

Ashish Kumar (Student), Bangalore

Effect of Educational Settings on Acquisition of Academic Skills Among Visually Impaired Students

DR. ASHWINI K. AGARWAL[1]

ABSTRACT

There are number of educational settings in existence, catering to the educational needs of visually impaired students. Studying their influence on the development of students has been area of interest among the educationists. In the absence of such a study the need was felt by the author to understand the effect of educational setting on acquisition of academic skills among visually impaired students. The present article briefly describes the study.

Introduction

At present in India education of visually impaired persons is taking place in various educational settings. Moreover academic skills form a very important component of education of every child including children with visual impairment.

The author assessed and compared the academic skills of visually impaired students, who were studying in three settings (special school setting, semi-integrated setting and integrated setting) in the fields of Braille reading speed, usage and comprehension skills in Hindi language, problem-solving skills in Mathematics, reasoning skills in Science and information providing skills in the subject of Social Studies. The study also aimed at comparing the academic skills of visually impaired boys with visually impaired girls in different educational settings.

Visually impaired students with respect to the study were those who either were totally blind or had only light perception. They did not have functionally usable vision and used Braille script as the main source for acquiring education.

Educational setting can be defined as a framework or environment where a visually impaired child is placed for his/her education and interacts with people and objects in the environment. It includes Special School Setting, Integrated School Setting and Semi-Integrated Educational Setting.

1. Vice-President (North), National Association for the Blind, New Delhi.

Academic skill can be referred as ability of the visually impaired child to read through Braille. Comprehend and use language, utilize knowledge of Mathematics to solve problems, Science to give reasons as well as Social Studies to provide desired information to questions based on course content being taught in the school.

Special schools refer to educational setting where only visually impaired students are admitted and imparted education. This educational setting is designed to suit the exclusive needs of visually impaired students. This educational setting has residential facility attached to it. Semi-integrated setting refers to the mode of education under which a blind child stays in a special hostel for the visually impaired children and attends a regular school nearby where services of a resource-teacher and facilities of resource-room are available. In the integrated setting, the visually impaired child stays with his family and attends regular school along with his/her non-disabled counterparts with little or no modification in the curriculum. The Resource Teacher provides him with plus curriculum (teaching of skills to meet additional needs of visually impaired child).

The study focused on the visually impaired students enrolled in various educational settings located in Delhi.

Main Objectives of the Study

The main objectives of the study were as follows:

1. To compare the academic skills of visually impaired students studying in special school settings with visually impaired students studying in semi-integrated settings.
2. To compare the academic skills of visually impaired students studying in special school settings with visually impaired students studying in integrated settings.
3. To compare the academic skills of visually impaired students studying in semi-integrated settings with visually impaired students studying in integrated settings.
4. To compare the academic skills of visually impaired girls with academic skills of visually impaired boys in special school settings.
5. To compare the academic skills of visually impaired girls with academic skills of visually impaired boys in semi-integrated settings.
6. To compare the academic skills of visually impaired girls with academic skills of visually impaired boys in integrated settings.

Subsidiary Objectives

The main objective of the study was to compare the academic skills of visually impaired students in different educational settings. In order to achieve the main objectives, it was important to have effective tools to provide comparative scores for the level of academic skills of visually impaired students. In the light of main objective, the subsidiary objectives of the study were:

1. To design and develop tool for assessment of academic skill in the area of

reading Braille script for visually impaired students in various educational settings in terms of scores.

2. To design and develop tool for assessment of academic skill in the area of language usage and comprehension for visually impaired students studying in various educational settings in terms of scores.
3. To design and develop tool for assessment of academic skill in the area of solving problems in Mathematics for visually impaired students studying in various educational settings in terms of scores.
4. To design and develop tool for assessment of academic skill in the area of reasoning in Science for visually impaired students studying in various educational settings in terms of scores.
5. To design and develop tool for assessment of academic skill in the area of providing information in Social Studies by visually impaired students studying in various educational settings in terms of scores.

Methodology

Ex-post Facto Method of research was utilized to do the comparative study. Blind students of class 6, 7 and 8 in the three settings were subjected to WISC-R (Verbal) (Hindi Adaptation by National Institute for the Visually Handicapped) test to assess their intelligence. A sample of 30 blind students was chosen from each of the three settings. The set of 30 students included 10 students from each of the three classes in each setting, comprising 5 boys and 5 girls.

The sample so chosen was subjected to academic skill test at the end of the academic session. The academic skill test consisted of the following:

- Test of skill of Braille script.
- Test of comprehension and usage skills in Hindi Language.
- Test of problem solving skills in Mathematics.
- Test of reasoning skills in General Science subject.
- Test of information providing skills in Social Science subject.

Findings

The findings from the analysis of data were as follows:

1. Semi-integrated setting was more effective than special school setting in imparting academic skills to visually impaired students. The visually impaired students in semi-integrated setting were distinctly better in academic skills due to greater exposure and the challenge they had to face in the integrated school. They had more interactions with the mainstream world, which had proved to be stimulating. The resource centre and resource teaching supported them to strengthen their development further. The visually

impaired students competed with sighted counterparts in mainstream schools and with their visually impaired counterparts in the resource centre. The double exposure helped them to build their confidence and gave them more and more opportunities to excel.

2. Integrated school setting was more effective than special school setting in imparting academic skills to visually impaired students. Similar to previous finding the students of integrated setting performed better than the students of special school setting with greater exposure into the mainstream society. The role of itinerant teacher as well as parents assumed greater importance.
3. Semi-integrated school setting was more effective than integrated setting in imparting the academic skills to visually impaired students. It was an interesting finding as school exposure to the students in two settings was similar and the only difference was that students in semi-integrated setting were staying in hostel specially meant for them while the students in integrated setting were staying with their families.
4. Semi-integrated school setting was more effective in imparting academic skills than other two settings. Further it was found that integrated school setting though was less effective than semi-integrated school setting but was more effective than special school setting.
5. Gender difference had no effect on acquisition of academic skills in special school setting, semi-integrated setting and integrated setting.
6. Visually impaired students in special school setting and semi-integrated setting performed equally well in Braille reading skills, language comprehension and usage skill.
7. Visually impaired students in semi-integrated setting performed better than visually impaired students in special school setting in reasoning skill, problem solving skill and information providing skill.
8. The Braille reading skills of special school students were significantly better than that of visually impaired students in integrated setting.
9. The visually impaired students in integrated setting had better reasoning skills than the visually impaired students in special school setting.
10. The students in integrated setting had better problem solving skills than students in special school setting.
11. The visually impaired students in special school setting and integrated setting performed equally well in language comprehension skill and information providing skill.
12. The visually impaired students in semi-integrated setting performed better in Braille reading skill than visually impaired students in integrated setting.
13. The visually impaired students in semi-integrated setting performed equally well in language comprehension and usage skill, problem solving skill, reasoning skill and information providing skill as compared to visually impaired students in integrated setting.

Conclusion

The most important conclusion from the study was that each setting had its strengths and these strengths need to be utilized to make each of the three settings more effective to achieve the final objective of education for all including children with visual impairment. The investigator concluded that the children should be assessed and provided with the setting which was most appropriate for their development. Talented visually impaired children with conducive family atmosphere would excel in integrated setting. A visually impaired child having hostile family atmosphere may be provided special residential facilities for the time being to enhance his academic skills under semi-integrated setting. A visually impaired child with intellectual delays or with other disability would need considerable special care and inputs. One of the important conclusion was that the mainstream schools have to considerably improve their capacity to provide integrated education. Only through integration the coverage can be increased and high quality academic skills could be imparted to visually impaired children in the country.

People with disabilities as a group, and those with visual impairment as its sub-group, required support from more than one sector to develop to their maximum potential. It is a well-known fact that any exercise in Human Resource Development (HRD) for people with disabilities needs to consider all steps, including early identification, assessment, education and rehabilitation. This is essential requirement to allow each individual to reach his/her maximum potential in academic skills.

The analysis of the study revealed that semi-integrated setting was most effective in imparting academic skills and the visually impaired students in this particular setting were more efficient both in special academic skills like Braille reading as well as general academic skills such as problem solving, reasoning, information providing, language comprehension and usage. This was primarily due to balance between protection and competition among the peer group in the setting.

Another interesting conclusion was that visually impaired students going to mainstream schools both in integrated as well as semi-integrated setting were good at problem solving and reasoning skills due to greater exposure to the subjects like Mathematics and Science. The investigator concluded that visually impaired children should be admitted to mainstream schools in large numbers. Integrated setting should be promoted and strengthened. Special schools should be utilized to provide resource services as a supplement to integrated setting.

Last but not the least important conclusion from the analysis of hypotheses was remarkable uniformity between visually impaired boys and visually impaired girls in academic skills. Both were very similar in their performance. The investigator concluded that uniform education policy and procedures shall hold good for both.

REFERENCES

Advani, Lal (1989): Education of the Visually Handicapped—Perspective, Opportunities, Strategies and Targets, Paper presented at the National Seminar on Pre-school Intervention, Prevention, and Early Detection, Dehra Dun, 16-17 October.

Chapman, Elizabeth K. and Stone, Juliet M. (1988): *The Visually Handicapped Child in Your Classroom* (*Special Needs in Ordinary Schools*), London: Cassell Education Ltd., p. 206.

Cutsforth, D. Thomas (1951): *The Blind in the School and Society: A Psychological Study*, New York: American Foundation for the Blind, p. 286.

Fazelbhoy, R.S. (1990): *Integrated Education—A National Programme*, Paper presented at the NAB State Branches Meeting, Nasik, March 3-4.

Jangira, N.K. (1989): *Education of the Disabled Children: Forgotten Area of Research in Education*, Paper presented at the UNESCO sponsored National Workshop on Educational Research, New Delhi, 25-28 September.

Punani, Bhushan (1994): *A Study of the Education Management Systems for the Visually Impaired.* Unpublished Ph.D Thesis, Gujarat University, Ahmedabad.

Singh, T.B. (1989): Education of Blind & Visually Impaired Children in India, *Journal of Visual Impairment & Blindness*, 83, January, pp. 20-26.

UNESCO (1983): *Educational Documentation and Information*—IBE No. 227, Paris.

Webster, Richard (1989): *Residential Schools or Mainstreaming?—A Guide for Parents of the Visually Impaired Child*, Jacksonville, III: Katan Publication, p. 116.

Effectiveness of Audio-Tactile Material in Promoting Cognitive and Language Development in Visually Impaired Children

PROF. S.R. MITTAL[1] & DR. SHOBHALAXMI SAHU[2]

ABSTRACT

Visual impairment is a medical phenomenon. It relates to impaired sense of vision loss affects the development of the children in this way the visually impaired children become aware of the world through senses other than sight. Senses are the gateway to the knowledge. Moreover, vision is the most actively used by man and hence his knowledge grows chiefly of his visual experiences. The resulting effects have been widely discussed but most accepted comes from Dr. Berthold Lowenfeld who explained that blindness limits perception and cognition in three ways:

- *In the range and variety of experiences.*
- *In the ability to get about.*
- *In the control of the environment and of the self in relation to it.*

Thus, in this paper with the same thinking, the education for blind aims at giving the blind child a knowledge of the realities around him, the confidence to cope with these realities and the feeling that is recognised and accepted as an individual in his own right. As observed by Friedman and Pasnak (1973), blind children were several years delayed on manipulatory tests of classification. A substantial amount of research suggests that the development of cognitive abilities in blind children lags behind that of the sighted children.

Visual loss not only affects cognitive development but language development too. The main difficulty for blind children of non-verbal intelligence lies in comprehending the concrete nature of verbal expressions and differentiating between concepts. They

1. Professor in Special Education, IASE, Faculty of Education, Jamia Milia Islamia, New Delhi.
2. Programme Coordinator, Department of Research and Development, ELIAS Voluntary Association, Ghaziabad.

appear, however, to acquire phonal structures with relative ease. Solnzewa (1980) reports that blind children imitate sounds from their surroundings, such as animal voices and the noise of engines, etc., later than sighted children, but speech sounds earlier. This willingness to imitate also lasts longer can laid to echolalia at the latest stage. The blind child's early language is primarily communicative in nature. It is also characterized by the playful manipulation of sounds, phrases and compounds. Wills (1979) illustrates this playfulness with many examples from her observations of the linguistic development of two blind children. For these children, speech sounds acquire a life of their own. The speech of blind children is much more free wheeling and independent, and not so restricted by the constraints of meaning as the speech of sighted children.

Verbalism was observed among congenitally blind in terms of learned associative visual responses rather than of tactile or hearing experiences. Burlingham (1961) noted the slow acquisition of vocabulary in early stages of development among blind.

In many diaries of child language development it is reported that the child around the age of six months watches mouth movements and it formed the impulse to speak. From the hypothesis that sighted children use visual information in the acquisition of phonology follow certain predictions which have been tested and found to be accepted. These are:

1. That sighted children will learn the articulatory movements that they can see more quickly with less error than those that they cannot see.
2. That sighted children will make phonological substitutions within a visual groups rather than across visual groups. The substitutions within a visual group will be made on the basis of other factors such as acoustic similarity. If the visual group has only a few members and these are not acoustically similar to one another, the sounds will not be substituted for one another.
3. That blind children will not be influenced in their phonological substitutions by visual groups but by other factors such as acoustic similarity. Substitutions will, therefore, be made across visual groups and a pattern will emerge which is different from that of the sighted child.

Though a visually impaired lag both cognitively and lingually but these lags can be improved or overcome by sort of training and intervention as suggested by a substantial amount of researches.

In the light of the above background and the need and importance of the study is stated as below:

There are various developments, which get enhanced during the lifetime due to enriching experiences. Intellectual development and cognitive development are interrelated as mentioned by Sapir-Whorl's hypothesis and are often used synonymous. These areas of development depend on the modes of input. Senses are the mode of input. The loss of one or more of these senses can have far reaching effect on the individual. Visually impaired individuals have loss of vision. And vision is the most

important of the five senses. It is the window to the world. About 80 per cent of the knowledge received through eyes. Even a partial loss of sight is more calamitous than being deprived of learning, touch, taste or smell. More impressions reach the brain for interpretation through sight than through all other senses put together. Therefore, any deviation from normal vision has greater deleterious effect on the individual. And this deleterious effect is bound to have effects on cognitive and language development. Since blind persons have loss of sight which makes them physically different from seeing person and in addition if they have language and cognitive problems, then the blind individual will have a life like that of insane. Thus, it is the prime duty of their teacher to remedy this problem and to take the positive steps to provide alternative experiences to compensate the loss of vision. Hence there is a need to minimize these effects through appropriate educational experiences and stimulation at proper period, i.e., early years of development.

In today's world all people with any type of disability have equal right for receiving education under Article 32 and 45 of the Constitution of India, the Supreme Court of India in 1993 permitted visually handicapped persons to be eligible candidates to compete the Civil Services Examination held by Union Public Service Commission (U.P.S.C.). In the same accordance, according to Act 1996 a person on account of disability cannot be rejected for any kind of jobs. To have appropriate placements in job, education is needed and education as such is very much visually loaded. Therefore, to make education to be accessible to visually impaired persons, the best mode is tactile and auditory which can promote language and cognitive development and hence the study is also focussed on these lines.

Rationale

Earlier visually impaired persons lived a pathetic life of beggary or of destitution. They could hardly imagine to live a reasonably satisfactory life. Late Dr. Modi said, "A blind person in India lives under curse". But gone are the days when disabled person was treated as down caste, on the contrary they are treated as equal partners in the society.

In recent decades, there has been a marked shift in growing realization about providing better opportunities to disabled or impaired person to make them productive and positive contributors of the society. Thus by the Act of Parliament, it is the responsibility of the state to provide educational opportunities to the disabled. Act 1996 stipulates free and compulsory education to the disabled child. However, vision plays a dominant role in the life of an individual. Absence of vision can have deleterious effect on the various developments. Thus, blindness also effects language and cognitive development. Review of literature has established the fact that visually impaired children lag initially both cognitively (Hayes, Friedman & Pasnak, 1973; Hatwell, 1973; Gottesman, 1973,1976; Stephens & Grube, 1982; Stephens & Simpkin, 1974; Witkin, Birnbaum, Lomonaco, Lehr & Herman, 1962; Hatwell, 1966; Hartlage, 1967; Jurmaa, 1967; Swallow & Poulsen, 1973; etc.) and in language development also (Stinchfield-Hawk, 1944; Miner, 1963; Mills, 1983; Burlingham, 1961; etc.).

Research have confirmed that blind children generally lag two years behind their seeing counterparts. This slowness or retardation takes root in the early years of development due to lack of educational experiences and stimulation and also absence of visual experiences.

The two main sources of providing learning experiences to the blind children are audio and tactual mode. These modes help in compensating the loss of vision and equipping the child with the weapon of learning. There is need of some kind of enriching as well as entertaining material, which can help them to develop cognitive and language skills. Research has been taken either using audio alone or tactual materials alone to enhance the skills. Thus, this study encompasses both audio as well as tactile material together framing the component of intervention to promote cognitive and language development in early years of development, i.e., 5 to 11 years old.

Statement of the Problem

Effectiveness of audio-tactile material in promoting language and cognitive development in visually impaired children.

Objectives of the Study

1. To study the effectiveness of audio-tactile material over audio-material in promoting language and cognitive development in visually impaired children.
2. To study the effectiveness of audio-tactile material in promoting language development of visually impaired children.
3. To study the effectiveness of audio-tactile material in promoting cognitive development of visually impaired children.
4. To study the effect of audio-tactile material in promoting language and cognitive development in relation to the age.
5. To study the effect of audio-tactile material in promoting language and cognitive development in relation to sex.
6. To study the effect of audio-tactile material in promoting language and cognitive development in relation to level of education.
7. To develop language and cognitive development test for visually-impaired children.
8. To develop tactile material to supplement audio-material.

Variables in the Study

1. Independent Variables: Audio-Tactile Materials.
2. Dependent Variables: Cognitive Development and Language Development.
3. Intervening Variables: Age, Sex and Level of Education.

Operational Definitions of the Terms Used

1. *Visually impaired children*: Visually impaired children are the children who

either are totally blind (no vision or absence of sight) or have only light perception.

2. ***Audio material***: Audio material refers to the audio programmes based on thematic approach. Here audio programmes developed by N.C.E.R.T. for phonal children are adapted on expert advice.
3. ***Tactile material***: Tactile material refers to the material, which is perceivable by touch to comprehend the meaning as well as to supplement audio programmes.
4. ***Language development***: Language development is the development of those skills which enable person to communicate information, intentions, thoughts, feelings as well as helps to organize and think systematically. It includes listening, speaking, reading and writing skills.
5. ***Cognitive development***: Cognitive development is the development of those mental processes or skills that enable an individual to get to know his environment. Cognition refers thought, processes of the mental representation of actions and events, to conceptualizing the relationships among various events, to establish balance between effective differentiation of events and recognition of important similarities, to understanding casual relationships and so on. These various cognitive abilities are not present in newborn human infant and consequently need to be developed. Here it includes sensory development, concept-formation, memory, sequential thinking, classification, reasoning, problem-solving skills, etc.

Research Questions

1. Which one is more effective audio alone or audio-tactile material in promoting language and cognitive development of visually impaired children?
2. Will audio-tactile material have positive effect on cognitive development of visually impaired children?
3. Will audio-tactile material have positive effect on language development of visually impaired children?
4. Will the effect of audio-tactile material differ significantly with difference in age?
5. Will the effect of audio-tactile material differ significantly with difference in sex?
6. Will the effect of audio-tactile material differ significantly with difference in level of education?

Hypotheses of the Study

1. The audio-tactile material will be more effective than audio material only in promotion in language and development of visually impaired children.
2. The audio-tactile material will be a positive effect on the language development of visually impaired children.

3. The audio-tactile material will have a positive effect on the cognitive development of visually impaired children.
4. The effect of audio-tactile material will not differ significantly with difference in age.
5. The effect of audio-tactile material will not differ significantly with difference in sex.
6. The effect of audio-tactile material will not differ significantly with difference in levels of education.

Delimitation

Research studies in general will have limitations due to many factors. It is the responsibility of the researcher to see that the study is conducted with maximum care in order to be reliable. However, the following limitations unavoidable by the researcher in the present study:

1. The present study is delimited to the blind children studying in institution for blind of National Capital Territory of Delhi.
2. The age-group of the visually impaired children is 5 to 11 years including boys and girls.
3. The sample includes the children who have no vision.
4. Only language and cognitive development is included in the study.
5. Establish balance between effective differentiation of events and recognition of important similarities to understanding casual relationships and so on. These various cognitive abilities are not present in newborn human infant and consequently need to be developed. Here it includes sensory development, concept formation, memory, sequential thinking, classification, reasoning, problem-solving skills, etc.

Scope of the Study

A study without scope in terms of immediate application will remain a mere intellectual exercise. The fundamental structures and processes that emerge out of the study should have impact on the real practical situation. The present study has a scope, which goes beyond mere classroom application. It has more psychological application. The study brings forth the importance of audio-tactile material, i.e., educational material in the promotion of language and cognitive development.

ANOVA and t-test are used for measuring the significance of difference between the groups. In addition the data was also represented graphically by drawing bar diagrams.

Main Findings

On the basis of the analysis, interpretation and discussion of results, the following main findings regarding the effectiveness of audio-tactile material in promoting the

language and cognitive development of visually impaired children have emerged out of the present study:

1. The audio-tactile material is more effective than audio material alone in promoting language and cognitive development in visually impaired children.
2. The audio-tactile material has a positive effect in promoting language development in visually impaired children.
3. The audio-tactile material has a positive effect in promoting cognitive development in visually impaired children.
4. The effect of audio-tactile material in promoting language and cognitive development in visually impaired children does not differ significantly with difference in age.
5. The effect of audio-tactile material in promoting language and cognitive development in visually impaired children does not differ significantly with difference in sex.
6. The effect of audio-tactile material in promoting language and cognitive development in visually impaired children does not differ significantly with difference in levels of education.

Educational Implication

(*i*) From the present study it is evident that audio-tactile material is more effective for the education of visually impaired children as it has a positive effect on language and cognitive development.

(*ii*) The study shifts the attention to the use of innovative aids to give factual and entertaining experiences to the blind children.

(*iii*) Seeking insight from the findings of the study an adequate programme based on the use of audio-tactile material may be designed to educate the visually impaired children, which is the right of every child in India.

Suggestions of the Study

1. The research done by the investigator can be replicated with the use of audio-tactile material to enhance other developments.
2. This study was confined only to Delhi. Similar study may be conducted taking larger area; at regional or state level.
3. More and new audio and tactile material must be produced.
4. This study also can be replicated with blind children in different settings and intensity of disability.
5. Apart from 5 to 11 year totally blind children, other age-groups may be included.
6. Other developments may be included in future studies.

REFERENCES

Abel, G.L. (1959). *Concerning the Education of Blind Children.* NY: American Foundation for the Blind Inc.

Advani, Lal. (1989). *Education of the Visually Handicapped—Perspectives, Opportunities, Strategies and Targets.* A paper presented at the National Seminar on *Preschool Intervention, Prevention and Early Detection*, Dehradun, Oct. 16-17, 1989.

Advani, Lal. (1992). *Effects of Visual Disability on Cognitive Development.* Handbook for the Teachers of Visually Handicapped, N.I.V.H., Dehradun, p. 27-43.

Advani, Lal. *The Visually Handicapped—A Research Scenario* (Mimeographed), p. 23.

Anderson, D. & Olson, M. (1981). Word Meaning Among Congenitally Blind Children. *Journal of Visual Impairment and Blindness*, 75, pp. 165-168.

Anderson, D.W. (1984). Mental Imagery in Congenitally Blind Children. *Journal of Visual Impairment and Blindness*, 78, pp. 206-210.

Apple, M.M. (1972). *Kinesic Training for Blind Persons: A Vital Means of Communication.* New Outlook For the Blind, 66, pp. 201-208.

Axelrod, S. (1959). *Effects of Early Blindness.* New York: American Foundation for the Blind (Research Series, No. 7).

Ayres, A.F. (1966). *A Comparison of Selective Perception Among Early Blinded and Sighted Adolescents.* Dissertation Abstracts, 27, 1256A.

Berla, E.P. (1972). Effects of Physical Size and Complexity on Tactual Discrimation of Blind Children. *Exceptional Children*, Vol. 39, No. 2, Oct., pp. 120-124.

Berla, E.P. & Murr, M.J. (1975). Psychophysical Functions for Active Tactual Discrimination of Line Width by Blind Children. *Perception and Psycho-physics*, 17, pp. 607-612.

Brekke, B. Williams, J.D. & Tait, P. (1974). The Acquisition of Conservation of Weight by Visually Impaired Children. *Journal of Genetic Psychology*, 125, pp. 89-97.

Brieland, D.M. (1950). *A Comparative Study of the Speech of Blind and Sighted Children.* Speech Monographs, 17, pp. 99-103.

Cutsforth, T.D. (1932). The unreality of words to the blind. Teachers Forum, 4, pp. 86-89. Davidson, P.W.; Dun, G.; Wiles-Kettenmann, M. & Appelle, S. (1981). Haptic conservation of amount in blind and sighted children. Exploratory movement effects. *Journal of Pediatric Psychology*, 6, pp. 191-200.

Dimcovic, N. & Tobin, M.J. (1995). The Use of Language in Simple Classification Tasks by Children who are Blind. *Journal of Visual Impairment and Blindness.* Sept.-Oct., Vol. 89, New-York: AFB Press, Boyd Printing Press. No. 5, pp. 448-459.

Rubin, E.J. (1964). Abstract functioning in the blind. Research Series no. II, AFB. Sato, Y. & Anayama, T. (1973). Standardisation of tactual perception for the blind. *Japan's Journal of Special Education*, 10, pp. 12-26.

Schiff, W. & Foulke, E. (1982). *Tactual Perception*, U.S.A., Cambridge University Press.

Scholl, G.T. (1973). Needs Understanding and Meeting Developmental Needs. In: B. Lowenfeld (ed.), *The Visually Handicapped Child in School*, New York: John Day Co. Inc.

Schwartz, A.W. (1972). A comparison of congenitally blind and sighted elementary school child on intelligence, tactile discrimination, abstract reasoning, perceived personality adjustment and parent-teacher perceptions of intellectual performance. *Abstracts International*, 33, 55-88A.

Simpkins, K. (1971). An auditory training programme for kindergarten through 3 grade. *Education of the Visually Handicapped*, 3, pp. 70-73.

Simpkins, K.E. (1979). Tactual Discrimination of Household Objects. *Journal of Visual Impairment and Blindness*, 73, pp. 86-92.

Simpkins, K.E. & Siegel, A.J. (1979). The blinds child's construction of the projective straight line. *Journal of Visual Impairment and Blindness*, 73, pp. 233-238.

Singh, T.B. & Kulshrestha, S.P. (1986). Researches on the Visually Handicapped: Indian Perspective, *CBMRC Research Newsletter*, 11(2), July, pp. 5-32.

Spiegelman, M.N. (1976). A comparative study of the effects of early blindness on the development of auditory spatial learning. In Z.S. Jastrzembska (Ed.). The effects of blindness and other impairments on early development (pp. 29-63). New York: AFB. Stankov, L. & Spilsbury, G. (1980). The measurement of auditory abilities of blind, partially sighted and sighted children. *Applied Psychological Measurement*, 2, 491-503.

Warren, D.H. (1984). *Blindness and Early Childhood Development*. New-York: American Foundation for the Blind.

W. Orchel, P. (1951). *Space Perception and Orientation in the Blind*. Psychological Monographs, 65, Whole No. 532.

A Comparative Study of Self-concept of Visually Impaired and Sighted Young Adults

MS. SUJATA BHAN[1]

ABSTRACT

The present study attempts to investigate the difference in the self-concept of visually impaired adolescents and their sighted peers. The study was conducted on 80 visually impaired adolescents (40 boys and 40 girls) and 80 sighted adolescents (40 boys and 40 girls) studying with them. These adolescents were in the age range of 16-18 yrs and were attending college. The 'Children's self-concept scale', standardized by S.P. Ahluwalia (Hindi version) was used for data collection. It was found that there is a significant difference between the self-concept of the sighted and the visually impaired adolescents. Though adolescence is a trying period for all adolescents, the visually impaired are at a disadvantage to compensate for their disability, as the opportunities provided to them are limited. The sighted adolescents were found to have a more positive self-concept. They were found to be more assertive, less shy, had better ability to acquire knowledge, were more popular in class, and had a feeling of overall well being. Visually impaired adolescent boys were found to have a better self-concept than visually impaired adolescent girls.

It was observed that visually impaired adolescent girls had more frustrations, more anxiety about their future, and were more self-conscious in comparison to their sighted peers. The attitude of the family members towards visually impaired girls was not very encouraging as reported by them. The adolescents had a positive self-concept as long as they were in special school settings but when they were in college among the majority of sighted adolescents they developed a negative self-concept. The study revealed an attitudinal change in family and society at large would go a long way in enhancing the self-concept of the visually impaired adolescents.

Self-concept is the set of attitudes, abilities, and values that an individual believes in. It defines who he or she is (Cattell). Self consists of all qualities that make the self

1. Senior Lecturer, Centre of Special Education, SNDT Women's University, Mumbai.

unique, characteristics such as physical appearance; Psychological characteristics, including desires, attitudes, thought processes and personality traits; and social characteristics, such as roles and relationships with others.

Herbert Mead (1934) described the self as a blend of what we imagine important people in our lives think of us. According to him the psychological self emerges when a child's I-self adopts the view of me-self that resembles the attitudes of significant others. Young adults combine typical experiences and behaviours into stable psychological dispositions, blend positive and negative characteristics, and compare their own characteristics with those of their peers (Harter, 1999). They become better at reading the messages they receive from others and incorporate these into their definitions of self.

For a visually impaired child the period of adolescence with an awareness of his disability intensifies his struggle to gain his identity and to develop a positive self-concept. The implications could be different for boys and girls. Many of the stereotypic misconceptions and attitudes held by parents, teachers, rehabilitation workers and even the blind person himself have a depressing effect on the self-concept of the blind young adults.

Awareness to understand this population is needed. Sharma (1998) found visually impaired secondary school students to be more frustrated than their sighted counterparts. Many researches have focused on good body image as the core of healthy self-concept. A positive self-concept is the key ingredient to well adjusted and rounded personality. A positive attitude of others would help in developing positive sense of self. Inclusion of the visually impaired is possible if the attitude of the sighted towards them is positive. With a negative attitude of the society the visually impaired will always feel segregated and have a poor self concept.

The present study was carried out to understand the emotional aspects of visually impaired young adults. It threw light on the role of society in the psychological well being of these students. It also highlighted the significance of positive self-concept to feel truly integrated in the society.

Objectives of the Study

To study the difference in self-concept of

1. Visually impaired (VI) and sighted young adults.
2. VI and sighted young adult males.
3. VI and sighted young adult females.
4. VI young adult males and females.

Hypotheses

There will be a significant difference in self-concept of

1. VI and sighted young adults.

2. VI and sighted young adult males.
3. VI and sighted young adult females.
4. VI young adult males and females.

Sample

For the purpose of this descriptive research 40 educationally blind (using Braille) young males and 40 young females (age range 16-21 yrs.) attending college in the city of Mumbai, were selected. For the comparison, 40 sighted adult males and 40 sighted adult females in the same age range were selected who were studying along with these visually impaired young adults.

Research Tool

A standardized tool of self-concept, 'Piers-Harris, Children's Self-concept Scale', Hindi version by Dr. S.P. Ahluwalia (1974) was used. The scale contains 80 items. The six sub-scales measured by the self-concept scale are very important in the psychological world of young adults. The sub-scales measured are:

- ***Behaviour:*** A way a person behaves with others and how he perceives it negatively or positively.
- ***Intellectual and school status:*** An ability to acquire, retrieve, and use knowledge in a meaningful way.
- ***Physical appearance and attributes:*** The pleasantness of a person's appearance and his concern regarding it.
- ***Anxiety:*** A sense of threat, apprehension about future events and a feeling of discomfort, fear of being rejected by others.
- ***Popularity:*** The quality of being admired or accepted widely.
- ***Happiness and satisfaction:*** The subjective feeling of well-being.

Procedure

After building a rapport, the questionnaire was administered to the visually impaired young adult males and females on a one to one basis. Their sighted peers were questioned on the same scale. The sum of the scores for each sub-scale of the self-concept scale was obtained by adding the scores. The total self-concept score was obtained by adding scores of all the six areas.

Results

The data generated was analyzed using a t-test. There was one consolidated score on the scale of self-concept for the visually impaired (VI) and the non-visually impaired (N-VI) young adults. The mean scores of both the groups were compared on each of the six components of self-concept using t-test.

Table 1: **Comparison of Mean Scores of Sighted and Visually Impaired Young Adults on the Self-concept Scale**

	N	*Mean*	*SO*	*t*	*df*	*Level of Significance*
N-VI	80	58.48	9.58	3.34	158	.01
VI	80	53.83	12.22			

Table 2: **Comparison of Sighted and Visually Impaired Young Adult Males on Self-concept Scale**

	N	*Mean*	*SO*	*t*	*df*	*Level of Significance*
N-VI	40	62.58	9.28	3.38	78	.01
VI	40	56.85	11.43			

Table 3: **Comparison of Sighted and Visually Impaired Young Adult Females on Self-concept Scale**

	N	*Mean*	*SO*	*t*	*df*	*Level of Significance*
N-VI	40	50.87	12.40	2.79	78	.01
VI	40	46.10	14.02			

Table 4: **Comparison of Visually Impaired Young Adult Males and Females on Self-concept Scale**

	N	*Mean*	*SO*	*t*	*df*	*Level of Significance*
Boys	40	56.62	10.63	2.01	78	.01
Girls	40	50.59	12.60			

Table 5 't' **values** obtained by sighted and visually impaired young adults on variables of self-concept scale

- 't' value (4.45) obtained by sighted and visually impaired young adults on the variable 'Behaviour' was significant at .01 level.
- 't' value (2.77) obtained by sighted and visually impaired young adults on the variable of 'Intellectual and School Status' was significant at .01 level.
- 't' value (2.39) obtained by sighted and visually impaired young adults on the variable of 'Physical Appearance and Attributes' was significant at .05 level.

- 't' value (1.39) obtained by sighted and visually impaired young adults on the variable of 'Anxiety' was insignificant.
- 't' value (2.92) obtained by sighted and visually impaired young adults on the variable of 'Popularity' was significant at .01 level.
- 't' value (3.13) obtained by sighted and visually impaired young adults on the variable of 'Happiness and Satisfaction' was significant at .01 level.
- 't' value (3.70) obtained by sighted and visually impaired young adult males on the variable of 'Behaviour' was significant at .01 level.
- 't' value (2.84) obtained by sighted and visually impaired young adult males on the variable of 'Intellectual and School Status' was significant at .01 levels.
- 't' value (.99) obtained by sighted and visually impaired young adult males on the variable of 'Physical Appearance and Attributes' was not found significant.
- 't' value (2.16) obtained by sighted and visually impaired young adult males on the variable of 'Anxiety' was significant at .05 level.
- 't' value (2.97) obtained by sighted and visually impaired young adult males on the variable of 'Popularity' was significant at .01 level.
- 't' value (2.49) obtained by sighted and visually impaired young adult males on the variable of 'Happiness and Satisfaction' was significant at .05 level.
- 't' value (2.56) obtained by sighted and visually impaired young adult females on the variable of 'Behaviour' was significant at .05 level.
- 't' value (2.22) obtained by sighted and visually impaired young adult females on the variable of 'Intellectual and School Status' was significant at .05 level.
- 't' value (.57) obtained by sighted and visually impaired young adult females on the variable of 'Physical Appearance and Attributes' was not found significant.
- 't' value (2.14) obtained by sighted and visually impaired young adult females on the variable of 'Anxiety' was significant at .05 level.
- 't' value (2.30) obtained by sighted and visually impaired young adult females on the variable of 'Popularity' was significant at .05 level.
- 't' value (2.00) obtained by sighted and visually impaired young adult females on the variable of 'Happiness and Satisfaction' was significant at .05 level.
- 't' value (.36) obtained by visually impaired young adult males and females on the variable of 'Behaviour' was found insignificant.
- 't' value (2.56) obtained by visually impaired young adult males and females on the variable of 'Intellectual and School Status' was significant at .05 level.
- 't' value (2.07) obtained by visually impaired young adult males and females on the variable of 'Physical Appearance and Attributes' was significant at .05 level.
- 't' value (2.11) obtained by visually impaired adolescent boys and girls on the variable of 'Anxiety' was significant at .05 level.

- 't' value (2.15) obtained by visually impaired young adult males and females on the variable of 'Popularity' was significant at .05 level.
- 't' value (2.50) obtained by visually impaired young adult males and females on the variable of 'Happiness and Satisfaction' was significant at .05 level.

Discussion

Deductions so made in this research indicate that visually impaired differ significantly in their self-concept from the sighted young adults. All the four hypotheses are accepted. The feeling of inferiority is strongly related to the self-concept of the person. The concern for physical appearance is profound in young adulthood. Poor body image in the case of sighted is compensated by achievements in other areas but VI have fewer opportunities to excel in other fields hence poor body image adds to their poor self-concept. Visually impaired students were shyer and less assertive. The intellectual capacities and achievements are affected by loss of vision due to restricted flow of information. Some VI students also feel lack of literature in Braille puts them in a disadvantage in comparison to their sighted peers. The anxiety with regard to communicate and initiate an interaction stemmed from the fear of rejection which was found more in VI young adults (mean scores 8.59) as compared to sighted young adults (mean score 8.01) but the difference was not statistically significant when taken as a whole group but when analysis was done further to compare VI young males with their sighted counterparts or VI young females and their sighted counterparts, the differences were significant. The VI also felt not well accepted in the sighted groups. They tend to form their own group. Hence it did not reflect true inclusion in the class. Antoniya (2000) in his research found VI young adults have less close friends, less effective social contacts, and less mature relationships as compared to the sighted. Physical disability is a major factor contributing to the overall dissatisfaction. The VI students said they wished they were able to see like others. They felt their lives were incomplete. VI females were found to differ in their self-concept in comparison to VI males. The VI males were found to be more aggressive than females (though statistically behavoiur traits did not vary significantly), but both the groups admitted to frustrations and irritability. Academic performance was seen better in VI males which also could be due to our cultural background where girls education is considered less important in comparison to the boys and this difference is more noticeable when the girl is also disabled. Physical appearance was more of a concern for VI females as in our society a lot of emphasis is given on the exterior beauty. A study done by Jain (1994) also supports present research findings. He found the VI females to show limited social interaction, apprehensive about initiating friendships and are thus less popular among their sighted peers. When compared with VI females, VI males were better adjusted and happier. Many VI females reported that they felt they were burden on their family. Tempereen (2000) in his research found VI young females to be higher on depression as compared to VI males. They had more difficulty in their relationships with friends. The family support and encouragement would affect the self-concept of VI females.

Conclusion

A few conclusions can be drawn:

- Sighted young adults have a higher positive self-concept as compared to visually impaired young adults.
- Visually impaired young adult males have poorer self-concept when compared with their sighted counterparts.
- Visually impaired young adult females show poor self-concept in comparison to their sighted peers.
- There are gender differences within the group as visually impaired young females have poorer self-concept in comparison to visually impaired young males.

Implications

- Its pertinent to understand the emotional aspects of visually impaired adolescents and young adults for their true inclusion.
- Consistent, persistent and credible positive messages from trusted significant others (parents, siblings, friends, teachers and other family members) would facilitate a positive change in self-concept.
- Realistic expectations commensurate with their abilities and skills should be held.
- Significant others must become aware of their own feelings and attitudes towards the visually impaired before inadvertently communicating negative or derogatory attitudes.
- Provide convincing evidence that a full and satisfying life is possible for the visually impaired.
- Visually impaired young females should be treated with dignity and provided with same opportunities as their male counterparts.
- Active involvement in schools, colleges and community social and civic affairs facilitates fuller assimilation. Personal and social competence is essential to achieve better integration in the community.
- With low self-concept the visually impaired will never develop a true sense of belonging in the world of the sighted. Hence their true inclusion will never be possible unless efforts are made by the significant others to help them develop a positive self-concept.

REFERENCES

Antoniya, R. (2000). Psychological Adjustment to Physical Disorders, A Meta Analytic View. *Psychological Journal*, 17, pp. 133-157.

Hmier, S. (1999). Process Underlying Adolescent Self concept Formation. In: '*From Childhood to Adolescence—A Transition Period*', pp. 205-239.

Jain, S. (1994). Personality Traits of Blind Students. *Indian Journal of Disability and Rehabilitation*, Vol. 8-9, pp. 53-57.

Mead, G.H. (1934). *Mind, Self and Society.* Chicago, McGraw Hill.

Sharma, S. (1998). A Study of Visually Disabled and Sighted in Relation to Their Frustration and Study Involvement. *Disability and Impairment.* Vol. 12 (2), pp. 101-106.

Tampereen, T.H. (2000). Psychosocial Development and Social Support Among Adolescents. WWW.Goolle.Com(17\1\04).Vaitosk. Acta University, Tempeerensis.

Status and Expectations of Trained Human Resources in the Field of Special Education in India: An Exploratory Study by RCI

DR. J.P. SINGH[1]

ABSTRACT

The Rehabilitation Council of India mooted the idea of communicating to the registered professionals and personnel on certain important issues of the disability sector. This study was conducted in the year 2003 in a very limited way to gauge the minds of the professionals about their experience and expectation so that some steps could be taken in future to address certain pertinent issues and to fill the gap in the disability area. These issues were raised in the form of a short questionnaire, included questions on quantity and variety of experience of professionals, manner of service delivery, area of service delivery, possible areas where professionals would contribute to Rehabilitation Council of India's activities, etc. The responses from 996 professionals/personnel, received through questionnaire and the data was analyzed on various issues.

Introduction

The Rehabilitation Council of India (RCI) was established as a Statutory Body by an Act of the Parliament in September 1992, which became operational from June 1993. Before passage of the RCI Act, it was only functioning as the Society since 1986. The then Ministry of Welfare has set up the Council as a Registered Society functioning under the Government of India. But in order to enforce standard practices and curricula, the Council was brought in with statutory powers. With this positive change, came bigger responsibilities for the fulfillment of various objectives. The RCI is entrusted with the very important responsibilities of standardizing and regulating the training of personnel and professionals in the field of rehabilitation and special education; it also has to maintain a Central Rehabilitation Register (CRR) for registration of

1. Member Secretary, Rehabilitation Council of India, New Delhi.

professionals and personnel who have acquired various qualifications from RCI recognized institutions. Without registering with the RCI no person can deliver any professionalized service to any person with disability (PWD). This very provision builds the foundation for delivery of good services to the PWDs. Although RCI is only about 12 years old, it has developed an organized approach to keep up the professional standards in the field of rehabilitation and disability. It has introduced Continuing Rehabilitation Education (CRE) programmes for the professionals/ personnel registered in the CRR for providing the practitioners in various branches to keep themselves abreast with latest developments in knowledge, research findings and sharing of experience. Though RCI is playing a very important role in the field of special education it is needed to know the RCI registered professional's status and expectation and to assess the impact of RCI initiatives for standardizing and regulating the training of personnel and professionals in the field of rehabilitation and special education. RCI has done this study to reveal some unexplored facts regarding the status of the registered rehab professionals and to assess the impact of RCI's initiatives.

Methodology

The survey was done through a structured questionnaire. The questionnaire were mailed. It included questions on quantity and variety of experience of professionals, manner of service delivery, area of service delivery, possible areas where professionals would contribute to RCI's activities, etc.

The responses from 996 professionals and personnel were received through the questionnaire and the data were fed into the computer through the Statistical Package for Social Sciences (SPSS) software and analyzed for knowing the responses of the professionals/personnel on various issues.

The following questions were asked through the questionnaire:

- Qualification of the professional.
- Years of experience working in the field of disability.
- Whether they are working on their own or they work for some employer.
- What kind of services their organizations offer, i.e., awareness building, early interventions, vocational training, outreach services, etc.
- What is their professional role in the organization such as administrative, teaching, programme management, etc.
- How many persons with disabilities (PWDs) are benefited with their effort.
- From where do they operate, i.e., rural area, town, district headquarter, etc.
- Whether there was any missing component in their training.
- Whether they are taking up any additional responsibility apart from their professional work.

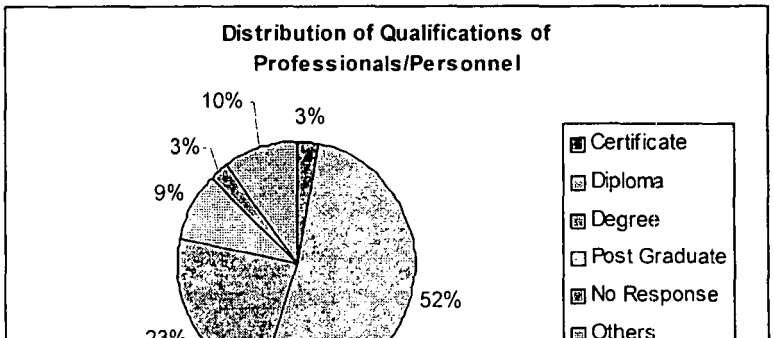
Results

The findings are presented below in forms of tables, charts and graphs along with their analysis. The result is presented in the following heads: A. Qualifications. B. Experience. C. Status of Employment. D. Types of Services offered by Their Respective Organizations. E. Various Professional Roles of the Respondents. F. Persons with Disabilities Benefited. G. Areas of Operation. H. How Training has Helped PWDs and whether there was any Missing Component in their Training Courses? I. Additional Responsibilities. J. Whether they want to upgrade their skills and how? K. Willingness for Involvement in Council's Activities. L. Willingness to render Voluntary Service to the RCI.

A. Qualifications

Chart 1 shows the qualification-wise distribution of the professionals and the personnel who have responded to the questionnaire. The certificate (3%) and diploma holders (52%) dominate the chart with 55% representation while the graduate (23%) and post-graduates (9%) of the respondents. Others constitute only 10% who may be representing the candidates who have done the Foundation Course or the Bridge Course. It means that the people who are registered as personnel have replied in large numbers with the hope that RCI will do something to improve their working conditions or capacity to generate more income, which is the primary aim of any employed or self-employed person. It may mean that they are not in a very happy situation from the point of view of work and income, which they want to be taken notice by RCI for betterment in future. It is but natural that the professionals having graduate and post-graduate degrees have attained some level of satisfaction and do not feel to create any noise their current status of profession. This skewed response will have some bias in the response to other issues because the majority is in favour of personnel working in the field of disability.

Chart 1

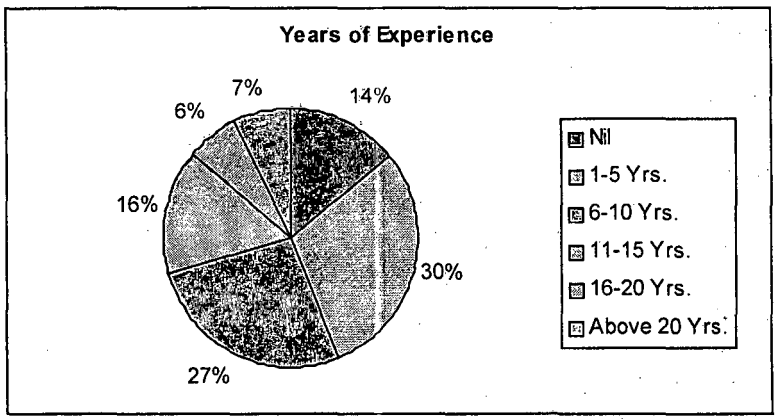


B. Years of Experience

Chart 2 shows that with the increase in the number of years of experience the number of the professionals and personnel decreases steadily. This means there is an

inverse relationship between the years of experience and the matching availability of professionals or personnel. This is quite in accordance with the field situation that people have started working in the disability sector in more and more numbers only recently, i.e., 11-15 years from now as the disability movement grew from strength to strength. This thing indicates that disability movement got momentum since the RCI entered actively in the field of special education.

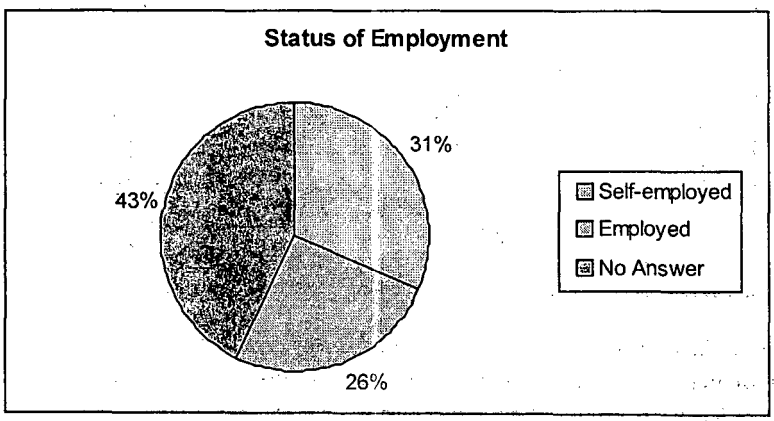
Chart 2



C. Status of Employment

Chart 3 shows that the number of self-employed (31%) professionals/personnel is more than the number that is employed (26%) with some organizations or the other. A significant number of respondents did not answer about their employment status (43%). A very large number has not answered this question at all which may mean that they are not employed at all. If that is the case, the issue needs to be further probed and the avenue as to how they can be employed gainfully in the disability sector itself is to be found out. When a lot of PWDs are suffering because of want of the services of trained manpower, finding employment for these people may not be difficult over a period of time.

Chart 3



D. Types of Services Offered by Their Respective Organizations

The types of services as offered by their organizations whether they are themselves operating it or they are serving as employees, include awareness creation, rehabilitation services, community based rehabilitation, teaching, vocational training and such other types of services which touch the lives of the PWDs from many aspects.

E. Various Professional Roles of the Respondents

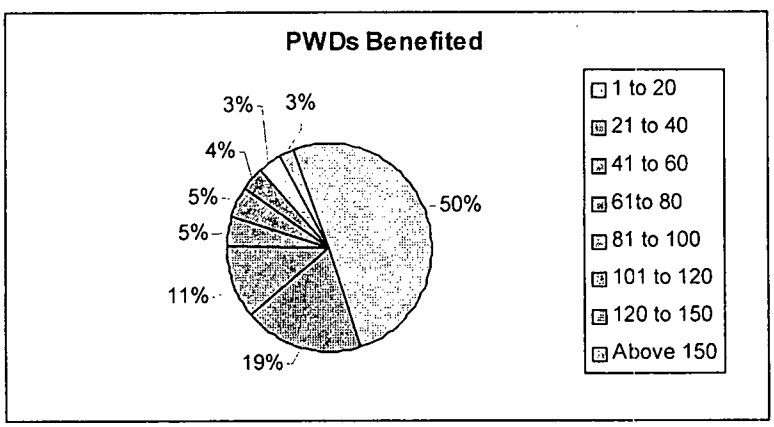
Of the 569 who are either self-employed or are employed with an organization a great majority (87%) says that they are either teaching or they are special educators. Out of all those who teach 51 per cent say that they are exclusively special educators and others say that they are teaching although they may not have any specific training in the field of special education. Others (13%) provide some kind of services like counselling, therapeutic services, administration, etc. This indicates that there is not enough manpower available to provide therapeutic services although a large number is available for providing educational opportunities.

When they were asked as to what type of services are provided to the PWDs by utilizing their professional expertise, again the majority (52.8%) responded that they are utilized in the field of teaching and about 20 per cent say that their services are utilized for assessment, counselling and providing guidance to the PWDs or their relatives while others (27%) opined that their services are utilized for offering vocational training, rehabilitation, behaviour therapy, and a host of other services.

F. Persons with Disabilities Benefited

It was asked to the respondents as to how many PWDs are directly benefited by their services per year. Chart 4 represents their responses. It is worth noting that 395 (40%) persons did not give any reply.

Chart 4



It is clearly indicated in Chart 4 that 50 per cent of those who said that some PWDs are benefited directly by their services, only among 1 to 20 PWDs are benefited by them. As the number of beneficiaries grows, the number of persons catering to

their needs directly decreases drastically. About 80 per cent of those who have admitted that their services reach the PWDs reach only between 1 to 60 PWDs per year. This clearly means a great number of PWDs are out of the reach of the current strength of professionals and personnel, considering the huge number of PWDs in our country.

G. Areas of Operation

The respondents were asked to reveal their present areas of operation, i.e., whether rural, urban, town or city. Their responses are captured in Chart 5.

Chart 5

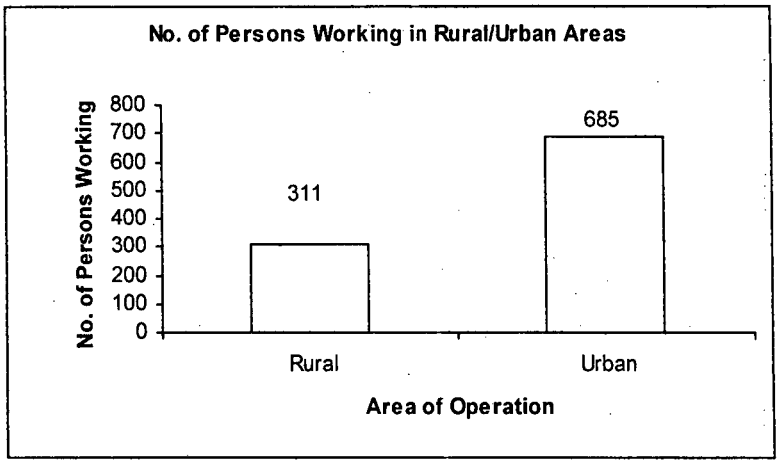


Chart 5 makes it clear that there is an urban bias in the availability of rehabilitation personnel and professionals and the PWDs living in rural areas are not able to get enough services because lesser number of trained hands is available in such areas. To put the figures in percentages we would say that about 31 per cent of the trained personnel/professionals are working in rural areas and 69 per cent are working in urban areas. This gives us a big reason to put all our efforts to create conditions for effective service availability in rural areas.

If we further probe into the data, out of those professionals/personnel (311) who work in rural areas, 262 (26% of the overall figure) work in villages while the rest 49 (5% of the overall figure) work in other rural areas, which may be semi-urban in nature. This means there is real shortage of manpower in the villages.

Among those (685) who work in the urban areas, over 40 per cent work in State Capitals and Cities taken together and others (60%) work in district headquarters and towns.

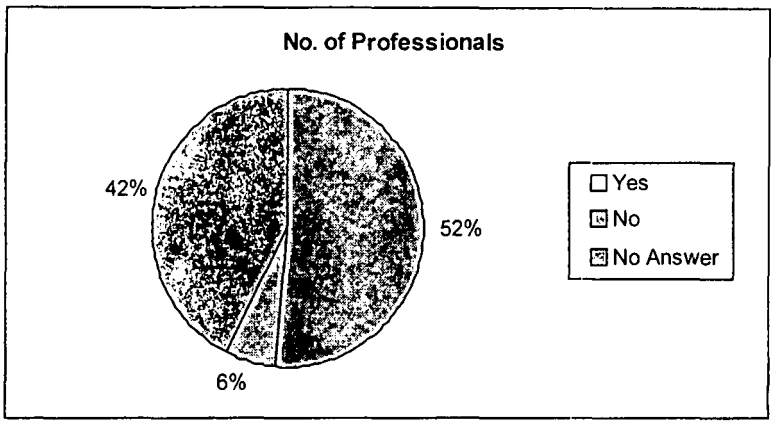
H. How the training has helped PWDs and whether there was any Missing Component in their Training Courses?

They were also asked to reveal as to how their training has helped them to solve the problems afflicting the PWDs in their respective areas of working, the highest percentage (40%) of the respondents have said that it has helped them in teaching,

training and helping the handicapped children. 209 persons (21%) have not responded at all. Around 10 per cent of the respondents have said that it has helped them in creating awareness, identification and assessment of disabled people/children. Another 10 per cent have said that the training has helped them in doing counselling, giving guidance and helping in eventual rehabilitation. Others (19%) say that it has helped them in research, modification of their behaviour, improving their communication skills, etc.

As regards the question of any missing component is concerned, Chart 6 makes their response clear.

Chart 6



From among the respondents the majority of 52 per cent says that there was a missing component in their training programmes. Only 6 per cent say 'no' and a significant percentage (42%) has decided not to answer. While the opinion of 42 per cent could have gone any way had there been explicit answer to the question, there is clear indication that there were missing components in the training programmes. Among the missing components the foremost is the demand for more practical exposure with notable indications for introducing modules on community based rehabilitation, role of new technology, computer based vocational training, knowledge sharing on therapeutic practices, and various executable training programmes for the PWDs.

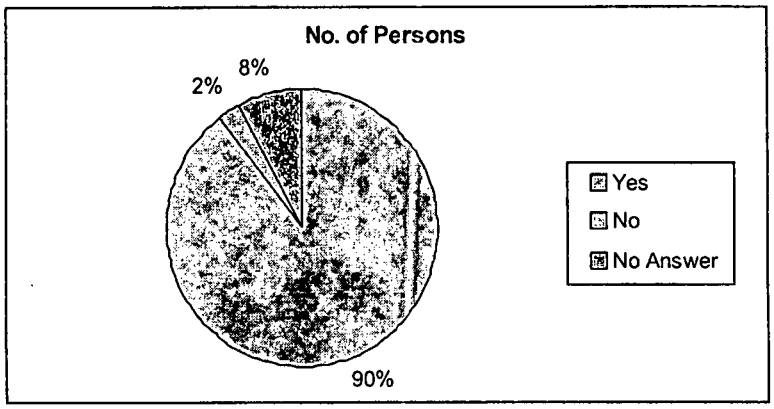
I. Additional Responsibilities

When they were asked about their additional responsibilities apart from their professional duty, an overwhelming number (over 90%) did not give an answer and others (10%) indicated that they engage in voluntary work, providing free education, attending seminars/workshops, organizing cultural activities and sports/games competitions for the PWDs. This indicates the presence of value of pure voluntarism among a few persons among the trained professionals/personnel.

J. Whether they want to upgrade their skills and how?

The professionals/personnel were also asked to respond to the issue whether they want to upgrade their skill level, which they have acquired through their previous training and experience. Their responses are presented in Chart 7.

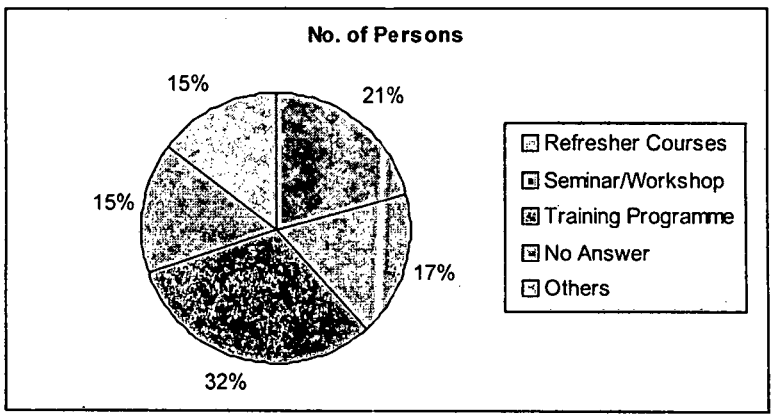
Chart 7



It becomes evident from Chart 7 that 90 per cent of the professionals/personnel want to update their skills and knowledge levels. In view of such a large demand suitable steps should be taken to facilitate the upgradation of skills of the registered professionals and personnel.

When they were asked regarding the manner of such upgradation, which they would like happen, the suggestions came like as it is presented in Chart 8.

Chart 4

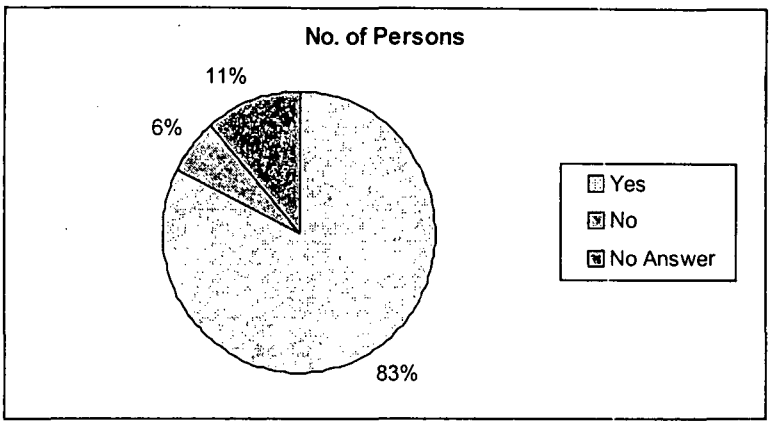


Of all the respondents, 15 per cent didn't give any answer; 21 per cent said that they want it through refresher courses; 17 per cent suggested seminars/workshops; 32 per cent opted for going for further training programmes and the rest 15 per cent gave other options for upgradation of skills through more social work, counselling, adoption of new technology, etc.

K. Willingness for Involvement in Council's Activities

Another point was whether the professionals/personnel want to be involved in the activities of the RCI. An overwhelming number has responded in the affirmative. Chart 9 shows the responses.

Chart 9



It makes the picture quite clear. 83 per cent has said that they want to be associated with the RCI's activities and 11 per cent have not given any answer at all and only 6 per cent have shown disinterest in the Council's activities.

When they were asked to suggest ways in which they would like to be associated with the RCI, 23 per cent said that they want to be associated in the 'development activities' of the RCI; 15 per cent in the fields of teaching and training; 6 per cent have shown interest to be associated with the organization of seminars and workshops; and 29 per cent have decided not to reveal their options. The rest have mainly suggested ways like library development; updating curricula and teaching material; coordination; and research and evaluation work.

L. Willingness to Render Voluntary Service to the RCI

The respondents were also asked to reveal as to how many hours or number of days per month they would like to devote to the RCI for taking up inspection work or any other voluntary service that the Council may like to assign to them. Their responses have been classified into the following categories.

Sl. No.	*Category of Option*	*Number*	*Percentage*
1.	1-5 days	267	27
2.	6-10 days	90	9
3.	11-15 days	22	2
4.	15-30 days	137	14
5.	Full Time	93	9
6.	No Fixed Time	93	9
7.	No Answer	294	30

The table indicates that 30 per cent persons do not want to say anything. It is not far from the usual that 36 per cent persons will be able to give 1-10 days in a month to take up some work for the Council. However, 25 per cent of the persons say that they will be able to give more than 10 days time in a month means that they do not have stable employment. In addition to this 9 per cent say that they can give any amount of time depending upon circumstances. In their case also employment stability is a questionable feature. This means that finding good employment in the field of disability has not been very easy and something needs to be done in this area at the national level in order to give sustainable employment to the trained professionals and also to facilitate availability of services to those who do not get any attention at all.

Concluding Remarks

Experience and employment of rehab personnel clearly shows that most of the professionals stepped into this field in last 10 years. It indicates that disability movement got momentum since the RCI entered actively in the field of special education.

There is a hue and cry that the number of rehabilitation professionals/personnel is not enough to meet the needs of the persons with disabilities, on the other hand a big part of the trained rehabilitation professional is not employed. This fact clearly indicates that the employment of the trained manpower in the field of disability does not meet the expectation of the rehabilitation professional and a big part of the persons with disabilities are being deprived from the service of rehabilitation professional.

There is a ray of hope that the professionals and personnel have expressed willingness to cooperate RCI in its various activities. RCI can utilize their services for reaching more and more people with disabilities in the days to come.

The Ministry of Social Justice and Empowerment, the Ministry responsible for coordinating disability affairs on behalf of the Government of India, has to take note of the fact that an overwhelming number of professionals/personnel are working in the urban areas and this influences adversely the reach for the PWDs living in the rural areas. The MSJ&E has to take suitable policy measures in this direction so that the rural disabled get adequate services at their doorsteps.

The study revealed that there are some missing components existing in the training programmes. The responses were documented during 2003-2004 after that RCI has done lots of modification. Keeping in view the missing components, RCI has modified the course curriculum and introduced more dynamism into the future training curricula to the needs of the times that lies ahead of us.

Study of Auditory Responses of Children with Hearing Impairment Using Individual Hearing Aid and Classroom Amplification

DR. ARUN BANIK[1] & MR. TANAJI S. PAWAR[2]

ABSTRACT

The study examines the auditory responses of the children with hearing impairment using individual body level hearing aids and hardware classroom amplification system in an educational set up. A sample of 50 subjects were divided into two group: (i) First group consisting of 25 children were fitted with individual strong class body level pseudo-binaural hearing aids, (ii) second group consisting of 25 children who used hardwire group hearing aids system in the class room, were examined in the study. To obtain the auditory responses from the hearing impaired children using individual and group hearing aids in the schools, an auditory response kit consisting of (i) speech (word), and (ii) non-speech (environmental) sounds was constructed as a part of the study. The results suggests that hearing impaired children using hardwire classroom amplification system performs better to elicit auditory responses to the classroom when compared with the hearing impaired children using body level individual hearing aid system.

Introduction

The effects of deafness lead to auditory deprivation and poor communication. This can affect the social, psychological, educational and many other aspects of life. There is a loss of facility to interact freely with friends and relatives (Oyer and Oyer, 1985) and induces problems in their job status (Thomas, 1982). Hearing loss is not only a

1. Reader (Speech and Hearing) and Head, Material Development Department, Ali Yavar Jung National Institute for the Hearing Handicapped, Bandra Reclamation, Bandra (W), K.C. Marg, Mumbai.
2. Lecturer, Material Development Department, Ali Yavar Jung National Institute for the Hearing Handicapped, Bandra Reclamation, Bandra (W), K.C. Marg, Mumbai.

communicative problem but also a community problem. Communication handicap reduces an individual's working ability and performance, thus diminishing one's participation in growth and development of a community. **Tate (1994) stated that hearing impairment in childhood hinders development of the disability to communicate, and to make normal progress in school.** The aim of any rehabilitative programme should be to make the hearing handicapped as normal as possible, both physically and mentally (Pollack, 1980). Through this programme, effective amplification can be made vital.

It is widely accepted that early consistent and proper use of amplification enhance the linguistic development and speech intelligibility of hearing impaired children (Markides, 1985). Bess and Mc Connel (1981) suggested that hearing impaired child's amplification system may be the most important component of his/her aural habilitation programme. The aspect of early intervention, the possible benefits of early amplification, leads us to another variable which has great influence or the manner on which a hearing impaired child will eventually perform; how well will the hearing individual response to auditory stimulation with amplification? There is a great variation in the responses of children in utilization of hearing aid, some children quickly and easily obtain maximum benefit from the auditory signal, whereas, others never learn to use the auditory channel successfully. There seems to be children with significant residual hearing who never learnt to use that channel in a useful manner. These children usually must depend on some alternate means of communication.

However, all the educational amplification systems are designed to improve the auditory experience of the hearing impaired child. The quality of hearing experience is of paramount importance, because without effective experiences of the sound of speech, the hearing impaired children will have little or no chance of developing spoken language. A child's language development proceeds most rapidly in the early years of life. If a child's hearing is such that some or all of sounds of everyday conversational speech are inaudible, then that child's speech and language will severely restricted (Van Tucker and Michael Nolan, 1984).

Study of auditory response is one of the primary needs in the education and aural rehabilitation of the hearing impaired child. The entire development of language and communication skills of a hearing impaired child mainly depends on the proper use of amplification system either individually or in the class room situation with auditory training. In India, a very few studies had been reported in this area.

Keeping this in mind the present study has been aimed with the following objectives such as:

- To study the auditory responses of the hearing impaired children using an individual hearing aid (Body level) and group hearing aid (Hardware system) in a classroom.
- To study suitability of device among the individual hearing aid and group hearing aid that gives the better auditory response in the classroom of the hearing impaired children in an educational set up.

Review of Literature

Hearing loss leads to a wide range of communication and social problems. This affects the normal life of a handicap and reduces an individual's working ability and performance, thus diminishing one's participation in growth and development of a community. The aim of any rehabilitative programme is to make the hearing handicapped as normal as possible, so as to get greater benefits both physically and mentally. Adams (1987) stated that awareness of causes of deafness helps to identify high-risk groups and is therefore, useful in assisting early detection. It also assists in the planning of programmes for prevention or reduction in the size of the problem. In fact, early education motivates a hearing impaired child to learn the speech and language, and obtain better auditory responses using appropriate individual aid or classroom device in the school.

Hearing impaired children using individual hearing aids experience all the acoustic difficulties due to an increase in the signal to noise ratio in a classroom situation. When the acoustic environment of the classroom is below or above the level of optimum signal to noise ratio, the satisfactory level of listening/hearing, it leads to very significant deterioration in the intelligibility of the speech of the teacher as well as the auditory responses of the hearing aid.

The auditory responses of an individual hearing aid of hearing impaired child in an acoustic programme depend on properly functioning of hearing aids. This assumption is often made that hearing aids are electro acoustically stable, and thus, automatically function properly from day to day life. However, the hearing aids in a school environment have a high incidence of malfunctioning. Although a great deal is known about the functioning levels of hearing aids worn by hearing impaired children, little is known about the auditory responses of a non-functioning amplification system as demonstrated by Coleman (1972), Northern, *et. al.* (1972), Bess (1977) and Berlin (1985) respectively.

Busenbark and Jenison (1986) found that malfunctioning or improper auditory responses of an amplification system caused by dead batteries, frayed cods, and poor fitting or damaged ear moulds. Although recent years have been improvements in the quality of hearing aids electro acoustic characteristics, studies indicated little or no improvement in the operational performance of hearing aids in the classroom (Gaeth & Lonsbury, 1966; Zink, 1972; Bess & McConnell, 1981). Educators of the hearing impaired are presented with the problem of delivering inadequate auditory stimuli in the classroom even though educational amplification systems are common for the hearing impaired children in the classroom.

There have been few studies in India on the complaints and the defects in the hearing aids with respects to electro-acoustic parameters (Pandaley, 1972; Satyendra, 1978; Gupta, 1979; Ravishankar, *et. al.*, 1989; Satyendra, 1992). All these studies reported about subjects' performance on individual hearing aids and indigenous class room amplification system in Indian context. One of the reasons of non-performing auditory response of individual hearing aids in the classroom situation is the vast different climatic conditions such as heat, rain, dust, humidity and drastic change in

the environment caused problems. On the other hand, use of classroom amplification system has been neglected for a very period of time in India. Lack of adequate use and functioning, inadequate service facility, improper calibration, etc., has resulted poor quality of amplification of group hearing aids system in the classroom.

Kalpana Power (1996) conducted a survey in special schools in Mumbai on the use of individual and group hearing aids in the age range of 3-5 years. The parameters used in the study to examine the performance of hearing aids through listening check, physical examination of aids, electro-acoustic parameters, teacher's opinion through questionnaire, and parents view on non-performing hearing aids. Study concluded that 60 per cent individual hearing aids as well as group hearing aids were not giving satisfactory results among the school going children in Mumbai city due to various users an environmental problems. However, most of the Indian as well as foreign studies indicated that subjects poor quality auditory responses on the individual and group hearing aids are due to environmental and mechanical factors in the classroom which affects the education of the hearing impaired children.

Methodology

Subjects

A sample of 50 hearing impaired children in the age range of 6-10 years were selected from different special schools in Mumbai based on the following criteria for the study:

1. Children with profound hearing impairment were taken for study.
2. Subject's using pseudo-binaural strong class body level hearing aids used at least for last three years.
3. Subject's mother tongue was Marathi.
4. Subject's undergoing special schools for the last three years.
5. Subject's using hardwire group hearing aids in the schools for the last three years.

All the 50 subjects were divided into two groups: (*i*) First group consisting of 25 children were fitted with individual strong class body level pseudo-binaural hearing aids, and (*ii*) second groups consisting of 25 children were used hardwire group hearing aids system in the class room.

Tool

To obtain the auditory responses from the hearing impaired children using individual and group hearing aids in the schools, an auditory response kit consists of (*i*) speech (word), and (*ii*) non-speech (environmental) sounds was constructed as a part of the study. While constructing the auditory response kit, the following procedure was undertaken in the study:

1. Words selected were age appropriate.

2. Words were picturable.
3. Words were familiar for the children.
4. Words were Marathi only.
5. Words were meaningful and unambiguous.
6. Words were based on low, mid and high frequency sounds.
7. Words represent all the phonemes in Marathi.
8. Non-speech (environmental sounds) words containing the same components as in item 1-7 respectively.

Before selecting the Marathi words for the auditory response kit material, a familiarity rating test was carried out by 10 professionals including teachers at a three point rating scale: (*i*) Highly familiar, (*ii*) Fairly familiar, (*iii*) Not familiar from the 150 picturable words. Finally, 10 speech and 10 non-speech highly familiar words were selected for the auditory response test purposes based on 90 per cent criteria for word selection.

However, after selection of test items, *i.e.,* 10 speech and 10 non-speech sounds, all the speech sounds were recorded in a tape recorder at the normal conversation level by a person who has good professional voice in a sound treated room using B.P.L. Tape Recorder Model Sanyo No. 7010. All other non-speech sounds were copied from a ready made cassette where all such sounds were available using the same procedure. Later, all the items were picturized on a flash card size 6″ × 5″. A pilot study was carried out to familiarize the researcher on the methodology and also to observe the auditory response pattern among the hearing impaired children using individual and group hearing aid system.

Data Collection

Before administration of the auditory response test each child were instructed individually about the data collection. At the time of administration of auditory response test the following steps were followed:

1. Same subject was not used for both the groups, *i.e.,* using individual hearing aid and group hearing aid.
2. One child was tested at a time for both the groups.
3. Test was carried out inside the classroom only.
4. Proper seating arrangement was made while administration of the test, *i.e.,* sat in front of researcher keeping the distance of 2 feet.
5. Picture cards and tape recorder were kept in front of the child.

The time duration for each child was approximately 30 minutes. Before administration of the auditory response test, care was taken to close the door, windows, fans, etc., to avoid entering outside noise into the classroom. All the recorded items were presented individually on each child at a time in each group separately. The

responses against each item presented to each child were marked in a response sheet for each child separately. The auditory responses were elicited through the picture presented while administering the auditory response test to each child using either individual or group hearing aid.

Before administration of auditory response test, a trial test was given to each child in order to make familiar with the methodology presenting trial auditory response test items prepared along with the main auditory response test in the study. The auditory stimulus of both speech and non-speech sounds were presented through the BPL tape recorder at a fixed volume at the level of 60-65 dB SPL. One stimulus was presented at a time with the duration of 3-4 seconds for speech sounds and 10-15 seconds for non-speech sounds respectively using BPL standard quality recorder. A gap of 2 minutes was kept to elicit the response of the child after presentation of each item through tape recorder and subsequently the picture of that item kept in front of child. After the sound presentation through the tape recorder and showing the corresponding correct picture on listening, it was marked in the response sheet. However, a scoring sheet was prepared in the study for the purpose of data analysis. Each correct response was given one mark where incorrect response was given zero marks.

Result and Discussions

The study examines the auditory responses of the children with hearing impairment using individual body level hearing aids and hardware classroom amplification system in an educational set up. The results suggests that hearing impaired children using hardwire classroom amplification system performs better to elicit auditory responses to the classroom when compared with the hearing impaired children using body level individual hearing aid system. The results are tabulated in Tables 1 to 6.

Table 1: **Compare the Correct Auditory Responses of Children with Hearing Impairment on Individual and Group Hearing Aid Using Speech (Word) Sounds**

Sl. No.	*Items (words)*	*Subjects*	*Mean Correct Response of Individual Hearing Aid Users*	*Standard Deviation (SD)*	*Mean Correct Response of Group Hearing Aid Users*	*Standard Deviation (SD)*
1.	Gai	25	.28	.46	.68	.48
2.	Viman	25	.28	.46	.60	.50
3.	Popat	25	.40	.50	.72	.46
4.	Daat	25	.64	.49	.52	.51
5.	Makad	25	.32	.48	.68	.48
6.	Kavala	25	.28	.46	.88	.33
7.	Ghoda	25	.48	.51	.64	.49
8.	Naak	25	.48	.51	.56	.51
9.	Kaan	25	.40	.50	.36	.49
10.	Mangar	25	.40	.50	.92	.28

Table 2: Results of t-test of Speech (Word) Sound on Individual and Group Hearing Aid Among Hearing Impaired Children

Amplification System	*Mean Correct Response*	*Standard Deviation*	*t-test Value*	*df*	*p-value*	*Significant 1-tailed*
Individual Hearing Aid	3.96	2.3360	4.322	48	.000	Significant
Group H.A.	6.56	1.8947				

Table 3: Compare the Correct Auditory Responses of Children with Hearing Impairment on Individual and Group Hearing Aid Using Non-Speech (Environmental) Sounds

Sl. No.	*Items (words)*	*Subjects*	*Mean Correct Response of Individual Hearing Aid Users*	*Standard Deviation (SD)*	*Mean Correct Response of Group Hearing Aid Users*	*Standard Deviation (SD)*
1.	Kavala	25	.40	.50	.56	.51
2.	Manger	25	.28	.46	.68	.48
3.	Kovada	25	.44	.51	.68	.48
4.	Gai	25	.44	.51	.56	.51
5.	Kutta	25	.60	.50	.84	.37
6.	Telephone	25	.52	.51	.56	.51
7.	Damaru	25	.56	.51	.88	.33
8.	Jhancha	25	.40	.50	.68	.48
9.	Radanara Mulga	25	.48	.51	.76	.44
10.	Ambulance	25	.52	.51	.48	.51

Table 4: Results of t-test of Non-Speech (Environmental) Sound on Individual and Group Hearing Aid Among Hearing Impaired Children

Amplification System	*Mean Correct Response*	*Standard Deviation*	*t-test Value*	*df*	*p-value*	*Significant 1-tailed*
Individual Hearing Aid	4.64	2.1772	4.614	48	.001	Significant
Group H.A.	6.68	1.7963				

Table 5: Compare the Scores of Correct Auditory Responses of Children with Hearing Impairment on Individual and Group Hearing Aid Using Combined Sounds (Speech Word and Non-Speech Environmental Sounds)

Sl. No.	*Items (words)*	*Subjects*	*Mean Correct Response of Individual Hearing Aid Users*	*Standard Deviation (SD)*	*Mean Correct Response of Group Hearing Aid Users*	*Standard Deviation (SD)*
1.	Gai & kavala	25	.68	.6904	1.24	.7789
2.	Viman & manger	25	.56	.6506	1.28	.6782
3.	Popat & kowada	25	.84	.6880	1.40	.6455
4.	Daat & gai	25	1.08	.8124	1.08	.7024
5.	Makad & kutta	25	.80	.8165	1.44	.5831
6.	Kavala & telephone	25	1.04	.7348	1.52	.6532
7.	Ghoda & damaru	25	.88	.6658	1.12	.7257
8.	Naak & jhanja	25	.92	.6403	1.40	.6455
9.	Kaan & radnara mulga	25	.92	.7024	1.52	.7141
10.	Mangar & ambulance	25	.88	.7257	1.24	.5228

Table 6: **Results of t-test of Combined Scores of Speech (Word) Sound and Non-Speech (Environmental) Sounds on Individual and Group Hearing Aid Among Hearing Impaired Children**

Amplification System	*Mean Correct Response*	*Standard Deviation*	*t-test Value*	*df*	*p-value*	*Significant 1-tailed*
Individual Hearing Aid	8.60	3.7639	4.835	48	.000	Significant
Group H.A.	13.24	2.9767				

Present study indicated that high level of noise inside the classroom enough to interfere the speech signals, leading to communication difficulty as well as low academic performance in the classroom. With the use of hearing aids, the hearing impaired children did not discriminate speech word properly in the noisy environment. This has greater relevance with many of the studies reported by Ravishankar & Shashidhar (1989), Nagaraja (1989), Mali & Joshi (1994), Satyendra Kumar, *et. al.* (1995), and Kalpana Power (1996) as most of the special educators had problems with delivering adequate auditory signal to their children inside the classroom due to background noise.

Children using individual body level hearing aid shown poorer responses in the classroom, reason was that hearing impaired children encounter few common defects like cord defects, problems in microphone, battery compartment, switches, ear mould, receives, etc. These common mechanical problems were also indicated by many of the researchers like Coleman (1972), Busenbark and Jenison (1986), Sneha (1995), Satyendra Kumar, *et. al.* (1995). Kalpana Power (1996) reported that 44.4 per cent children have ear mould problems, 7.4 per cent has cord problem, 10.46 per cent had receiver problem, and 96.29 per cent hearing aids had electro acoustic characteristics problems. However, overall auditory responses of the hearing aids depend on satisfactory mechanical functioning of the hearing aids used by the children in the classroom.

Group hearing aid system is a better option to obtain the quality auditory response in the classroom. The sound pressure level and distance ratio directly affects students' reception capability. Approximately 6 dB is lost every time the distance between the speaker and the listeners is doubled (Calvert Silverman, 1978; Ling, 1980). The auditory response affects when there is open sound field especially children using individual hearing aid. In the case of group hearing aid this mechanical problem much less and not noticed directly as the distance and the transmission of sound mechanism does not affected much inside the classroom to obtain better auditory response among the children. In the present study, children performed better on group hearing aid system, the fact that group amplification system in the classroom eliminates the sound pressure level/distance ration problem by providing a unified signal throughout the classroom regardless of the position of the person talking in relation to the listener (Ray, *et. al.*, 1984). The system provides positive S/N ratio that oval tides interference caused by building design and location, providing a more conducive atmosphere for learning speech, language and academics (Davis & Hardick, 1981; Ling, 1984; Northern & Downs, 1984; Ray, 1987). Similar results were also observed by Sneha (1995) where

she found better auditory responses under F.M. group hearing aid system in the classroom in compare to personnel hearing aid among the school going children.

Present study suggests that inadequate parents training on mechanical functioning of hearing aids, use, care and maintenance of personnel hearing aid, ear mould, parental education, socio-economic condition, etc., these are the most major factors for getting the poor auditory responses of individual hearing aid users than the group hearing aid system among the school going children. However, in Indian context, group hearing aid system is better device for the education of hearing impaired as it has fixed investment, fixed assets, maintenance less, better handling, better frequency response with clarity amplification which are in agreement with the studies of Sanders (1971), Northern and Down (1984) as they stated that types of amplification system that varying amplification efficiency ability to modify and control amplification, cost flexibility and portability. However, classroom amplification is an essential device for the education of the hearing impaired children which needs to be better care by the users as well as caregiver for overall development for children with hearing impairment.

Conclusion

Study of Auditory responses of children with hearing impairment using individual hearing impairment using individual hearing aid and classroom amplification clearly indicated that hardwire group hearing aid systems performed better responses comparing to individual hearing aid among hearing impaired children in the classroom. The study has a greater clinical application in terms of auditory training, developing the vocabulary skill, sensitize the various environmental sounds, and educate users, caregivers on trouble shooting, care maintenance of hearing aids to awareness about the technical handling of such devices at home as well as in school.

REFERENCES

Banik, Arun (1999). Auditory training for the hearing impaired children at home, *Hearing Aid Journal*, Vol. 13, No. 1, 27-30.

Northern, J.L., & Downs, M.P. (1984). Amplification for hearing impaired children, In William and A. Warmer (1988), An expensive group FM amplification system for the classroom, Journal of the Alexander Graham Bell Association for the Deaf, *Volta Review*, Vol. 90, No. 1, pp. 29-36.

Pawar, Kalpana (1996). *Use of hearing aid by hearing impaired children, age 3-5 years special school children in Mumbai.* An unpublished M.Ed. (HI) dissertation, University of Mumbai, Mumbai.

Satyendra Kumar (1992). The influence of receiver characteristics of the suitability of hearing aids—A study of the status of the use of the hearing aid in the school going children. *The Journal of the Indian Speech and Hearing Association*, Vol. 14, No. 12, p. 79.

Sawant, Poonam (1997). *Assessing the impact of the auditory training on speech perception and intelligibility.* Unpublished M.Ed. (HI) dissertation, University of Mumbai, Mumbai.

Tanaji S. Pawar (2002). Study of auditory responses of children with hearing impairment using individual hearing aid and classroom amplification. An unpublished M.Ed. (HI) dissertation, University of Mumbai, Mumbai, 2002.

Tate, Maryanne (1994). *Principles of Hearing Aid*, published by Chapman & Hall in London, New York, Tokyo and Madras.

Diabetic Foot Ulcer and Its Orthotic Management

MR. PRAVIN VERMA[1], DR. SIMON THOMAS[2], DR. MATHEW VARGHESE[3]

ABSTRACT

The past two decades have seen an increase in the number of people diagnosed with diabetes worldwide. The World Health Organization warns that without primary intervention to reverse the trend, diabetes is projected to become one of the world's main disablers and killers within the next 25 years. A recent study in diabetes care reported that the number of adults with diabetes in the world would increase from 135 million in 1995 to 300 million in 2025. The majority of cases will occur in developing countries. Developed countries will experience a 42 per cent increase of diabete cases, from 51 million to 72 million. In developing countries, the number of cases of diabetes will increase 170 per cent, from 84 million to 228 million. (Ref: 0 and P Business World, January 2004.)

In developing countries, the majority of people with diabetes are 45 to 60 years old. The latest estimate by WHO is that 177 million people worldwide have diabetes. (Ref: *0 and P Business World*, January 2004.) According to *Diabetes Care*, the top 10 countries in terms of number of adults with diabetes are: India, China, United States, Russian Federation, Japan, Brazil, Indonesia, Pakistan, Mexico and Ukraine. At present, with 20 million diabetics, India has more diabetics than any other country. The number is slated to rise to 58 million by 2020 (From newspaper *Times of India* by Vividha Kaul/ TNN). Diabetes is a serious disease that can develop from lack of insulin production in the body or due to the inability of the body's insulin to perform its normal everyday functions. Diabetes is classified into two different types: Type 1 and Type 2.

Type 1 is usually associated with juvenile diabetes and is often linked to heredity. Type 2, commonly referred to as adult onset diabetes, is characterized by elevated blood sugars, in people who are overweight or have not attended to their diet properly.

1. Prosthetist & Orthotist In-charge, Artificial Limb Centre, St. Stephen's Hospital, Delhi.
2. Junior Resident, Orthopaedic Department, St. Stephen's Hospital, Delhi.
3. Director and Head of the Orthopaedic Department, Stephen's Hospital, Delhi.

Due to chronic nature of the disease and the severity of its complications, diabetes is costly, not only for the patient, but also the family, community and global health care systems. Diabetic foot problems are a major cause of hospitalization. The approximate cost of treatment – cost of healing of a foot ulcer without amputation is Rs. 10,000 to 50,000. While for amputation it is Rs. 50,000 to Rs. 100,000. The cost of treatment seems to be much lower, majority of our patients are not medically insured and find this cost exorbitant. The targeted treatment aimed at preventing amputation.

Introduction

The foot of the diabetic patients is at risk for trauma because of loss of protective sensation when this loss of sensation is combined with vascular insufficiency and pre-existing or new abnormalities, serious complication such as ulceration, osteomyelitis, fractures and charcot may result. These complications may lead to infection that cannot be treated resulting in the amputation of digits, partial foot, or the entire lower limb. Appropriate prescription of footwear and orthotics may reduce the complication of diabetic foot. 25 per cent patients will develop foot problems related to diabetes. Diabetic foot conditions develop from a combination of causes including poor circulation and neuropathy. Diabetic neuropathy can cause insensitivity or loss of ability to feel pain, heat, and cold. Diabetics suffering from neuropathy can develop minor cuts, scrapes, blisters, or pressure sores that they may not be aware of due to the insensitivity. If these minor injuries are left untreated, complication may result and lead to ulceration and possibly even amputation. Neuropathy can also cause deformities such as Bunion, Hammer Toes, and Charcot feet. Of the people with diabetes, 15 per cent will experience a foot ulcer in their lifetime. It is now appreciated that 15 to 20 per cent of patients with such foot ulcers go on to need an amputation. Similarly, 85 per cent of major lower limb amputations are preceeded by a foot ulcer. Majority of foot ulcers in diabetics are a consequence of mechanical trauma unnoticed by the patient due to neuropathy. Commonest sites of ulcerations are in the forefoot. Ulcers occur at sites of high pressure on either planter or dorsal surfaces and are caused by bony prominences, ill-fitting footwear, and toe deformities.

Prevention

It is very important for diabetics to take necessary precautions to prevent all foot related injuries. When a diabetic patient takes the necessary preventive footcare measures, he or she reduces the risks of serious foot condition. Following simple everyday steps will help prevent serious complications from diabetes. Take care of your diabetes:

> Check your feet every day. Wash your feet every day. Keep the skin soft and smooth. Trim your nails each week. Wear shoes and socks at all time. Protect your feet from hot and cold. Keep the blood flowing to your feet.

Type 2, diabetes is preventable with change in life style. The common cause of type diabetes is obesity, said Debbie Hammond, Diabetes Care Advisor, London (UK).

This could be prevented or the onset delayed, if people were made aware of the risks associated with obesity. They must make choices based on healthy eating and incorporate physical activities into their daily routine. The study concluded that lifestyle changes and treatment both reduced the incidence of diabetes in persons at high risk. All types of orthotics can be grouped into two categories—accommodative and functional.

Treatment

The proper treatment for a foot ulcer in a patient with sensory neuropathy is immobilization. When done properly, the best form of immobilization is total contact cast or various type of total contact orthotics. Some facilities are set up to provide total contact casting, but as an Orthotic and Prosthetic facility, we provide rigid or semi-rigid custom moulded total contact orthoses for healing purpose and comfortable walking with footwear. Total contact casting requires visits to the OPD every one or two weeks for cast change and dressing change, process can last anywhere from 3 to 6 months or longer. Alternative methods are orthotic management.

Indication for prescribing Orthotics: The National Hansen's Disease Centre in Carville, has outlined specific *foot* risk categories and suggested protective footwear appropriate for each risk category. Once a diabetic patient has been treated for his first ulcer, insoles gain even more importance in the prevention of ulcer recurrence. Orthotics should also be considered for accommodating *feet* with abnormalities such as charcot, hammer and claw toes or prominent MT heads. Orthotic prescription for diabetic patients should involve not only the specific biomechanical consideration that all patients should be given, but in addition specific consideration to the musculoskeletal status, circulatory condition, sensory and neurological status and in addition any dermatological consideration necessary for protection of the individual patients *feet*. Each prescription should be as per the patient's individual needs. Special footwear consideration such as custom moulded, extra depth, or other space shoes might be required.

Total contact custom moulded Orthotics: The custom moulded orthotics is recommended for treatment of diabetic foot ulcers. Patients compliance with both protective footwear and custom-moulded insoles for prevention of ulceration recurrence. Custom moulded orthotics decrease plantar pressure, especially over bony prominences, to prevent the recurrence of ulcers and possibly treat ulcers in the similar way of the total contact cast. Off loading of pressure from the affected areas is an established treatment option for *foot* ulcers. It allows healing by minimizing mechanical trauma and redistributes the plantar pressure and allows some range of motion. Plantar pressure is directly proportional to weight bearing force and inversely proportional to surface area.

Method (Procedures for making custom moulded orthotic insoles): The negative cast was obtained, patients were in an upright sitting position with knee fixed at 90 degree with the subtalar joint under neutral and non-weight bearing position, the foot was placed on the Orthopaedic foot impression foam box. A positive mould was then fabricated from the negative cast. The total contact insole was then made according

to the positive mould. The contact layer of the insole was made with plastozote, the middle layer with microcellular and the bottom layer with semi-rigid or rigid thermoplastic material. After the orthotic is completed, the final stage of the fitting process entails ensuring that the orthotic follows the contours of the foot. Modifications to the orthotic may be necessary prior to its final dispensing. The orthotic must be used in cot, junction with a Orthopaedic shoe to accommodate the orthotic and the foot, provide room for any foot deformities such as hammertoes, and avoid trauma to the dorsum of the foot. Custom made insole function to their highest efficiency in proper fitting footwear. Not only the orthotic requires modification but also the footwear may require change to optimally accommodate both the orthotic and foot. Only custom moulded insert can achieve the total contact support for the patients needs. Custom moulded device can be fabricated with sufficient arch fill to provide true total contact, these results in maximum pressure and shear reduction in all patients regardless of arch height. The orthotic device is grounded to the correct thickness to provide a proper fit with any shoe.

Materials used to make a custom molded insoles: The materials used to make the custom made orthotics need to be sufficiently firm to support the foot and off load the problem area, not too firm as to cause other problems. The material must be able to endure cyclic compression, shear combined with compression and allow for force distribution of plantar pressure throughout the material. Single material cannot satisfy all of these requirements, at least two layers of different materials will be needed, the medium density crossed linked polyethylene to be the most suitable for the base of the orthotics. This material must be carefully selected to ensure that they are lightweight, flexible, strong, and retain their shape despite compressive forces. The top cover or the material, which comes in contact with foot is made of an expanded rubber or polyurethane foam as they provide cushioning and decrease friction and shear forces.

Accommodations: Accommodative orthotic devices fit in the shoe to accommodate foot deformity. They function to transfer weight away from a painful area and place increased pressure where the foot has enough soft padding to allow for better ambulation. Accommodative orthotics is applied at the location of a rigid deformity, arthritic joint or painful skin. An accommodative device decreases vertical and shear force, which leads to ulcer formation.

Off loading the diabetic foot: Effective off loading of high-pressure areas in the diabetic foot can be accomplished with total contact insert patients with recalcitrant lesions and recurrent ulceration may require additional accommodation for maximum pressure reduction.

Off loading accommodations: A pad placed on the insert to raise and off load the distal aspect of multiple hammer toes. To off load the distal aspect of one hammer toe, a relief may be more appropriate. A dancers pad is placed on the bottom of an insert to relieve pressure from the first and or fifth metatarsal heads, usually when a cavus foot type is present.

A square shaped pad that extends across all the MT heads in a cavus or rheumatoid

foot or for metatarsalgia, a pear shaped pad placed behind the central 3 MT heads to relieve pressure and pain is used.

A cut out in an insert to relieve pressure on a particular area of the foot. The relief can be placed.

MT heads, a digit, or any plantar prominence... A U shaped pad that is placed on an insert as an accommodation to relieve pressure in the area inside U is used to off load pressure one of the central 3 MT heads or other plantar bony prommences. Extra material is added to the top of an insert to fill the void that is present in a shoe due to the amputation of one or more toes. The toe filler prevents the shoe upper from collapsing in the area of the amputated digits.

Valgus/varus Wedge

A valgus/varus wedge can be placed on the bottom of each individual insert of inside the shoe. The wedge will extend from the heel to just proximal to the MT heads.

Follow-up

The total number of patients with foot ulcers in diabetes 13. Three of them not attended our OPD after receiving the orthosis. The remaining 10 patients wore the total contact insoles for a period of 2 to 4 months. We found that most of the ulcers were improved. 8 patients out of them tolerated the insoles well without any evidence of ulcers but in two patients ulcer again recurred, diameter of the ulcers were increased. We again applied pop cast.

Advise

We advised our patients to purchase shoes one size larger than their normal shoe size so that the total contact insole would fit inside the shoe.

REFERENCES

Miller O.F. (1994). *Chronic foot wound in diabetics and total contact casting*, Clin Dennatol, pp. 39-45.

Annstrog D.G. (2001). Harkless: *Off loading the diabetic foot wound*, Diabetic Care, pp. 1019-1022.

White J. (1994). *Therapeutic Footwear for patients with diabetes*, Jam Podiatr. Med. Assoc, pp. 470-479, 1994.

Following other books helped in preparation of the above article:

Diabetic foot, A Clinical Atlas, by Sarad Pendsey.

Diabetic foot, a text book, by Wlaker.

Orthotics and Prosthetics Business World, January 2004.

The Effect of Training Siblings on the Academic Achievement of Their Siblings with Mental Retardation

MS. USHA GROVER[1]

ABSTRACT

Over the years, family oriented services have gained in importance over child-oriented services, in the education and rehabilitation needs of persons with mental retardation. In the present experimental study, the siblings of children with mental retardation comprise the target group for observation and inferences. The siblings were trained, in the functional areas selected by the investigator, and they in turn trained their brothers/sisters with mental retardation. It was found that there was a significant effect of the siblings training programme on the total academic achievement of children with mental retardation. It was also observed that the understanding level of the siblings of children with mental retardation on the nature, cause and management of persons with mental retardation increased significantly.

Introduction

Twenty to thirty years ago the habilitation and rehabilitation of the persons with disability meant taking care of them and placing them in special institutions where their needs in food and shelter were cared for. Today however, this idea of just placing such persons in special homes has undergone a total transformation. Care and Management of persons with disability, today means not only 'educating' and 'training' the persons with mental retardation with Individualized Programme Plans but also and more importantly on empowering such persons to be included in the normal mainstream life in their own communities. There is therefore a paradigm shift in approach from that of charity and pity to that of rights and empowerment for persons with mental retardation.

1. Lecturer in Special Education, National Institute for the Mentally Handicapped, Regional Centre, Lajpat Nagar, New Delhi.

In keeping with this trend the National Institute for Mentally Handicapped (NIMH), since its inception two decades ago has been providing family oriented services to persons with mental retardation. The investigator in the course of her experience in the field of work with children with mental retardation and their families has collected and collated the following responses from the siblings of children with mental retardation that they:

- were depressed because of their helplessness in seeing their parents worried and upset over the siblings with disability,
- need to be given, as much as their parents have been, sufficient and correct information on their own siblings with disability,
- were confused on what information they could share with their friends on the disability in their siblings,
- developed a sense of responsibility when they helped their parents by contributing towards the services for their siblings with disability,
- many of the misconceptions regarding the disability in their siblings were demystified once they began working for them;
- were keen on knowing and educating themselves more on the nature and condition of the disability so that they could effectively care and manage their siblings with disability as also plan for their future, and
- more awareness should be created among the public so that they develop a right understanding of their siblings with mental retardation and do not subject them to ridicule.

This background of information provided the basis for the study of the effect of training siblings as partners in programmes in special education on the academic achievement of children with mental retardation.

Rationale

Siblings when given the required training to assist children with mental retardation in many ways. In the present study an attempt has been made to find out the impact of the training given to siblings in various skills in the areas: social, communication, academic, self care and vocational when they in turn impart them to their brother/ sister with mental retardation.

Need For Training Siblings

- *Assistance to Parents:* The care and management of children with mental retardation places a lot of demand on the time, energy and financial resources on the parents. When training is given to siblings they will assist their parents in evolving and implementing Individualized Programmes for their siblings with disability

- *Peer Tutoring:* As children learn by imitation they need role models for learning the required skills. When the siblings are given training they make effective role models to their brothers/sisters with mental retardation. Further these children also accept their siblings readily as peer tutor and role models.
- *Judicious Use of Time:* It is an accepted fact that siblings spend time with their brothers/sisters with mental retardation, willingly or otherwise. With systematic training given to the siblings they will be in a better position to render assistance to the parents by effective management of time and resources with goal oriented meaningful and structured programmes for their brothers/sisters with mental retardation.
- *Substitution for Parents:* In nuclear families and where both the parents are working outside homes the child with mental retardation may not get the attention and care and the simulative environment he/she deserves. Siblings if trained and when substituting for the parent can plan and provide stimulating activities to the child with mental retardation.
- *Nuclear Family Requirements:* With the disintegration of the joint families in the changing structures in society playmates and friends among relatives for children with mental retardation are not available. It is only the siblings who are available in the family as playmates or friends of the children with disability. A sibling with training will adapt to the situation and play the role of a friend and playmate well.
- *Sibling Stress:* Siblings are usually stressed with having a brother or sister with mental retardation in the family. Their performance therefore, in their studies and their other activities gets adversely affected. Training the siblings will help them to cope with the stress and also increase the productivity in their work.
- *Reducing Behavioural Problems:* Persons with mental retardation display behaviours which are challenging to the parents in devising methods to handle them. When the siblings are trained on the different techniques in handling such inappropriate behaviours in children with mental retardation, they will manage them with understanding and skill.
- *Mass Communication:* With involvement of more and more number of siblings it is expected that peer groups of siblings will also get an awareness and thus form self-help support groups arising in the process of development and create networking among the masses.
- *Increasing the Achievement Levels:* With the involvement of siblings in teaching/training their brothers/sisters it will help the persons with mental retardation to reach their optimum level of achievement in various skill areas like self care, communication socialization, academic, leisure and recreational, and vocational.

Objectives of the Study

To study the effect of training siblings:

- on the academic achievement of children with mental retardation,
- on the academic achievement in male and female children with mental retardation, and
- in evolving Individualized Education Programmes (I.E.P.) on the academic achievement of children with mental retardation on the nature, cause and management of children with mental retardation.

Hypothesis

With training given to siblings—without disability—there would be a significant effect of it on the

- academic achievements of children with mental retardation,
- differences in the academic achievements of male and female children with mental retardation,
- difference with the I.E.P. planning and without it on the academic achievement of children with mental retardation, and
- nature, cause and management of children with mental retardation.

Methodology

This experimental study aims to find out the effect of the training of siblings on the achievements of children with mental retardation as enunciated in the hypothesis. It is a comparative study which focuses on the experimental and the non-experimental groups and all the other variables have been excluded.

The Design of the Study

Pre-test and post-test were given to the experimental and control groups.

- The pre-test was administered to both the groups for evolving the current levels of performance in their academics.
- Training was given to the siblings in the experimental group.
- After a one-year training of both the groups the effect of the training was evaluated with the administration of a post-test and the results were compared.
- The control of variables was strictly adhered to ensure reliability.

Sample Design

Six special schools located in North Delhi were randomly selected.

Fifty children with mental retardation, day scholars and with elder siblings and with an VIIIth standard pass was the sample. Out of these 25 children in the control

group and 25 children in the experimental group were selected maintaining the homogeneity of the sample.

Tools Used

- An assessment tool was devised to measure the academic level (functional) in the areas of reading, writing, number, money and time.
- A training kit with guidelines was devised for training the siblings.
- A manual was developed for the siblings with education level up to the eighth standard, "Play, Fun 'N' Learn" written in simple language and with illustrations for teaching to reading, writing, number, money and time through 101 play activities.

Procedure Used for Data Collection

The assessment tool was administered individually to the 50 samples in their respective schools. Observation and interview methods were used in recording the responses on the related information.

Parents were also interviewed for corroborating the information collected and additional information was also recorded.

An initial assessment for arriving at the current level of performance for the 50 samples taken for study. The control group consisted of 25 and the experimental group, 25 out of the sample. All the siblings in the experimental group were given the training using the manual developed for the purpose. As planned the control group was not given the training.

Sibling Training

Phase I: The 25 siblings in the experimental group attended a one-day workshop.

The venue of the workshop was the National Institute for the Mentally Handicapped, Regional Centre, New Delhi.

The faculty consisted of the professionals from the NIMH, Delhi Centre: Special Educator (the investigator) Social Worker, Psychologist, and Therapists.

A structured and systematic age appropriate curriculum was followed in the programme training of the siblings.

Phase II: A small group workshop was conducted in each of the six schools selected.

The play activities in the training tool (PLAY FUN 'N' LEARN) was demonstrated.

These related to the objectives chosen; teaching procedures, materials to be used and strategies to be adopted to achieve the objectives set for the children as stated in the Individualized Educational Programme (IEP) Plans developed by the investigator.

Phase III: Every sibling was called to the center for an Individualized guidance by the investigator for one hour each day for two days, once at the start of the

programme and once more during the mid course of the programme at the end of three months.

The content of the programme included: assisting siblings in initiating, sustaining and progressing with the training they were giving to their siblings—brother and sister with disabilities.

The training programme included in the areas: time management, problem solving, obtaining feedback and increasing the motivational level in the siblings.

Training for the Experimental Group

After the training, the siblings implemented it on their brother/sister with disability.

The investigator monitored the training programme. The siblings also recorded their observations on the training given to their brother or sister.

As scheduled, on completion of the training period, all the 50 children, the experimental and the control group, were evaluated to find out the effect of the training programme on them using the same assessment tool developed for the study.

Analysis and Interpretation

The initial score, base line assessment data of the 50 subjects under study and that of their final score were then subjected to analysis. Taking into consideration the objectives and the hypothesis of the study the data was analyzed, by employing descriptive statistical techniques, such as: Mean, Standard Deviation, Standard Error Difference and 't' test. The 't' test was used to test the significance of the difference between the means in the different groups, as stated in the hypothesis.

Table 1: **Section-wise Distribution of the Baseline Score of the Control Group**

Section	*No. of items*	*Scores*	*% of scores*
Reading	25	532	42.56
Writing	21	504	48
Arithmetic	19	398	41.89
Time	16	248	31
Money	17	230	27.05
TOTAL	*98*	*1912*	*36.02*

Table 2: **Section-wise Distribution of the Achievement Score of the Control Group**

Section	*No. of items*	*Scores*	*Total % of scores*	*Achieved % of score*
Reading	25	565	45.2	2.64
Writing	21	521	49.61	1.61
Arithmetic	19	406	42.73	0.84
Time	16	252	31.50	0.5
Money	17	231	27.17	0.13
TOTAL	*98*	*1975*	*39.93*	*0.91*

Table 3: **Section-wise Distribution of the Baseline Score of the Experimental Group**

Section	*No. of items*	*Scores*	*% of scores*
Reading	25	635	50
Writing	21	615	58.57
Arithmetic	19	483	50.84
Time	16	248	31
Money	17	208	24.47
TOTAL	*98*	*2189*	*44.67*

Table 4: **Section-wise Distribution of the Achievement Score of Experimental Group**

Section	*No. of items*	*Scores*	*% of scores total achievement*	*% of scores actually achieved*
Reading	25	685	54.8	4.8
Writing	21	666	63.42	4.85
Arithmetic	19	534	56.21	5.37
Time	16	300	37.5	6.5
Money	17	238	28	3.53
TOTAL	*98*	*2423*	*49.44*	*4.77*

Effect of Sibling Training Programme on the Total Academic Achievement of Children with Mental Retardation

A comparison between the total achievement score of the control and the experimental Group of Children with Mental Retardation is shown in Table 5.

Table 5

Variable	*T Value*	*Df*	*Table Value*	*Sig. Level*	*Hyp.*
Total Achievement	19.65	48	2.01	SIG	Rejected

The coefficient of correlation (t) is 19.65. The table value with df at 0.05 is 2.01. The coefficient of correlation (t) is more than the table value. This indicates that there is positive correlation. Thus the hypothesis that "there is no significant effect of the sibling training programme on the total academic achievement of children with mental retardation" stands rejected.

Effect of the Sibling Training Programme on the Academic Achievement of Male/ Female Children with Mental Retardation

Comparison between the achievement score of male/female children with mental retardation in the experimental group is shown in Table 6.

Table 6

Variable	*T Value*	*Df*	*Table Value*	*Sig. Level*	*Hyp.*
Gender based achievement	0.662	23	't' 't' 2.101 2.57	Non-SIG	Accepted

The coefficient of correlation (t) is found to be 0.662. The table valve of significance with df 23 at 0.01 level is found to be 2.101 and at 0.05 level is 2.57. The magnitude of obtained (t) is less than both table valves of significance indicates that the relationship between achievement score of male and female children with mental retardation given sibling intervention is non-significant.

Thus the hypothesis that there is no significant difference in achievement level of male and female children with mental retardation given sibling intervention is accepted.

Effect of the Sibling Training Programme on the I.E.P. and the Non-I.E.P. Achievement Scores

Comparison between the I.E.P. scores and the Non-I.E.P. achievement scores of the experimental group is shown in Table 7.

Table 7

Variable	*T Value*	*Df*	*Table Value*	*Sig. Level*	*Hyp.*
Achievement score IEP & Non-IEP	13.87	48	2.0121	SIG	Rejected

The coefficient correlation (t) is found to be 13.87. The table value of significance with df 48 at 0.05 level is 2.021. The magnitude of obtained (t) is more than the table value of significance indicates that the relationship between IEP and non-IEP achievement score of children with mental retardation in the experimental group is significant.

Thus the hypothesis that there is no significant difference in the IEP and the non-IEP achievement scores of children with mental retardation stands rejected.

Thus the use of IEP is significant with children having mental retardation.

Effect of the Sibling Training Programme on the Siblings Understanding the Various Issues in Mental Retardation

Comparison between the baseline and achievement score of siblings on sibling assessment scale is shown in Table 8.

Table 8

Variable	*T Value*	*Df*	*Table Value*	*Sig. Level*	*Hyp.*
Understanding level	92.47	48	2.02	SIG	Rejected

The coefficient of correlation(t) is found to be 92.47. The table value of significance with df 48 at 0.05 level is 2.02. The magnitude of obtained (t) is more than the table value of significance indicates that the relationship between baseline and achievement score of siblings is significant. Thus the hypothesis that there is no significant effects of sibling training programme on understanding of the non-handicapped siblings about various aspects of education of mentally retarded children stands rejected.

Conclusion

1. There is a significant effect of the sibling training programme on the reading skills of children with mental retardation.
2. There is a significant effect of the sibling training programme on the writing skills of children with mental retardation.
3. There is a significant effect of the sibling training programme on the arithmetic skills of children with mental retardation.
4. There is a significant effect of the sibling training programme on the time skills of children with mental retardation.
5. There is a significant effect of the sibling training programme on the money skills of children with mental retardation.
6. There is a significant effect of the sibling training programme on the total academic achievement of children with mental retardation.
7. There is no significant difference in the I.E.P. and the non-I.E.P. achievement scores of the children with mental retardation.
8. There is a significant difference in the training programme on the siblings' understanding on the various aspects of education of children with mental retardation.

Educational Implications

For Service Providers

- Siblings are a naturally emerging group of human resources useful in the training and the rehabilitation of persons with mental retardation. Parental counseling should be made available as "early" as possible, as soon as the child with mental retardation is identified so. Counselling the parents on the involvement of siblings in training their children with mental retardation should include the following aspects: the need for the involvement of siblings, defining their roles, utilizing their efficacy, the benefits of the involvement to the parents of children with mental retardation and also to sibling themselves.

- Training of all the service providers in basic counseling and inter-personal skill is essential for establishing a good rapport in parent-professional and sibling-professional relationships.
- Sibling involvement in parent support groups where both the parents participate needs to be encouraged so that the siblings can also share their concern, learn from parents and support the group at all times.
- Sibling self-help support groups where participation of both the male and female siblings needs to be encouraged so that all siblings share common concerns, learn from each other's experiences and support each other in times of need.
- Service providers should ensure that they are frank with the siblings while giving the needed information and in answering their questions. If needed, the professionals should not hesitate in using the referral services and follow the inter-disciplinary approach to meet the diverse needs of the siblings.
- Intervention programmes need to be focused on the early building of and in strengthening the natural support systems for the siblings. Based on the individual needs of the siblings and the family, counseling must be provided to various members of the family, neighbours, peers, close relatives to gain their continued and long term support.
- Community awareness programmes must be conducted especially in schools involving children who would help in building the positive attitude of young children towards the individuals with mental retardation and also in correcting misconceptions regarding them.
- Keeping in view the huge endorsement on the needs from both the parents and siblings, there is a need to review the existing predominant child centred model. The programme needs to be reoriented to meet the needs of the siblings and families at large.
- In order to seek greater co-operation from the siblings, it is required to meet the identified important needs of the siblings to match with the needs of the child being trained.
- Siblings during the initial contact generally convey child related needs to the professional and do not disclose their own personal emotional needs. A skillful professional with counseling skills should find effective personal-emotional coping.
- Service providers need to know updated information on the benefits afforded by the State and Central Governments including concessions, legislation measures.
- Service training is a continuing need. The content and strategies in training programmes and the approach should meet the demands of changes in the society at any point of time. Professionals need to know the developmental needs of every child in order to train and inform the siblings correctly.

- Indigenous, culture-specific, games and sports, music, outings and other activity oriented models of training and support which are acceptable to siblings needs to be developed to meet the need of the siblings.
- Culturally relevant low cost materials in print, audio-visual and learning/ teaching aids must be developed and provided early to the siblings for awareness building, right knowledge and correction of misconceptions.
- Need based training workshops should be conducted for siblings age appropriately to empower them with the necessary knowledge and skills related to the management of children with mental retardation.
- Programme for siblings to clarify issues on sexuality, marriage, childbirth, future planning, financial and social securities of their brother/sister with mental retardation need to be conducted.
- The greatest inhibitor in coping as reported by the sibling is the presence of behaviour problems. Hence emphasis should be given on management of behavioural problems and also training should be given to siblings in the techniques of behaviour modification.
- To help meet the pressing financial needs of some of the families strategies need to be evolved for advocating and building financial support. Siblings should be given weightage in the selection for admission to various courses for human resource development in the field of rehabilitation. NGOs can also propagate and promote jobs for siblings in the field of rehabilitation.
- The motivational and commitment level of siblings being high, steps to be taken to have reserved seats in training programmes in all professionals courses in the field of disability.
- Findings also suggest that siblings do not only require help in meeting the needs of their brother/sister but also require help for themselves to plan for their future.
- While providing sibling training a good content and methodology of training is essential. Resource persons from different fields can be of great help in such cases.

For Parents

- Parents undergo emotional turmoil and suffer from severe stress because of having a child with mental retardation. This prolonged unresolved condition makes them more susceptible to psychosomatic complications, thus interfering in the rearing and training of the child with mental retardation. Hence, there is a need to tap other resources as support services for training and rehabilitation of the children with mental retardation. Siblings have been identified as an emerging group of human resources for training of persons with mental retardation. Involving siblings with proper emotional and technical training/support can help parents and the persons with mental retardation in a long way.

- Commonly prevailing attitude of families having a child with mental retardation has not been so innovative and positive towards tapping the sibling energy and resources. Family attitudes need to change and opportunity to be provided to the siblings to be responsible towards the care and management of the brother/sister with mental retardation.
- Families having a person with mental retardation generally implies that their members are adaptable to the situation. Hence strengthening and empowering families is very crucial in the proper habilitation and rehabilitation of the family and the child with mental retardation. Sibling as a strength to empower the family needs to be realized and proper care to be taken to exploit this strength.
- "What will happen to my child after my death" is a common and most disturbing fact, psychologically killing every parent. The importance of the role of the brothers and sisters is too important to be ignored. There is no actual alternative to siblings after the life time of the parents. Involving sibling from an early age would help them in planning for the future of their brother/sister with mental retardation.
- Sibling involvement is the first step in the process of integration of persons with mental retardation. If the process of integration is not available from the family resources it cannot be expected that any other source would be available. The foundations for social integration and academic integration are laid in the family or in the home. It is important that the siblings understand their brother and sister with mental retardation well and help them integrate at all levels including at the psychological level.
- Siblings too undergo immense emotional turmoil and suffer from psychological worries because of having a brother/sister with mental retardation. The ongoing and ever increasing stress arrests their personality and their emotional growth. The only way to help siblings develop emotionally and personality is to bring them closer to their brother and sister with mental retardation in a structured way. Keeping them away does not solve their psychological problems.

For the Siblings

- Siblings do get affected in many ways because of having a brother/sister with mental retardation. The impact does generate a number of special needs in siblings. To help mitigate the negative effects and meet the needs, appropriate intervention programmes for siblings needs to be conducted. The time has come that siblings realized their own potential and look forward positively to handle the situation successfully.
- One cannot run away from problem but must face them. Learning to deal with stress and learning about management and training of persons with mental retardation will help them in many ways. Learning to be responsible, overall personality development, developing maturity, maintaining discipline

and control are among the many attributes which siblings can develop. It requires a positive attitude and essential basic psychological/technical support.

- It is time that siblings realize how important they are for their brother and sister and parents. Sibling as support services can help parents overcome stress and various psychosomatic problems. Most of the worries of parents are solved when they see the siblings becoming responsible for their brother and sister with mental retardation.
- Sibling to sibling support groups can form sibling Self Help Groups. This can be both meaningful and constructive. Siblings can find solutions to their problems by consulting each other and have a great sense of group cohesion as all the members of the group have similar problems.
- The society may not be ready to integrate persons with disability particularly those with mental retardation. Sibling to sibling network and the friend circle or clubs where the siblings are members can act as pioneers in the process of integration for their brother and sister with mental retardation.
- The field of rehabilitation requires various types of professionals. Siblings have found to be a natural and most effective class of human resource. Siblings can choose rehabilitation as a career and join the professional group.
- Mentally handicapped person cannot speak for themselves. Hence NGOs and parents had been advocating and creating awareness in the field. Siblings can unite to form a strong network and platform for advocacy and awareness building for persons with mental retardation.
- Resource material for assessment and training have been developed which are easy and interesting to use. With little or no training siblings can avail these resource materials and start assessment and training for their brother and sister with mental retardation.
- As members of the family, siblings need to responsible for strengthening and empowering families. Siblings support services to parents in a variety of ways as mentioned earlier can give strength to a family in the long run.
- Every child/person enjoys games and sports, music, cultural activities, outing, etc. Siblings could incorporate training/rehabilitation of the brother and sister with mental retardation into these activities. It is a mutual give and take. Both the normal sibling and brother and sister can enjoy through various activities and the sibling with mental retardation learns through activity based learning.
- Having the privilege of going to a mainstream school and being with the peers there and in the society all the time, siblings can bring materials, ideas and creativity in teaching the persons with mental retardation.

Suggestions for Further Research

- Effect of sibling training on other variables may be studied.

- Low cost, culturally relevant resource material be developed for sibling training.
- Age appropriate Audio Visual Aids for creating awareness and motivation of siblings.
- Good studies having standardized content and methodology for sibling-training programmes and workshops is recommended.
- Studies on sibling whose handicapped brother/sister are not attending school.
- Studies need to be continue on different age groups and setting.
- Impact of involvement of siblings at early stages.
- Stories of successful siblings who have coped well with the situation be undertaken to motivate other siblings in the rehabilitation programmes.

REFERENCES

Grossman, F.K. (1972). *Brothers and Sisters of Related Children: An Exploratory Study*, Syracuse, NY: Syracuse, University Press.

Galford, J.P. (1972). *Fundamental Statistics in Psychology and Education,* McGrawh-Hill Book Company, Inc., p. 546.

Myreddi V. and Narayan J. (1997). *Fundamental Literacy Series*, Secunderabad, National Institute for the Mentally Handicapped.

Narayan, H.S. (1979). *The Impact of Mentally Retarded Children on Their Families*, M.S. Thesis.

Peshawaria, R. and Menon, D.K. (1991). Needs of Families of Mentally Handicapped Children. *Indian Journal of Disability and Rehabilitation*, I, pp. 69-72.

Peshawaria-Menon, R. (1989). Parent Involvement in the Training and Management of Their Mentally Handicapped Persons. *Journal of Personality and Clinical Studies*, 5(2), pp. 217-221.

Social Stereotypes and Attitudes Towards Disability

DR. SIDDHANT K. MISHRA[1]

ABSTRACT

The article is an attempt to present the common attitudes and stereotypes towards disability and persons with disabilities held by the society since ancient period. Low self concept, self esteem and aspiration level of persons with disabilities has contributed to their isolation from the mainstream. Attitude towards disabled people have been predominantly negative in direction and the intensity of beliefs and behaviours appears to vary according to not only factors such as culture but also impairment. Studies have shown that stereotypes and negative attitudes towards disability exists not only among general population but also amongst the health professionals. Unfortunately parents' also possess lack of understanding about the condition of the child and they tend to associate the disability in their child with their failure, leading to anxiety and frustration. Media, cinema, plays, novels, etc., have often depicted the persons with disabilities as beggars, comic, wicked and villainous characters. The ancient Indian literature does not speak very high about the disabled except certain mythological characters. Lately, significant shift in the attitudes have been noticed with growing awareness about the potentials and achievements of persons with disabilities. Beliefs and values play significant role in shaping our attitudes, prejudices and stereotypes and gradually the societal attitude towards the persons with disabilities is changing for the better. Karma theory is past now.

Disability has many meanings to others. The disabled person often does not know when he enters a social situation whether he will be an object of curiosity, pity, sympathized with, helped, patronized, exhibited, praised for his abilities, avoided or actively rejected.

The attitude of person with disability towards his own disability, towards other disabled persons and towards the members of his society as well as the attitude of society towards him are determining factors for the development of his personality and for his integration in society.

1. Assistant Director (Academic), Rehabilitation Council of India, New Delhi.

The feelings of inadequacy and anxiety combined with insecurity and frustration among the person with disability may result in withdrawal, introversion, aggressiveness, etc. Whether or not these negative feelings, behaviours and personality maladjustment would take place in the case of a particular individual will largely depend on the society's attitudes and behaviour toward him.

The person with disability who considers himself stigmatized due to his disability condition may be more vulnerable to anxiety than a non-disabled person. High level of anxiety may reduce his ability to cope realistically with his environment and he may tend to react impulsively, compulsively and rigidly. The individual may develop defenses, which may restrict his activity and maintain low level of aspiration.

A person's level of aspiration is intimately related to his self-concept. The kind of a person he considers himself to be is an important determinant of what he thinks he is capable of doing, what he expects himself to do, and what he tries to achieve. A person's self concept is largely a product of other people's evaluation of him. Individuals can be more handicapped by their self-concept than by the disability itself (Telford & Sawrey, 1995). Because so many disabled persons' lives tend to revolve around their disabilities rather than abilities, their self-concepts are unrealistically low. Consequently their self-expectations, levels of aspirations and general motivational levels are unnecessarily diminished. Therefore, those who give up easily owing to their disability condition may not significantly contribute, on the other hand those who refuse to accept disability as a handicapping condition and constantly strive for higher goals, outshine others including those without disability. There are several such examples.

Handicapped individuals often tend to be isolated with regard to their social contacts. Status in the family, neighborhood and at work place is important, however, for many the possibility of achieving or maintaining such status is impaired (Gokhale, 1995).

The non-disabled majority tends to maintain a certain social distance, often treating the disabled as outsiders. Many non-disabled people feel uncomfortable in the presence of a disabled individual. They find it very difficult to accept and mingle with the disabled as they do with other people, and since they have greater prestige and power, they can restrict the opportunities of the handicapped. The handicapped are often forced either to associate with each other or become socially isolated. They are frequently segregated – physically, psychologically and socially. The disabled person, sensing social discrimination gravitates to his own kind who can accept him without reservations. He also resents his group identification even though he feels more comfortable there (Telford & Sawrey, 1995).

Non-disabled treat persons with disabilities as different. They are not included in the competitive cliques that form among active adolescents. In a sense, they are treated as an outcast whom people may like but exclude from their inner circle for sports and leisure activities. They live with their disabilities in the community but they are never fully accepted by the teen age peers.

Attitude Towards Persons with Disabilities

Attitude is a state of readiness, a tendency to respond in a certain manner when confronted with certain stimuli (Oppenheim, 1992). Attitude towards disabled people have been predominantly negative in direction and the intensity of beliefs and behaviours appears to vary according to not only factors such as culture (Ingstad & Whyte, 1995; Stone, 2001), but also impairment.

Parental Attitude

Some of the more common reactive pattern to the advent of a disabled child into a family are: realistic coping with the problem; denial of the reality of the handicap; self pity; ambivalence toward or rejection of the child; feelings of guilt; shame and depression; and patterns of mutual dependence (Telford & Sawrey, 1995).

The presence of a handicapped child in the family constitutes an additional stress. Defensive reactions are likely to occur more often and to a greater degree in such families than in families where all members are non-disabled. There are powerful social and personal forces motivating a parent to deny evidences of the disability of the offspring. The cultural stereotype of the ideal child, the parents' expectation that their offspring will successfully play the roles that society and his parents assign to him, the parents' hopes that their child will attain or surpass their own accomplishments all these contribute to their "it just – can't be so" reaction when the child is apparently unhealthy. Because parents identify themselves with their children, participate in their success and failures, bask in their reflected glory, and are belittled by their shortcomings, they inevitably experience a loss of self esteem when one of their offsprings is less than expected. Disability in the child is partly that of the parent (Telford & Sawrey, 1995).

The parents may reject the disabled child because of resentment and guilt. As a result the child may resent the parents. But, being dependent upon the parents, the child is forced to suppress his blame, which produces self hostility, guilt and anxiety. On the other hand some parents whether from genuine sympathy or guilt reactions, may tend to overprotect the child, with equally harmful results. In either instance, the child's ego and social status needs are frustrated.

Coughlin (1941) selected a group of 51 children from the files of the Detroit Orthopaedic Clinic. In all cases the parents of the children were living and the researchers knew the attitude of the parents. Coughlin finds four broad categories of parental attitude. "The attitude considered most constructive was that of the relatively small number of parents who had sufficient intellectual insight and were so well adjusted personally that they were able, while fully realizing the implications of the orthopaedic problem, to accept it and turn their attention and energies toward finding means of compensating for it". A second generally positive attitude was expressed by some parents who apparently had a "complete acceptance of a handicapped child on an emotional level with very little or no intellectual insight". A number of parents had an adequate intellectual understanding of the child's problem, but emotionally were unable to provide him with complete acceptance. Thus these parents demonstrated such feelings as over-anxiety, over-protection, and "over-stimulation of the patient to accomplish

more than he was capable". Finally, a group of parents were observed who neither intellectually nor emotionally were able to accept the child. These parents possessed both a lack of understanding on the physical condition of the child and "destructive attitude" toward the child. Included among these latter were such factors as fear of surgery, fear that the child might get worse, fear of what society would think, and fear of inability to the economically independent.

Societal Attitude

An individual is part and product of his social environment and so is a person with disability. His relationship, attitude and behaviour patterns are vitally affected by the nature and extent of the harmony or disharmony of his relationship with the family members, relatives, friends, community members, workplace colleagues and employers, etc. Tragically enough, the persons with disabilities are "less handicapped by their own disability than by the social attitude" (Silver, 1957) meted out to them in every walk of life (Shrivastava, 1970).

A disabled person, like every other person, is a 'social being' and is, therefore, no different from other able bodied persons. It is an irony, however, that he is not accepted by the society as he is, for it invariably focuses its attention on his disabilities rather than on his abilities, victims of disease, accident or negligence, they have been further victimized by their peculiar and irrational prejudice of the society.

Social Scientists have known for decades that able-bodied people tend to avoid interacting with people with disabilities, because they are uncertain about how to behave in their presence (Thompson, 1982; Yamamoto, 1971).

"Most non-disabled people I know are so driven by their own fears of damage and death that they dread contact, let alone interaction, with any one touched by affliction of any kind" (Berube, 1997).

Tringo (1970) in his study found that, if a general prejudice exists toward disabled people, then a hierarchy toward specific groups should also be present, suggesting that those ranked as least preferred will have the most difficulty in being accepted by society. By using a nine-point social distancing scale, ranging from 'would marry' to 'would put to death', with 21 impairments, it was found that mental retardation, alcoholism and mental illness were the 'least preferred' by the non-disabled subjects (n-455), with ulcer, arthritis and asthama ranked as most accepted. Tringo's hierarchy has been found to be relatively stable 30 years later, with only people with cancer showing a change in position (Thomas, 2000).

Harasymiew *et. al.* (1976) found that stereotypes and negative attitudes exist not just in the general population, but also amongst the health professionals.

Children are generally regarded as holding more positive attitudes towards disabled people than the adult population (Townsend, *et. al.*, 1993).

Harper (1999) views culture as a significant factor in influencing attitudes toward different impairments, citing how an obese child was ranked as least desirable in the United States, while in Nepal and New Zealand this child was ranked more highly.

In the US during the upheaval of the 1960s and 1970s, the disability rights movement and the women's rights movement took their place beside other social movements that forever changed the socio-political landscape. It had its impact globally.

Goffman's (1963) sociological analysis of stigma and its consequences in socially marginalized groups is frequently cited as foundational in disability literature reviews.

Goffman's (1963) and Davis's (1961) thesis that relations between disabled persons and non-disabled persons are marked by strain, misunderstanding and disconnection is supported by a wide range of data sources. Murphy (1990) described disability as a 'disease of social relations', adding "Social relations between the disabled and the able bodied are tense, awkward, and problematic. This is something that every handicapped person knows."

Summarizing the results of their interviews with disabled persons, Murphy and colleagues reported that "handicapped people of every condition complain that non-disabled act as if we were contagious" (Murphy, *et. al.,* 1988) and wheelchair users know that in public places, they are commonly "noticed by everyone and acknowledged by nobody".

A national sample of 100 employers of the disabled people, and a similar number of Disability Employment Advisors (DEAs) was drawn for a study in England. 70 per cent of the employers felt that there were positive benefits to employing disabled people, most often because they are more loyal. DEAs reported that majority of the disabled employees give 110 per cent performance, have little sick leave and are very reliable.

It would be helpful to forge a stronger synthesis between, on the one hand, securing legislative improvement and enforcement, and on the other, promoting the universal benefits of a more inclusive society. Each complements the other.

Coverage of Disability in Cinema, Media and Literature

Negative portrayals of disabled persons in movies such as beggars, comic, wicked and villainous characters are common except in the case of some Hindi movies like 'Koshish' 'Sparsh', 'Naache Mayuri', etc.

In fictions, a villain is invariably featured by the wicked or deformed. Shakespeare's Richard III, a spastic by birth is one of the most heinous, unscrupulous and villainous character ever created by the author. Several novelists have depicted disabled individuals in bad character.

With regard to mentally ill, newspaper headlines in England in twenty first century have included 'Nuts to be caged for life by the doctors' (The Sun, December 2000) and 'psychos to be locked up for life' (The Sun, June 2002). The animalistic terms 'caged' and 'locked up' suggest those concerned are less than human.

Examples of the "life not worth living" narrative include media coverage of the case of Sarah Lawson who was diagnosed as a patient of manic depressive. Her father killed her at the age of 22 by administering an overdose of drug and then suffocating her with a pillow. He was given a suspended sentence and, when he walked free from court, media comment included 'she would be better off dead'.

Disabled women face a double dose of discrimination and prejudice – both as persons with disabilities and as women; women of colour with disabilities are triply disadvantaged. Disabled women, therefore, face multiple barriers to achieving their life goals. As a consequence of the bias, discrimination and stereotyping that disabled women face, they experience low employment rates and wages, low educational levels, high rates of poverty and segregation, limited access to community services and high rates of sexual and physical violence (Fiduccia & Wolfe, 1999).

It may be concluded that common reactions of non-disabled towards disabled can be curiosity, pity, over-solicitousness, rejection, repugnance, indifference, fear and sympathy.

Historical Perspective of Social Attitudes

In the Holy Bible it is mentioned that the sins of the parents will be visited upon their children up to the third or even further generation. Manusmriti mentions that a disabled person reaps in this life the seeds of misdeeds that he had sown in the former life.

There may be the following four stages of social attitudes towards the disabled persons from the historical point of view:

1. Infanticide and Cruelty

In the pre-historic days, the disabled persons were eliminated through the natural process as, 'survival of the fittest' was the principle for survival and there was no place for the weak and sick people. Children born with handicap conditions were not protected and they were allowed to die at birth or in infancy. Most of the primitive tribes would discard their disabled fellow beings on the grounds of their incapability to fight the foes and the wild animals. There are examples of Eskimos, Dene, Masai, Dieri, Carib and many other such tribes of North America, Australia, Hawai and Africa following inhuman practices with the handicapped. On the other hand, there are examples of tribes such a Blackfoot Indians, Andamanese, Mongols who cared for the disabled persons. In some cultures legal and social sanctions were given for female infanticide but disabled children were protected. In others, war disabled were given good care. In some instances it was believed that physical deformities and mental disorders were the result of possession by demons and therefore, afflicted persons were rejected, punished or killed.

2. Missionary Approach

With the spread of Christian ideals and Buddhist doctrines, the cruel practices were gradually abandoned. However, the twelve defects given in the Bible that disqualify a priest from officiating were: "A blind man, or a lame, or he that hath a flat nose, or anything superfluous, or a man that is broken handed, or crookbacked, or a dwarf, or hath a blemish is his eye or be scurvy, or scabbed or hath his bones broken". The religious leaders later became interested in the custody and care of the disabled.

During the Middle Ages, disabled persons particularly, locomotor handicapped were mocked at in the streets, treated harshly and driven to jugglery, begging or crime.

The persons with disability were often objects of amusement and were used for entertainment. Mention is found in the ancient Indian literature about the treatment of disability. The Indian history is also full of anecdotes on the lives of physically disabled such as dwarfs and hunchbacks who were even used as court jesters. Parents often refused treatment of a disabled child on the ground that it was contrary to the will of the God.

Thinkers and social reformers like Aristotle, Plato, Martin Luther King held the disabled people in contempt and justified their removal from the society.

By 16th Century laws were made in England to protect and support the disabled persons. Attempts were also made to cure the disabilities but the methods of treatment were quite primitive. Institutes were founded for the poor and destitute which also included the handicapped.

3. Training and Education

In the 18th Century a number of institutions were set up for the blinds, deaf and severely handicapped. Simultaneously, Medical Science also made great strides in the treatment of disabilities. It was realized that prevention and early care would relieve the society of the burden of supporting the disabled persons throughout their lives with the gradual development in Medical Science and technology in the West, a significant shift in the attitude of the people towards disability was observed. Now, the society had started accepting the disabled individuals instead of discarding them.

4. Integration and Inclusion

Towards the end of 19th Century and beginning of 20th Century, a number of Acts were promulgated in some of the progressive countries of the world, safeguarding the interests of the persons with disabilities. Vocational rehabilitation of the disabled was given special attention. Thus, the attitude of the society has been changing from hatred to sympathy and tolerance to human rights.

Disabled in Indian Mythology

Historically, Indian society has been sensitive towards disabled persons. Examples of Ashtavakra and Vamana suggest that the Hindu society recognized the merits of handicapped people. However, holy books of Hindus suggest that although the handicapped were treated with pity and compassion in ancient India, their rights to social equality were never recognized. It was believed that a disability was the result of one's wrong actions (*Karmas*) whether in his life or the life before.

Disabled people in Indian mythology as well as history have also been depicted as cruel and spiteful. A disabled woman in Indian mythology is Manthara, the one-eyed orthopaedically impaired maid servant of queen Kaikeyi in the Ramayana who was responsible for Lord Rama's exile. Similarly, there are other stories where women with disabilities are neglected by the Gods. According to a Katha (story) recited during Kartik Poornima, Goddess Lakshmi had an elder sister who could not marry because of her being dark and disfigured. When Lord Vishnu proposed to Lakshmi, she

expressed her inability to marry as her elder sister was still unmarried and instead urged him to marry her sister. Lord Vishnu refused saying that there is no place for disabled people in heaven. However, he married off her elder sister to a '*peepul*' tree, which he said was another form of Vishnu.

Visually impaired Dhritrashtra or the Orthopaedically impaired, Shakuni sided with evil in the Mahabharata war. Taimur Lang (also Tamerlane, 1336-1405), the Mangol ruler and disabled has been projected as an insensitive and atrocious person. These images have had a deep influence in the psyche of the Indians who till today perceive disabled people either as objects of pity or as evil personified.

Pity and avoidance are the most widely prevalent attitudes towards the disabled. People are always prepared to part with a coin to get rid of a pestering handicapped beggar. They are under the impression that by putting a few coins into the begging bowl, they not only come to the rescue of a sinner of the past life, but also unconditionally rescue a seat for themselves in heavens.

The ancient Indian literature equates the disabled with the beggars, aged, dwarfs, sick, widows, low caste, etc.

Attitudes, Prejudice, Discrimination and Stereotypes About Disability

Most definitions of attitude comprise three components;

- Cognitive.
- Affective.
- Behavioural.

The cognitive component refers to our beliefs about the object or person to whom the attitude is directed we may believe, for example, that the blind people have a 'sixth sense' our belief may or may not be correct.

The affective component refers to our evaluation of the object or person to whom the attitude is directed. We may think, for example, that the 'sixth sense' of the blind people makes them superior beings. The evaluation is based on the underlying values we hold which represent ethical codes and social and cultural norms. Beliefs represent what we know, values represent what we feel. Gross (1987) points out that in order to convert a belief into an attitude a value ingredient is needed. The more important or central our beliefs and values, the more difficult they are for ourselves or for others to change. This is because they tend to underpin our other attitudes and may influence the way we behave.

Our beliefs and values may, in turn affect our behaviour. We may, for example, fail to assist the blind person when he or she needs it. These ideas are summarized below:

Beliefs, Attitudes, Behaviour, Values (Fishbein & Ajken, 1975)

Prejudice literally means to pre-judge or to form a strong attitude without sufficient information (Reber, 1985). Prejudice can be either positive or negative, it usually

refers to an extreme negative attitude. Reber defines prejudice as "A negative attitude towards a particular group of persons based on negative traits assumed to be uniformly displayed by all members of that group".

Prejudices like attitudes, have cognitive, affective and behavioural components. The cognitive component is a stereotype (an over-generalization) which is, in itself, neutral. The affective component is a feeling of liking or hostility, and the behavioural component may manifest itself as aggression, avoidance, discrimination or preferential treatment.

A particular set of behaviours, often referred to as the disabled role, may be expected of disabled people so strongly that those who do not conform are viewed in negative terms (French, 1944). Funk (1986) believes that self-advocacy is not generally considered part of the behavioural repertoire of disabled people and Holmes and Karst (1990) maintain that disabled people who take control of their lives may be viewed as aggressive, while passive clients may be viewed as cooperative. As choice of rehabilitation facilities is usually non-existent, disabled people are frequently forced to conform to the stereotyped role prescribed to them.

This defensive mechanism on the part of the disabled is the result of social prejudice, discrimination and overall stigmatization. The terms "prejudice", "discrimination" and "segregation" are related but not similar. Prejudice is a pattern of hostile attitude by which an individual is placed in a particular category and judged accordingly. Discrimination refers to overt acts committed against individuals and minority groups because of the prejudice of the dominant majority. Segregation is a special form of discrimination whereby the minority group is denied access to such institutional facilities of the larger society as schools, hotels, restaurants, recreational facilities, transportation, etc. Prejudice is thus a state of mind where discrimination and segregation are specific acts or services of acts. Prejudice is the root of discrimination and segregation provides the major motivating force for stigmatization (Gokhale, 1995). Stigma is about labeling and the individuals' reaction to being "marked" (Sayce, 1998).

Discrimination implies denial of opportunity, unequal treatment, and exclusion from the main channels of economic and social life (Jernigan, 1968). It is in the economic sphere that discrimination against the persons with disability is found to be more overt and serious. Their economic security is often threatened by the frequent refusals of work opportunities in many areas of employment. It is a common observation that economically independent persons with disabilities are more accepted in the society than the dependent ones. While it is true that the vocational outlets for the disabled may be realistically circumscribed, the restrictions are often extended to areas where the limitations are not inherently confining. Unrealistic requirements close the doors of employment to many of the disabled.

Discrimination involves distinguishing ('discriminating') between human differences, conferring negative value on some types of difference and treating people unjustly as a result by drawing on social and economic power. Solutions focus on reducing the power to discriminate.

Terms like segregation and social exclusion have been used interchangeably. Duffy (1995) describes social exclusion as the inability to participate effectively in economic, social, political and cultural life and alienation and distance from the mainstream society.

The social effects of disability tend to create social distance between the disabled and their families on the one side and the community on the other. The distance is often expressed by the non-acceptance of the handicapped in social functions, religious services, educational programmes, work places, marital relationships leading to social and economic isolation. This may often result in un-social, and even anti-social attitude on the part of the disabled (Gokhale, 1995).

Segregation of the handicapped persons for the purposes of education, vocational training and protection should not be considered as manifestations of prejudice. Nevertheless such segregated training programmes deprive the disabled persons of the opportunity of mingling with the larger society and of getting full acceptance in the community. However, increased acceptance of the principle of inclusion in regular schools and other rehabilitation programmes is bound to facilitate integration of the disabled persons in the mainstream.

The Sanskrit saying *'Yatha Akruthi Thatha Prakruthy'* is still a guiding principle in our society in evaluating people and their behaviour. However, it is a matter of common observation that the same kind of behaviour may be found in people who have widely differing physiques, and individuals who have the same kind of physique behave in widely differing ways.

The roles assigned to the disabled and the behaviour expected from them vary from place to place. In Turkey blind men are preferred as readers of the Koran, for their prayers are believed to be more welcome to God than the prayers of others. A blind Catholic on the other hand cannot become a priest. If the person with a disability has high prestige and status, the role of his disability may be so great that his disability may be imitated. Princess Alexandra, who became the wife of Edward VII, walked with a limp. At the time she married, it became a fashion among thousands of women in Europe to walk with a special dignified limping gait known as the Princess Alexandra Walk.

The impact of stereotypes is profound. It impacts on identity and increases risk of mental ill health (Link, *et. al.*, 1977). It leaves people with complex dilemmas about whether and how to disclose their mental health problem, and how to disprove the assumptions they expect to encounter if others know of their diagnosis (Sayce, 2000; DWP, 2002). For example, an African man with a diagnosis of Schizophrenia may be reluctant to disclose, given 'powerful big black and dangerous' stereotypes. He may try to counter the stereotype by taking care not to appear threatening, thereby adding layers of anxiety and social pressure to an already challenging situation.

According to Link & Phelan (2001) discrimination cannot be countered without taking steps to limit the exercise of power, for instance, by passing laws. Legal sanctions coupled with success stories might be successful in improving public attitudes. However, for law to be an effective agent for social change requires it to be addressed through

social discourse like media coverage, awareness-raising, film and culture. Simply passing and enforcing a law is not enough.

In order to significantly reduce discrimination faced by disabled people, education and legislation are not enough. What is required are multi-pronged persistent strategies. That means different groups and organizations need to work together to identify activities that are complimentary. For example, media persons, lawyers, business houses, disability movement groups, parents' associations, self-help groups, etc., should promote good practices.

Common Myths and Misconceptions About Persons with Disabilities

There exist several studies, which bring out rather interesting results. It is found that disabled people who think of themselves and disabled people in general as similar to other people tend to be happier and much better adjusted. They were also found to be better workers in terms of punctuality and less absenteeism.

Yuker (1966) reports a study in which he and his associate compared severely disabled individuals with those who had only minor disabilities. They expected that the ones with minor disabilities would be happier, better adjusted, better workers, and so forth. Contrary to their expectations they noticed no difference. Some severely disabled individuals were much better workers and better adjusted while some with minor disabilities were found quite inadequate.

Many feel that disabled cannot lead a satisfactory sexual and marital life. They have the same urges and desires as rest of the population. Following are some other common myths and misconceptions about the disabled:

Disabled persons are compensated by being gifted in some skill or art. They are exceptionally talented.

The blind's other senses are more sensitive. The fact is that they learn to make discrimination in the sensation which they receive by paying more attention and concentration.

Blind people have superior musical ability. Whereas, they are not necessarily superior in music and are not always better than their sighted counterparts. Since, they cannot see, therefore, they concentrate on every sound more than their sighted counterparts.

The disabled are helpless and burden on the society. However, with positive and favourable attitude of the non-disabled, society can make them helpful and useful.

If partially blind use their sight too much, then they loose their remaining sight. This may happen only in rare cases. On the contrary they should use their eyes as much as possible.

Guide dogs take blind people where they want to go. It is not so. Guide dog is only a safeguard. The blind should know where he has to go.

Mental Illness and Mental Retardation are same.

Bringing Change in Attitudes

Disabled persons are not treated as individuals but they are treated as a group. Whereas, the basic principle of psychology that no two individuals are same and every individual is unique, holds true for the persons with disabilities too like other individuals.

1. Public has to be enlightened on the abilities of the disabled and the economic contribution they can make to the country. Developing awareness about disability is the first and foremost step towards empowerment.
2. Education of various groups who are intimately connected with the disabled such as physicians, nurses, psychologists, social workers, educators, insurance officials, lawyers employers, govt. officials, legislators and the members of the individual's family.
3. Achievements of disabled persons, publications, interesting fictions, articles about the problems of the disabled conferences, seminars, radio talks, TV shows, etc., needs to be organized. Attitude tests can be used to measure the attitude of disabled persons both towards other disabled people and towards themselves. It can also be used to measure the attitude of a non-disabled person towards the disabled (Yuker, 1966).
4. Abolish negative stereotyping by the media.

Challenges

Participation of persons with disabilities and their families – not only in implementation but also in decision making is vital for bringing about desirable results. The severely disabled continue to be dumped in a corner.

All forms of barriers – physical, attitudinal and information need to be removed.

Resources in terms of both trained professionals and care givers and financial are required. Monitoring of funds disbursement and its utility needs to be supervised closely.

So far, number of research studies conducted are limited for bringing about attitudinal change of the society towards disabled persons particularly in the Indian society. Therefore, there is an ample opportunity for research activities.

Success stories of persons with disabilities and NGOs needs to be publicized through mass media.

Measuring Attitudes Towards Disabled People

Survey, using questionnaire is the most common method. Sociometric measures to investigate behaviour, and instruments involving video and picture presentation have also been used.

The most widely used instrument for attitude measurement is the Attitudes Towards Disabled Persons Scale (ATDP) developed by Yuker, *et. al.*, in 1960. The Interaction with Disabled Persons Scale (IDP) is a new instrument which was developed

in Australia in the late 1980s and early 1990s (Gething, 1993); it is used to measure community attitudes towards disabled people. The Disability Social Distance Scale (DSDS) was developed by Tringo in 1970. It measures how closely people wish to be associated with disabled people with particular impairment.

REFERENCES

Albrecht, G.L.; Seelman, K.D. and Burg, M. (eds.) (2001). *Handbook of Disability Studies Thousand Oaks:* Sage Publications.

Berube, M. (1997). 'The Cultural Representation of People with Disabilities Affects Us All', *Chronicle of Higher Education*, 30th May 1997, B 4-5.

Cliffs, N.J. and Premtice F. (1961). "Deviance Disavowal. The Management of Strained Interaction by the Visibly Handicapped." *Social Problems,* Hall Davis, 9, pp. 120-132.

Coughlin, E.W. (1941). Some parental attitudes toward handicapped children. The Child VI, pp. 41-45, Cruickshank (Ed.) *Psychology of Exceptional Children and Youth*, p. 317.

Davis, F. (1961). 'Deviance Disavowal: The Management of Strained Interaction by the Visibly Handicapped'. *Social Problems*, 9, pp. 120-132.

Deal, M. (2003). Disabled People's Attitudes Toward Other Impairment Groups: A Hierarchy of Impairments. *Disability and Society*, Vol. 18, No. 7, pp. 897-910.

Department for Work and Pensions (2002). Disabled for Life ? Attitudes Towards, and Experiences of Disability in Britain, Research Report 173, prepared by I. Grewal, S. Joy, J. Lewis, K. Swales & K. Woodfield (London, Department for Work and Pensions).

Disabilities & Impairment, Vol. 13, No. 1 & 2, Delhi Aushat Publications.

Disability Status India (2003). New Delhi: Rehabilitation Council of India.

Duffy, K. (1995). Social Exclusion and Human Dignity in Europe: Background report for the proposed initiative by the Council of Europe (Strasbourg, Council of Europe).

Fiduccia, B. and Wolfe (1999). Fact Sheet: Violence Against Disabled Women. Cupertino, Calif.: Centre for Women Policy Studies.

Fishbein, M. and Ajken, I. (1975). Belief, Attitude, Intention and Behaviour.

French, S. (1944). The disabled role. In S. French (ed.) On Equal Terms: Working with Disabled People. Oxford: Butterworth – Heinemann.

Funk, R. (1986). Self – advocates push beyond civil rights. Independent Living Forum, 4 (1), 3-5. The Research and Training Centre on Independent Living, Kansas University.

Gething, L. (1993). Attitudes towards people with disabilities of physiotherapists and members of the general public. *Australian Journal of Physiotherapy*, 39 (4), pp. 291-295.

Gross, R.D. (1987). *Psychology: The Science of Mind and Behaviour.* London: Edward Arnold.

Goffman, E. (1963). Stigma: Notes on the Management of Spoiled Identity. Englewood.

Gokhale, S.D. The Handicapped and Social Stigma, *Bharat Medical Journal in Murickan*, J.S.J. and Kareparampil, G. (1995) Persons with Disabilities in Society, Trivandrum: Kerala Federation of the Blind.

Hales, G. (1996). *Beyond Disability: Towards an Enabling Society.* London: Sage Publications.

Hans, A. and Patri, A. (Eds.) (2003). *Women, Disability & Identity,* New Delhi: Sage Publications.

Harasymiew, S.J., Horne, M.D. & Lewis, S.C. (1976). A longitudinal study of disability group acceptance, *Rehabilitation Literature,* 37, pp. 98-102.

Holmes, G.E. and Karst, R.H. (1990). The institutionalization of disability myths: Impact on vocational rehabilitation services. *Journal of Rehabilitation,* 56, pp. 20-27.

Harper, D.C. (1999). Social Psychology of difference: stigma, spread, and stereotypes in childhood, *Rehabilitation Psychology,* 44, pp. 131-144.

Ingstad, B. & White, S.R. (Eds.) (1995). *Disability and Culture,* University of California Press.

Jernigan, K. (1968). Blindness – Discrimination, Hostility and Progress—NAIB, Second All India Convention of the Instructors of the Blind.

Khan, Z.N. (1999). Misconceptions About the V.I. Children

Legal Rights of Persons with Disability (2000). New Delhi: Rehabilitation Council of India.

Link, B.G. & Phelan, J.C. (2001). On the nature and consequences of stigma, *Annual Review of Sociology,* 27, pp. 363-385.

Link, B.G., Struening, E.L., Rahav, M., Phelan, J.C. & Nuttbrock, L. (1997). On stigma and its consequences: evidence from a longitudinal study of men with dual diagnosis of mental illness and substance abuse. *Journal of Health and Social Behaviour,* 38, pp. 177-190.

Murickan, J.S.J. and Kareparampil, G. (1995). *Persons with Disabilities in Society.* Trivandrum: Kerala Federation of the Blind.

Murphy, R.F., J. Scheer, Y. Murphy, and R. Mark, 1988, "Physical Disability and Social Liminating: A Study in the Rituals of Adversity", *Social Science & Medicine,* 26, pp. 235-242.

Murphy, R.F., 1990. *The Body Silent.* New York: Norton.

Oppenheim, A.N. (1992). Questionnaire Design, Interviewing and Attitude Measurement, new edition, London, Painter Publishers.

Reber, A.S. (1985), *Dictionary of Psychology.* London: Penguin Books.

Schneider, J. & Dutton, J., 2002. Attitudes towards disabled staff and effect of the National Minimum Wage: A Delphi survey of employees and disability employment advisors.

Sayce, L. (1998), Stigma, discrimination and social exclusion: what's in a word? *Journal of Mental Health,* 7 (4), pp. 331-344.

Sayce, L. (2000), From Psychiatric Patient to Citizen: overcoming discrimination and social exclusion (Basingstoke, Macmillan).

Sayce, (2003), Beyond Good Intentions. Making anti-discrimination strategies work by Liz Sayce in *Disability & Society,* Vol. 18, No. 5, August 2003, pp. 625-642.

Shrivastava, S.P. (Ed.) (1970). Social Work and the Rehabilitation of the Physically Handicapped, *The Journal of Rehabilitation in Asia,* January 1970, Vol. XI, No. 1.

Silver, H. (1957). The Physically Handicapped, Social Work Year Book, 1957, Shrivastava, S.P. (Ed.) (1970) Social Work and the Rehabilitation of the Physically Handicapped, *The Journal of Rehabilitation in Asia,* January 1970, Vol. XI, No. 1.

Status of Disability in India (2000). New Delhi: Rehabilitation Council of India.

Stone, E. (2001). A complicated struggle: disability, survival and social change in the majority world, in: M. Priestly (Ed.) Disability and the Life Course: global perspectives, Cambridge University Press.

Telford, C.W. & Sawrey, J.M. The Exceptional Individual in Murickan, J.S.J. and Kareparampil, G. (1995) Persons with Disabilities in Society. Trivandrum: Kerala Federation of the Blind.

Thomas, A. (2000). Stability of Tringo's hierarchy of preference toward disability groups: 30 years later, *Psychological Reports*, 86, pp. 1155-1156.

Thompson, T. (1982). "You can't play Marbles – You have a Wooden Hand" Communication with the Handicapped, *Communication Quarterly*, 30, pp. 108-115.

Townsend, M.A.R., Wilton, K.M. & Vakilirad T. (1993). Children's attitudes toward peers with intellectual disability, *Journal of Intellectual Disability Research*, 39, pp. 405-411.

Tringo, J.L. (1970). The hierarchy of preference toward disability groups, *Journal of Special Education*, 4, pp. 295-306.

Yamoto, K. (1971), To be Different, *Rehabilitation Counseling Bulletin*, 14, pp. 180-189.

Yuker, H., Block, J. and Campbell, W. (1960), A Scale to Measure Attitudes Towards Disabled Persons. Albertson, NY: Human Resources Centre.

Yuker, H.E. (1966), Prejudice and the Handicapped. *The Journal of Rehabilitation in Asia*, January, Vol. VII, No. 1, p. 5.

Special Education Policy for Primary Education

PROF. SHAKUNTLA DUBEY[1]

ABSTRACT

The Special education is first and foremost individualized education which needs support of technically trained professionals, enlightened and committed parents/caretakers and community at large. Otherwise commercialization of education may lead to labeling slow learner as mentally retarded. The readiness to learn is an important concept in teaching-learning process. Slow learning due to sensory, motor, neurological deficit or other causes in the child needs early evaluation & intervention. Not early labeling and segregation which promotes maladjustment and life long dependence on community resources. Special education input needs trained teachers' empathetic understanding of special needs of a disabled child in terms of strength and weaknesses as well as resources in the school system for making appropriate technology accessible accordingly for short term and long term measures of intervention, provide only restoration and rehabilitation. This will need not only professional. help, money, technology but also micro and macro level of systemic planning in education by our government in order to provide right of education to every child.

Education is a right of every child in the country but are we prepared to provide when Specialized Education is first and foremost individualized education mostly supervised by technically trained number of professionals and teachers sponsored by the State/ Central Education department without charging any fees. Readiness to learn is an important concept in the teaching –learning process. As this term suggests, there is time for preparedness to learn, that time comes when child's physical, neural, intellectual, social and emotional development have advanced and enable him/her to be ready to learn with relative ease. Also involved are his environmental factors and the method of teaching. Obviously, treat all children as with unique disposition and individual needs. Labeling children and discriminating at an early age brings more problems in later adjustment in life; provide restoration and more appropriate rehabilitation and education.

1. **Professor in Clinical Psychology Department, All India Institute of Medical Sciences, New Delhi. Life Executive Member, Manobal Study Society.**

Educational System – An Overview

In our country education is a state subject. In terms of education system to provide equipment's resources, including building, social and community participation to those schools run by the State or given aid or recognized private/public institutions by the respective State Board of Education. Experience suggests that it is easier to find substitutes for the educated, not the properly trained educators in the country. The abysmal literacy rates in our country are attributable to the absence of teachers. Apart from migration of good teachers to rich countries for better livelihood, this profession in our country still demands sacrifices to be made; the position of teachers in the Indian Social hierarchy was never dictated by their income. The Guru is a moral influence. He mould minds and shapes the Society. The aim of education is to help the child to develop his intellectual, aesthetic, emotional, moral and spiritual being (Sri Aurobindo). Is it possible to impart such goals by meeting a huge funding gap of Rs. 12000 crores in implementing the *Sarva Shiksha Abhiyan* and its mid-day meal schemes in the next five year without framing the policy: why out of every ten children one child (a rough estimate) is unable to learn and lags behind? No use to shout out them to pay attention. If the situation, the materials, the problems before the child do not interest him/her attention will slip off. Apart from the physically handicapped whose handicap is obvious and gains special attention of the teacher and provided with appropriate advanced technical devices, there is a group of learning-disabled children who need the so called remedial education since they have a wide variety of individual needs, sometimes linked to psychological or physical or both factors which calls for skilled and discriminating attention by trained assessment staff, the devising of suitable programs and the organization of group or individual teaching in general school setting or special classes.

Several educators will agree that slow learning child is the one whose mental ability is high enough to justify keeping him/her in the regular class but low enough to give him considerable difficulty in keeping up with the average speed of the class. Here we are faced with the complexity of problems in educating children with physical mental or both challenges. One should not forget that human infants as compared with other animals, have a prolonged period of dependency thus need a longest nurture care. Maturation is not complete until late adolescents. We are not born with completely developed Central Nervous System but rather with a flexible and broad array of potentialities. We have to learn a lot of things which are not easy like the reflex action they seem at present like breathing, sleeping, feeding, elimination, walking, etc. From one point of view child development can be viewed as "growth" that is continued progression. The assumption is that there is continuity from the past to the present, so that the present can be understood in terms of its history. Most behaviour is developed by both maturation and learning. The child learns to talk only when he has grown old enough to learn (matured) but the language he learns to talk is the one he hears. The sequence of normal development led to the conviction that growth lies beneath the development of behaviour. However, life is a ladder up which we go step by step; there are some "critical periods" in development (postulated by psychologists) with favourable and unfavourable outcomes. They have lasting and irreversible consequences, e.g.,

basic Trust *Vs* Mistrust learn during the first year of life with maternal care of warmth and affection. The child who lacks such early affectionate care grows up to be inadequate and mistrustful in social relationships (E. Erikson, 1963). Perhaps growth is not actually at a steady rate but step wise in which certain specific tasks of learning are of critical importance life long. You cannot climb a ladder without grasping balance on each step.

We define such stages as a matter of common practice as we distinguish between successive periods such as infancy, childhood, adolescence, adulthood and old age. Psychologists have studied more systematically the child development and given theories on the critical periods (Psycho-social development by Erikson) and Piaget's stages of intellectual development (J. Piaget, 1958). Piaget since 1920 has been interested in discovering the mental or cognitive processes that enable a child to know about and understand the world. He and his co-workers were particularly interested in the sequence of development and their studies have outlined a Stage-theory of intelligence which suggests that the child is really quite a different creature, or at least a different "knower" at various stages of life, e.g., in the Pre-operational thought stage which is approximately 2-4 years and 4-7 years (Intuitive phase) the child is ego-centric, unable to take view points of others; classifies by single salient features; if A is like B in one aspect, must be like B in other aspects, but the child in the intuitive stage is able to think in terms of classes, to see relationships, to handle number concepts, but is intuitive because he is unaware of his classification. As adults we take the conservation principle for granted, viz. the amount (mass) of a substance is not changed when its shape is changed or when it is divided into parts and so on. In fact, Piaget has defined that the gradual development of Conservation take place in this order: mass (age 5), weight (age 6), and volume (age 7).

Piaget was not particularly interested in individual differences but in the generalization stages which hold true for all individuals across all cultural and socio-economical settings. The relationship between critical periods and stages is close but the two concepts are not identical. Failure in the critical period assumes that lack will be stunting development and if they are favourable, there may be a promising later fulfillment. In the Theory of Stages failure to deal adequately with the developmental problems or tasks at that stage will somewhat cripple the development at the subsequent stage. However, the organism might still have definable stages in development, even though the stages not tightly hierarchical with respect to many important abilities, thus a child goes through stage of Formal operation (11 to 15 years) whether or not he has been taught to read or write and still learn to read as an adult.

Nowhere than primary education of children, teachers in our country seem to be eager to know in what ways children are alike, the extent of their differences, and how to judge their differences. Here we have resorted to the advancement made in the field of Psychology in the U.S.A. and U.K. The major intelligence tests (mostly adapted or standardized soon after independence in our country) for children in these countries tend to take the position of continuous progression of growth of mental abilities, they measure the intellectual maturity on the scale of performance (average and deviation

scores that needs conversion into mental age) in terms of accuracy and speed of graded difficult items, e.g., number of forward/backward numbers a child can remember, or a number of vocabulary words child can define and so on. It is measured or quantified as an I.Q. (Intelligence Quotient) which is viewed as unchangeable or as constant, e.g., a child whose I.Q. is below 70 is classified as Mentally Retarded for entire future life. While intelligence is important in that it denotes the capacity to learn or profit from experience in a child but the measurement of intelligence of a child below five years is neither valid nor reliable. The well-standardized test of intelligence needs revision of norms as well as item selection after a decade in use; how many of our tests can meet such well-laid criteria? The so called Culture-free tests have been found unsuitable to many children who live in remote areas and interiors of our country since they lack "test-sophistication". Many of these children do not attend school and those who do, gain little from school. There is ample evidence to suggest that these are not mentally retarded and have intellectual characteristic and sequence of cognitive development like the other normal children, thus they can be helped by cognitive stimulation in placement of a good schooling. Apart from I.Q., E.Q. is equally given importance, but these are tools in the hands of the experts. One should get these psychological tests well standardized for proper use.

Research Evidence

Research on Socially-disadvantaged, First-generation learners, and under-privileged in our country (see Dube, S. and Shedev, p. 1983) have been carried on by various centers and these days even the media is high lighting the issues of nursery education, equal rights of education and inclusive or integrated education of the children with special needs. Also there is almost every day in local papers articles on the plight of parents who are rushing for getting their ward admitted in "most better known schools" who are under pressure of thousands of applicants for a few hundred seats. Different schools seem to be looking for different things when choosing their students. Parameters range from the child's intelligence, the parents' as well as grand-parents' education, occupation, place of residence, child-rearing practice, how much time parents' have to spend with the child, and even their capacity to pay in terms of donation. The anxious and nervous once in desperation are sending their children to expensive play schools, mock-interactive interview sessions in order to ensure admission. The Directorate of Education (DOE) DIKTAT says that all public schools have to set aside 20 per cent seats in the school for the underprivileged children. This has led to worries in the principals of public schools, though they seem to believe in social equity. The financial burdens of supporting the quota, the psychological issue of integration, remedial measures of instruction, are arguments being putforth. Certainly the curriculum cannot be watered down in mainstream schools in order to accommodate children with special needs. On the other hand working women in the nuclear families having a single child to bring up the child need-care center; and later play school and early admission for proper child development placed in good school, this demand is going to increase in our country. However, the admission rush in good schools compared to less expensive private or government run schools seems not confined to

our metropolitan cities. The big business network of Public schools/coaching classes advertising themselves as 'English medium with 100 per cent success result in Maths and Science ensuring admission in higher education'. In such scenario, well known public schools with English medium are being perceived as providing quality education. The government run schools where students are taught academic subjects in Hindi or regional language and English is emphasized in English curriculum only, as if they are lagging behind in admission for higher education.

An Empirical Study

The author, had the opportunity to see the functioning of the government run school of the village Bhitauli (Distt. Lucknow) from April to July, 2004, and rapidly opening coaching centers under the banner of a local Public school providing to village children during their vacation period coaching in English speaking, and other academic subjects. Author was in the village to supervise the functioning of a Rehabilitation Center for the Disabled Children, therefore, surveyed village children from the angle of early diagnosis and intervention for remedial treatment of Special education and referral to those needing medical rehabilitation. Author was surprised to find that children attending summer classes in the coaching centers quite quick to learn oral instructions but unable to read and write, especially their spelling mistakes in the mother tongue Hindi as well as English were certainly to place them in the category of Learning Disability. They were making mistakes in calculation as well as writing of numerical answers. Probably, these children had serious difficulties learning academic material due to poorly taught basic academic skills at primary level. One wonders how much this lag can be fulfilled by paying a heavy fees to the coaching centers in group setting especially by teachers, who neither have received training nor had teaching experience. Because, coaching center in that village was a business enterprise of young unemployed youth during summer vacation. They had only one plea "these children are low in I.Q. that is why they are unable to learn as efficiently as others in the class", however, that was not the case from the view point of the present author.

The village Bhitauli government primary school although was closed, the principal and other teachers were, at times, carrying out assigned duties and were quite helpful in referring identified cases needing help by the Rehabilitation Center for the Disabled Children. The local Sarpanch and Primary Health Center workers who were carrying out Polio Plus door to door campaign also motivated the parents to send their disabled children but due to various reasons very few cases could be enrolled for proper rehabilitation. However, one polio girl who was living next door and a deaf and dumb boy, often seen by us accompanied by a large number of their siblings and onlooker village children, were quite fascinated by the layout of school material and toys, etc. They were quite helpful to the disabled child to get interactive with new stimulation, and frankly expressed that "no body teaches them in the school, teachers are mostly interested in knitting or chit chatting, classes are run by a monitor mostly. At home parents are busy in the work and unable to help them, they are uneducated."

The polio case was a Muslim girl aged 11yrs., who was attending the class II but knew only basic reading, her writing skill was very poor. She was well in verbal fluency and showed keen interest interacting with the new educational setup. She could quickly learn clock reading and other relevant information of daily living but could not regularly attend the clinic as during summer vacation the whole family went to their native village. They were living in a kutchha house, her father was a widower and a petty vegetable seller. Her elder brother who had brought her to the clinic, was found to be a drug addict (Smack user); and he had claimed that his peer group uses Smack and Bidis like him.

The second case was of Hearing and Speech defects. He was properly evaluated by a team of experienced Clinical Psychologist, ENT Medical Specialist and an expert Speech-therapist-cum-Audiologist. The team felt the child is above average in intelligence (IQ above 110 on Performance tests of intelligence). He needed Audiometric testing and Hearing Aid, and a proper training to be imparted to his parents/caretakers not to encourage sign commands in communicating with him.

This child in the playroom was initially very uncooperative, kept on holding a toy to himself and did not part that toy while leaving the playroom. However, after a few play sessions, he settled down and started interacting. He was quite interested to play and explore the other play material and learnt easily their proper handling and leaving them behind in the playroom.

The family (only the grandmother and elder brother who was Mentally Retarded, and a sister who was student of class III in the village School) was involved and participated with the team members readily. However, they were not able to carry out the recommendation inspite of enjoying high socio-economic status in the village due to various reasons, namely, semi-literate, rural background of the grandparents and parents was employed full-time outside the village and was visiting the family only on weekends. Moreover, the reluctance was due to the fact that the father had already purchased one Hearing Aid without any consultation with an ENT Doctor and Audiometric testing. This Hearing device when fitted made the child very restless and he threw it in temper-tantrum. According to the caretakers 'this device is lying unused in their home; and at times like a play material fitted by other siblings and playmates who laugh and make fun of the child'.

This indicates that modern technology and aids and appliances needs proper diagnostic evaluation and training to be imparted to the disabled person as well as to caretakers as 'how to use and keep it as a part of body'. It needs readjustments in the subsequent follow ups and guidance to the caretakers specially at a primary age level of diagnostic evaluation of disabled as well as a semi-literate background of the family members. This policy requires to be implemented in the integrated schools of disabled children where a class/special teacher may be required to help the disable child with the specialized audio-visuals aids or other types of technological innovations to be used in loco-motor activities, toilet-rooms, play-ground, reading and writing in the school settings.

The teachers of the local primary school were found equally critical in terms of participation of the parents in the education of the child, they said "students are sent here to get school uniform and other amenities, these days no body in the village respects teachers as in the past, students attendance is poor, we have to drag them out from the domestic work with the help of our Aaya". Obviously, the poverty among under-privileged and their related life circumstances may be responsible for this poor functioning of a well provided facilities of primary education in this village. Nevertheless, the teachers there seemed lacking the positive attitude and commitment which are required for shedding their middle class expectations.

Recommendations Based on Clinical Experience

In order the inclusive plan of the education is implemented, we not only needs huge funds (our present Government is willing to invest for Education for All), the causation of disability needs to be revised within the cultural context. In the traditional bound areas, people do not believe in direct scientific cause–effect relationships, they consider fate, bad luck, previous Karma, sins of the parents, etc., causes disability.

The disabled child sent to an inclusive school will remain isolated and insecure until the sensitive and empathetic teacher enables him/her to get social with some friendly class mates, however, this also needs not only teacher's understanding of the special needs and of strength and weakness, provision to be made in the school system for transportation, wheelchair, first aid and other facilities which are available in a well equipped so called Resource Room. The modern technological devices given to the children with special needs along with appropriate fixtures of audio-visual aids in the classroom certainly can promote integrated education. But we need at pre-primary level itself proper diagnostic evaluation, participation of parents in making the disabled child to learn the usage of these devices as part of body at home itself. The schools should have excess to resource room, medical aid, and rehabilitation specialists in need to be called.

No doubt, the separate special schools for various disabilities in our country have demonstrated better ability in rehabilitation but they tend to overprotect and not able to bring the necessary integration with the mainstream later which the inclusive education might be a challenge to the disabled in the early stage. But with adequate support systems can provide actualization of full potentials. In other words the diversity does not cause disabilities, rather may bring a melting pot. There is a danger that gifted children may become under-achiever in less challenging classroom, however they need to be given due recognition for having exceptional ability and provided with project work and other academic challenges as the children with learning disabilities need extra coaching in remedial classes. Thus a lot of planning works are needed in terms of infrastructure in the school building, training of teachers, constant participation of family member/care takers, medical-cum-rehabilitation experts, and above all short term as well as long term supervision. The pain and burden of disability to turn into hope and empowerment.

Planning at Micro and Macro Level

There are several other categories added to the existing list of physically and mentally challenged children and may go bigger in future as our diagnostic research progresses However, if primary education for all has to be given, educators need to be made sensitive to the health issues of mal-nutrition, major illnesses and addition of the diagnostic categories in the list, like Autism, Mental illnesses, etc. Educators should know the certification procedure, referral agency, and professions of the modern Rehabilitation team which are on the increase. Apart from medical men like specialist in Rehabilitation Medicine and artificial limbs, Orthopedic Surgeon, Audiologist, Ophthalmologist, Psychiatrist, Neurologist and non-medical professional like Clinical psychologist, Speech-therapist, Prosthetic, Counselor, Physiotherapist, Occupational therapist, Social-worker, Engineer, Interpreters in Sign language, Braille, Mobility, etc. Often teachers are the first ones in our country who are contacted when a child is faced with a problem in the school. Therefore he is required to be abreast with legal, medical and psycho-social-educational aspects while planning the lives of the children with Special needs. However the teaching profession alone should not be burdened, as this plan will need huge funds, allocated by the Planning Commission to the Central/ State educational set ups for implementation of Education For All. A System approach is needed to inter-connect the Ministry of Human Resource Development with all the nodal ministries like Social Justice and Empowerment, Health and Family-planning, Science and Technology, Rural areas and Employment; as well as various NGOs and volunteers who have a visionary zeal.

REFERENCES

Erickson (1963). Childhood and Society (2nd ed.), New York, Norton.

Piaget, J. (1950). The Origins of Intelligence, New York, Harcourt Brace Jovanovich.

Dube, S. and Sachdev, P. (1983). Mental Health Problems of the Socially Disadvantaged, New Delhi: McGrawhill.

Qualities of Special Teachers

DR. B.P. LULLA[1]

ABSTRACT

For the last few decades, an attempt has been made to train teachers for the mentally retarded children in India. The efforts of the National Institute for the Mentally Handicapped (NIMH), Secunderabad are praise worthy as it guides and controls as many as sixty centres offering Diploma in Special Education (MR). Very few universities have taken up the work of training special teachers either at undergraduate or at graduate level. The number of special teachers produced through the available facilities in India is far below the actual requirements of the country wherein about 3,00,00,000 (3%) of population is mentally retarded. This paper is an attempt to highlight the qualities of special teachers.

If we are taking 1: 10 ratio, our country needs at least 3 millions special, teachers. But at present our output of teachers is less than 2000 per year. Luckily there is limited number of special schools and hence this problem of teacher shortage is not so pressing nor so alarming at present. But in future, it is likely to be an acute problem. Hence, it is imperative that we prepare more special teachers and they should be more competent and more committed to the cause of mental retardation. Mere qualifications like DSE (MR) and B.Ed. (Special Education) are not sufficient for special teachers. They have to virtually cultivate some desirable personal qualities and professional abilities to succeed in the work of special education and improve the quality of service for the MR children.

Survey on Personal Qualities

An investigation was conducted about the desirable personal qualities of a special teacher to find out how they are ranked by 30 teachers working in special schools. The list of qualities at random given to them is in Table 1.

1. **Department of Social Education (Mental Retardation), M.C.C.T., Vadodra.**

The ranking by teachers has changed the priorities to a great extend, so the personal qualities of special teachers are to be inculcated during training as given hereunder:

1. He should be motivated.
2. He should be dedicated.
3. He should be responsible.
4. He should be alert and aware of his field.
5. He should be enthusiastic.
6. He should be encouraging to children.
7. He should be tolerant and patient.
8. He should be conscientious and honest.
9. He should be humble.
10. He should be resourceful.

Table 1: **Personal Qualities**

Sl. No.	*Qualities*	*TR**	*NR***
1.	Dedicated	7.7	2
2.	Motivated	8.0	1
3.	Responsible	6.5	3
4.	Tolerant (Patient)	5.0	7
5.	Enthusiastic	5.5	5
6.	Aware (Alert)	6.4	4
7.	Conscientious (Honest)	3.9	8
8.	Humble	3.5	9
9.	Encouraging	5.3	6
10.	Resourceful	3.4	10

* TR: Teachers Rating (Mean Score). ** NR: New Rank.

Survey on Professional Abilities

Similar investigation from 30 teachers of special schools was conducted about the professional abilities listed at random. They were ranked by the teachers as indicated in Table 2.

Table 2: **Professional Abilities**

Sl. No.	*Abilities*	*TR**	*NR***
1.	Belief in phil of Sp. Ed.	6.9	3
2.	Knowledge of principles and Methods of Sp. Ed.	7.3	1
3.	Abilities to prepare teaching material	5.2	6
4.	Abilities to coordinate work in group	6.2	4
5.	Ability to counsel parents on MR issues	4.9	7
6.	Ability to refer to resource persons' agencies	7.0	2
7.	Interest in reading Journal Books in MR	6.1	5
8.	Interest in joining professional organisation	4.0	9
9.	Interest in attending seminars conferences	4.2	8
10.	Interest in community service	3.4	10

* TR: Teachers Rating (Mean Score). ** NR: New Rank.

The ranking of teachers has changed the priorities of professional abilities to be inculcated during training. They are listed here in order.

- He should have knowledge of principles and methods of special education.
- He should be able to refer to resource persons and different agencies working on MR issues.
- He should have faith and belief in special education as new discipline or science.
- He should be interested in reading journals and books in MR areas.
- He should be able to prepare teaching materials for MR children.
- He should be able to offer guidance and councselling to parents on MR issues.
- He should be interested in attending and participating in seminars/ conferences on MR issues.
- He should be interested in joining professional organisations working in MR area.
- He should be interested in serving community and in improving the quality of life.

Implications for Training

Special teachers need more exposure to broad spectrum of sound personal qualities during their training period. They should be thorough in their knowledge of special education discipline and its latest methodology and techniques. Their attitudes towards mentally retarded children and their parents should be ascertained before admission to the course. Their interests in community service, parent counselling and parent groups should be identified before training them as special teachers. Their creative abilities and work skills need to be judged before they are trained for the course. Present curriculum for teachers of special education should be renovated and enriched to prepare confident and competent professionals. Their training programme must include sufficient practical experience of individualized instruction, group instruction, seminars, workshops, visits and contacts with parents and various agencies working in the field of mental retardation. They should have the benefit of in-service training programmes in order to be up-to-date in their skills as teachers.

Conclusion

To sum up, there is need of a great urgency in India to provide and prepare more quality teachers for increasing special schools in greater numbers every year. Quality and Quantity must go hand in a balance which is a serious challenge for the trainers today.

REFERENCE

Government of India: *National Policy on Education, 1986*, Ministry of HRD, New Delhi, 1986.

Government of India: Programme of Action, MHRD, New Delhi, 1992.

Ksumbik Vijaykumari: *Art of Teaching*, Anmol Publication Pvt. Ltd., New Delhi, 2002.

Kundu C.L. (Ed). *Status of Disability in India*, RCI, New Delhi, 2000.

Lulla B.P. (Ed). *Current Trends in Special Education*, Children Hospital Vadodara, 2005.

I. Wla B.P. (Ed). *Vocational Training and Employment of Mentally Retarded Persons*, Vadodara, 2005.

Mohanty Jagauna. *Modern Trends in Indian Education*, Deep Publications, New Delhi, 2005.

Singh J.P. *RCI, Towards Nation Building*, RCI, New Delhi.

THPI: Hyderabad (India) 1999.

William E. Davis: *Suedal Edac1dim1* (Resource Guide) Allya. and Bacon Inc. Massachusltts (U.S.A). 1986.

Innovative Implications

In this Section, we will provide useful and innovative implications for wider use in the area of Disability Rehabilitation. This issue is containing information on two important issues: Fund Raising and Technological Implications for the persons with disability.

Fund Raising – Management and Networking

DR. BHUSHAN PUNANI[1]

Fund raising or a better tenn "resource mobilization" is a very important activity for any developmental organization. First of all, this term includes all types of contributions, tangible or intangible, in cash or in kind, direct or indirect support, services or human resource, grant, interest free loan or technical support. Any contribution that adds to resource base of the organization, reduces costs, enhances recovery or improves functioning base, qualifies as resource mobilization. Following are few important tips for fund raising and systematic organization of fund.

For this organizations need to follow a multi-pronged, multi-source and multi-dimensional approach to resource mobilization. Dependence on single agency or a single source or limited type of resource mobilization would be risky and would always create dependence of organization on that source.

Another dimension, which is very essential, is that developmental organizations need to maintain complete transparency, accountability and credibility while utilization these resources. It would in turn require adopting newer approaches to maintaining of accounts, generating of reports, sharing of information and adopting tools of social communication. The organizations also need to ensure that donors are provided appropriate and regular reports reflecting end use of support and achievement of desired targets.

The organizations need to follow a comprehensive approach of mobilizing resources from the Government, Corporate, international developmental organizations, donor agencies, public and individuals willing and capable of providing support. For this purpose, the organizations need to develop appropriate management systems, use relevant software and ensure appropriate net working with all concerned organizations. The management system simple, which are easily understood by the concerned people

1. **Executive Director, Blind People's Association, Ahmedabad.**

and are relevant to socio-economic conditions, should be adopted. Similarly, the networking should be just one time activity; it should be carried out consistent and regular basis in a proper and effective manner.

The newer approaches on resource mobilization which have yielded encouraging results including on-line fund raising, sponsored marathon walks, event management, activity linked resource mobilization, membership on internet based resource mobilization groups, maintaining and updating website, writing of proposal under small grant schemes of international organizations, portfolio management, cost recovery from the stakeholders, use infrastructure facilities of Governmental and local authorities, renting out of available facilities, recovery from sale of products and services, availing of concessions and cost reduction on purchase of raw materials, services, equipment and machinery, organizing of training activities on cost recovery basis. All money saved is money raised. It is important to shed old definition of "Charity" of providing services "Free of cost". It is essential to be given a new definition of charity as providing services to the stakeholders at an affordable level. The cost recovery at affordable level from the stakeholders is an important and appropriate form of resource mobilization. Similarly, the concept of seeking financial and material resources from the Government as well as local authorities needs to be considered a matter of right and not matter of pity, compassion or concern. As per new awakening, the State authorities are duty-bound to provide to developmental projects. Similarly, in case of corporate world, it is their social responsibility to extend the support. To achieve this level of availing support as a matter of right or corporate responsibility, the organizations need to attain that level of outstanding performance, credibility, trust worthiness and governance that the donor system is willing and confident to extend such support.

Application of Information and Communication Technology in the Field of Disability Rehabilitation

PROF. R. KALYANA KRISHNAN[1]

Information Technology Tools for the Welfare of the Disabled

Communication is an essential aspect of life for every person. In daily life information is disseminated through communication. By itself, Information will remain meaningless unless disseminated to be received by others in normal ways, e.g., through hearing, sight, etc.

Disabilities come in the way of one using the normal methods of communication. Technology has been a blessing for the disabled where alternate means of communication and information dissemination are provided. The technologies vary for different disabilities but in essence, the disabled find it useful when they can use specific aids in the daily lives to help them carry out normal tasks. In the past, appropriate technologies have helped persons cope with their individual disabilities. In recent times, computers have helped bring innovative approaches for the disabled to communicate as well as receive information despite their personal constraints. Computers can play a major role in providing the basic and essential resources for the welfare of the disabled. Information Technology has significantly helped in implementing programs of literacy and education for the disabled. The deployment of these tools has been slow in our country as well as in the developing world due to the problems in handling information consistent with the social environments, specifically the varied languages spoken and understood by the people. Computers have been traditionally used in English and meaningful applications in other languages of the world have been somewhat difficult to implement on account of the complexities of the writing systems. Information and communication technologies become meaningful only if societies can use the methods naturally, without having to learn a new language to benefit from the use of computers. Use of computers in different

1. Professor, Department of Computer Science and Engineering, Indian Institute of Technology, Madras.

languages of the world is gaining recognition but lack of knowledge of the intricacies of the writing systems, specifically those used in the South Asian regions, have impeded the development of useful applications.

The solutions available for multilingual information handling are generally restricted when it come to computing in India and the neighboring regions. At the Indian Institute of Technology, Madras, a detailed examination of the problem has been undertaken and methods which take into consideration the linguistic aspects of the languages have been proposed and useful solutions implemented for multilingual computing. These applications also take advantages of the common accessibility features seen in present day computers, typically the commonly available PCs. The applications developed at IIT, Madras can be used by people with or without disabilities as effectively as corresponding applications in English. The applications which go by the name "IITM Software" provide the means for Effective Communication and Information Dissemination for all people in the developing world. The simplicity with which information is handled in different languages speaks for the versatility of the approach taken by IIT, Madras where computing is done with syllables rather than letters of the alphabet.

Noteworthy Aspects of the Software

Multilingual Document preparation consistent with the requirements seen in Word Processors, resulting in quality printouts. Applications enhanced with text to speech features to permit visually handicapped persons use computers in their own mother tongue. Braille transcription consistent with the Braille standards applicable to the languages. Applications to disseminate Information through the web and permit the disabled to access the information in their mother tongue. Preparation of E-books for effective deployment through computers to help promote programs of literacy and education.

The Software Developed at IIT, Madras Supports the Use of Computers in the Following Languages/Scripts

All the official languages of India including Urdu. Eleven scripts are supported. Devanagari, Gujarati, Gurmukhi, Bengali, Oriya, Telugu, Tamil, Kannada, Malayalam and Roman Diacritics. Urdu will also be helpful in Pakistan. Nepali (Devanagari script specific to Nepali), Bengali and Assamese (Useful for Bangladesh), Sinhala (Sri Lanka), Bali, Thai, Vietnamese, Burmese (Support demonstrated), Oromo, Hebrew, Arabic and Persian.

Indian Institute of Technology, Madras this Software has already been deployed in the country through volunteer organizations who also provide the training in the use of the software.

In Indian Institute of Technology, Madras, multilingual software is available for immediate use. It is distributed free of cost to several organizations in India as well as individuals in neighbouring countries.

The important point to keep in mind is that a disabled person can interact with the computer in his/her own mother tongue as well as in English. This feature is helpful for people to learn English through the software. The disabled can be trained in the use of the software for data entry and other applications such as access the internet to communicate with others.

Training and educational material can be prepared quickly and effectively and used in e-Learning environments. What is actually available, Multilingual Editor (Windows and Linux), Speech Enhanced Multilingual Editor (Windows and Linux), Braille transcription in South Asian languages, Web access through speech enhanced Lynx, the text based web browser, Jaws for Dos adapted to work with MS Windows without external synthesizers, Tools for creating multilingual web presentations. This provides localized content distributions for ICT based projects, Data Base services on the web. Reference material, dictionaries and e-books, Tutorials on Braille, Application development tools for creating new applications (Windows and Linux), NGOs working in collaboration with Indian Institute of Technology, Madras, Vidya Vrikshah, a Chennai based organization that provides training and related services. About 300 persons have already been trained in the use of the software, Matruchhaya in Bangalore (Braille transcription), National Association for the Blind, Kerala and in Raipur. How does one get the software Downloadable from the web site, http://acharya.iitm.ac. in, the speech enhanced versions are distributed when persons are trained. At the end of the three day training program, a CD with the software is given to the participants.

Organizations may consider sending personnel for training at Chennai. In some rare cases, it may be possible for a volunteer from Vidya Vrikshah to visit the country seeking help and provide the initial training for a batch of volunteers. This may involve Government clearances at both ends. Adapting the software to specific environments. Work with students/computer professionals to modify/enhance the applications to meet regional requirements. Contact at Web Sites. IIT Madras: http:// acharya.iitm.ac.inlVidya Vrikshah: http://wwvv.vidyavrikshah.orgi

Book Review

Name of the Book	:	Access for All Training Manual to Promote Barrier Free Environment
Author	:	Ms. Anjlee Agarwal & Mr. Sanjeev Sachdeva
Special Guidance	:	Major H.P.S. Ahluwalia (former Chairman, RCI), Dr. J.P. Singh, Member Secretary, RCI
Published by	:	Rehabilitation Council of India
Pages	:	168
Year of Publication	:	2005
Reviewer	:	Dr. Sneha Singh*

Barrier free environment is a pre–requisite for realizing the full potential and mainstreaming the PWDs. The first edition of 'Access for All', is an attempt to help in creating barrier free features in all buildings serving the people with disabilities to lead independent life.

The manual addresses, approaches to the planning and designing of accessible environments not only for PWDs but also for elderly persons, pregnant women, families with young children, people with reduced mobility and ultimately the entire society.

This book is based on Training of Trainer Workshops at Bangalore and Chennai organized by Rehabilitation Council of India (RCI) in the year 2003.

The contents of the book is practicable and developed in Indian context with simple illustrations. The author has given the result oriented case studies along with photographs that prove its validity.

The authors have suggested many ways to improve accessibility, i.e., physical access to buildings or providing signage's and documents in Braille, large lettering and colour contrasts, while others such as creating the right atmosphere and overcoming attitudinal barriers are less commonly considered. The authors have tried to cover as many aspects of accessibility as possible.

* Assistant Programme Officer (Research) Rehabilitation Council of India, New Delhi.

No doubt this Manual will prove very informative and useful for architects, engineers, urban planners, public transport planners, government officials, special educators, mobility instructors, coordinators, occupational therapists, CBR workers, non-government representatives working in the area of disability rehabilitation and also the representatives of the self help organizations of PWDs .

I hope this book will prove extremely helpful in creating the barrier free environment and will ensure access for all and bring a new light into the lives of PWDs as an inclusive and right based society.

JOURNAL OF REHABILITATION COUNCIL OF INDIA (JRCI)

(Bi-annual)

Renewal New Subscription Information

Institutions (Indian)	Rs. 450 (annual)
Individuals (Indian)	Rs. 300 (annual)
Institutions (Outside India)	US $ 250 (annual)
Individuals (Outside India)	US $ 200 (annual)

The subscription charges may be paid through Demand Draft drawn in favour of Rehabilitation Council of India payable at New Delhi and sent to the Chief Editor, Journal of Rehabilitation Council of India, B-22, Qutab Institutional Area, New Delhi-110016.

RENEWAL/NEW SUBSCRIPTION FORM

Journal of Rehabilitation Council of India (JRCI)

Please enter my subscription for Journal of Rehabilitation Council of India (JRCI) for the period from _____ to _____

Revised Price

Institutions (Indian)	Rs.450 (annual)
Individuals (Indian)	Rs.300 (annual)
Institutions (outside India)	US$250 (annual)
Individual (outside India)	US$200 (annual)

Name _____

Organisation _____

_____

Address _____

City/State _____ Pin Code _____ Country _____

Phone _____ Fax _____ E-mail _____

I enclose the payment of Rs./$ _____ in favour of Rehabilitation Council of India payable at New Delhi by Demand Draft No. _____ dated _____.

Signature _____

CALL FOR PAPERS

The Council invites papers for publication in the Journal of Rehabilitation Council of India.

GUIDELINES FOR PAPER SUBMISSION

- Original and unpublished manuscripts should be submitted between 2000 and 5000 words (including an abstract of not exceeding 150 words on separate sheet of paper) along with a copy of the file on disk (in Microsoft word) or as an e-mail attachment.
- A declaration by the author(s) that the paper(s) has/have not been sent elsewhere for publication/presentation. It should be made on separate sheet with the title of the contribution, name(s) of the author(s), full postal address for correspondence and signature.
- Papers should be in English, typed double space on one side A4 paper, leave one-inch margins all around the text of your paper.
- End notes and works cited should be used instead of footnotes.
- Avoid biased language and do not underline words.
- All pages should be numbered consecutively throughout the manuscript (including the first page) in the upper right hand corner of each page, one half inch from the top.
- Abbreviated words should be written in full on the first mention followed by the abbreviation in parentheses.
- Tables and illustrations should be prepared on separate sheets with location notes at the appropriate places.
- All pages should be consecutively numbered by arabic numerals in the upper right corner.
- Copies should be clear, readable, and on paper of good quality. Authors should keep a copy in case of loss. Manuscripts should contain no handwriting
- Reference list should be at the end of the article with complete bibliographical information in the following pattern:

  For books : OLIVER, M. (1990) The Politics of Disablement (London, Macmillan)

  For articles : EDWARDS, D.S.(1997)Dismantling the Disability/Handicap Distinction, *the Journal of Medicine and Philosophy,* 22, pp. 589-606.

  For edited books : Word, L. (1988) Developing Opportunities for an Ordinary Community Life, in: D.TOWELL (Ed) An Ordinary Life in Practice (London, King Edwards Hospital Fund).

  For online document : Standes. R. (2000) Plagiarism in Colleges in the USA. Available at w.w.w. rsb2 . com/play htm [accessed 6 August 2004].

  For chapters : Wills, P. (1983) Cultural Production and Theories of reproduction, in: L Barton & S. Walker (eds.) Race Class and Education (London).

- REVIEW : Review of books, audiovisual, material and computer software will be published in each issue. Review should be 1 to 4 pages in length and should include author's name, publisher's name year of publication, number of discs and list price.
- Submissions which do not adhere to these guidelines will be returned.

COPYRIGHT: The JRCI will hold the copyright of the papers published in it.

Submission and queries should be addressed to:

The Chief Editor,

JOURNAL OF REHABILITATION COUNCIL OF INDIA (JRCI)

Rehabilitation Council of India, B-22, Qutab Institutional Area, New Delhi -110016.

Phone: 91-011-26532408, 26532384. Fax: 91-011-26534291

E-mail: rehabstd@ndc.vsnl.net.in, rehabstd@ndc.vsnl.net.in

Website: www.rehabcouncil.nic.in

CONTENTS

Printed, Published and Edited by Dr. J. P. Singh, on behalf of Rehabilitation Council of India, B-22, Qutab Institutional Area, New Delhi-110016.
Published from RCI, B-22,Qutab Institutional Area, New Delhi-110016.
Printed at Nice Printing Press, 3/B, Rashid Market Extention, Delhi-51
e-mail: kanishka_publishing@yahoo.co.in.

ISBN 81-7391-848-1

July-December 2005

Kind Attention

Attention is invited from the professionals (Registered with the RCI) with minimum of 5-10 years working in the area of Special Education and Disability, for rendering their valuable services to the Council for the following purposes:

1. Assignment related to Inspection of training institutions.
2. Assignment related to visitors at the Examination
3. Willingness to work as an examiner, paper setter, evaluator, etc., for RCI recognized diploma and certificate level courses.
4. Willing to write Manual, Study materials for RCI recognized courses.
5. Contribute to Tele-lecture services on specific topics.

Interested professionals/experts may please send their brief biodata to the Council, with their interest clearly specified.

Journal of Rehabilitation Council of India invites suggestions and comments from its readers. Outstanding suggestions will be published in the next issue of the JRCI.