# TRAINING OF TEACHER EDUCATION FROM KERALA ON INCLUSIVE EDUCATION

PROGRAMME COORDINATOR

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# TRAINING OF TEACHER EDUCATORS FROM KERALA
## ON INCLUSIVE EDUCATION
### (March 6-10, 2006)

The education of children with different needs requires special attention of the teacher educators due to the major changes happened in the education of children with special education needs as the shift is now from special education to inclusion in the regular schools. As all the major policy documents have laid emphasis on providing normal treatment to children with different education needs by ensuring equal participation in the existing schools from pre-primary to higher education. This is because inclusion is only viable solution to achieve universalisation of elementary and secondary education. Findings of various studies conducted on wastage and stagnation have indicated a sizeable population of the children in the age group of 6 to 14, get drop-out from classes due to their difficulty in reading, writing and comprehension in oral and written language due to their sensory and intellectual deficits. To bring it to the attention of all the educationists the higher rate of drop out at higher primary level may be attributed to the various physical and intellectual disabilities. It is in this context there is a need to prepare human resource to shoulder the responsibility of inclusion of these children in the existing mono, multigrade, small size and large size classes. The concept of inclusion is neither new concept nor it is against to the Indian Constitution which ensure equalisation of education opportunity without any discrimination. Hence the training in these areas needs to be done with the objectives.

- All the teachers need to be made aware of the concept and implications of inclusion for universalisation of elementary and secondary education.
- To equip all the teachers with the teaching methodologies needed to teach inclusive class.
- All the teachers need to be oriented in the philosophy of differential teaching/multi level teaching with special reference to Indian situation.
- To sensitize them on the strategies for adaptation of content and methodology for inclusive teaching.

- To make them aware of the latest trend in inclusive education for widening their horizon and to help them to develop insight into the problems faced by children with special needs in participating along with normal counterparts.

To achieve the above mentioned objectives this programme has been designed in such a way that the participants share their experiences on inclusion everyday between 12.15 to 1.15 pm through participatory method and also various resource persons invited from leading institutions to share their experiences and thoughts on inclusion in Indian context.

The material was used for their understanding on concept of inclusive education, difficulties faced in inclusion of children with physically challenged.

The exemplar developed already for inclusive education with multilevel teaching were also discussed so that they can develop needed competency in teachers teaching children with special needs in their respective areas. CD has been developed on a simulated inclusive classroom teaching. In this report there are two sections. The first section deals with concept, meaning, importance, difficulties areas to be considered for inclusive teaching and the second one deals with exemplars on inclusive teaching. The teachers are requested to give their comments for improving inclusive teaching.

The teacher educators from Department of Special Education, SCERT, DIETs and NGOs participated in this programme. The work schedule is enclosed along with list of participants and resource person for more details.

**PREMLATA SHARMA**

# CONTENTS

# INCLUSION OF CHILDREN WITH LANGUAGE DISORDERS

## INTRODUCTION

The education for all is slogan of the day which means all the children with language, sensory-motor, cognitive and other neuro muscular disorder should have access to education in the least restricted environment so that they can become integral part of the community. It is a fact that no two individuals are alike even if they are a part of the same heredity and environment which means every individual is unique, different, special in one's own educational needs and requirements. In this context all the learning situations from time immemorial remain heterogeneous in terms of functioning of abilities and disabilities of the children. The teachers, parents and community members have been putting their efforts to meet these individual differences in terms of abilities and disabilities in their own way.

Many studies have reported that the children who get enriched language feedbacks by their educated parents, grandparents and siblings are conscious of using language appropriately, have better linguistic competence and linguistic skills than those equal in intelligence who are born in socio-economic and educational status family and have been attended by less educated or illiterate (ignorant about the importance of providing appropriate linguistic feedbacks in time) - ayahs (servants), or the parents who have no time to attend to their children due to their other commitment and pressure of work, are found to be lower in their linguistic competence of high intellectual abilities on better language acquisition and linguistic competence by children [Chulliat and Oleron, (1955); Wright, (1955); Furth, (1966); Laughton, (1979); Greenberg and Kuche, (1989); Paul and Quigley (1990)].

To argue on this controversy is endless because the role of all the factors mentioned above have greater role in the development of factors and languages skills of children with abilities and disabilities. The importance of these factors become greater in the case of children with disabilities as they are deprived of sensory inputs such as hearing, vision, tactile and may be suffering from some

brain dysfunction due to developmental problems and are unable to develop language like the normal child. There are also evidences from studies that children with cognitive deficiencies and problem in cognitive processing take more time in development of language concepts.

The children's performance appears normal in most of the areas of learning except in one or two areas where the cognitive functioning has been arrested due to brain dysfunction of particular cell and they show language difficulties. The development of language retention, language enrichment in such children requires the scientific analysis of the type of errors made by these children and the planning of intervention for remediation of such problems at this initial stage. For example, remediation of speech and language problems faced by hearing impaired can be resolved better with the help of clinical linguist, speech pathologist with strong linguistic orientation.

The clinical linguists would help the language teachers in educating children with language disorders (with mild to moderate level of disabilities) and difficulties along with normal children without much expenditure. The role of clinical linguists here is not only diagnosing and correcting the language disorders and errors committed by children from all the categories, but also the role of clinical linguists is to provide support to the early language stimulators, parents, teachers and the community members so that the widening gap between the segregated groups of children with disability and the normal community can be reduced. This is in the context of those hearing impaired children using sign language have been found to face more speech problems than the hearing impaired child who has been educated with normal in IED (Sharma 1988). The use of sign language segregates the child but if he/she is helped to learn speech and language, this gap gets reduced. If the speech and language develop adequately it is easier to integrate these children.

A. The inclusion of children with hearing impairment:

Inclusion of children with hard of hearing is done with the use of hearing aid and other electronic devices without any difficulty, but they manifest lots of speech problems like deletion, substitution, distortion etc., in articulation. This can be taken care by clinical linguist.

Inclusion of hearing impaired with substantial hearing loss (severe and profound) is done with sufficient preparation, sign language and multisensory approaches are also made inclusion easier. These children face more problems in speech and language which need to be taken care by clinical linguists. The nature and degree of complexities differ here on the basis of linguistic input given to these children from the very beginning of their lives.

B. The inclusion of children with blindness:

Inclusion of children with low vision with visual acuity 20/70 is done with the use of magnifying glass, large print, adaptable furniture. These children face reading problems due to low vision. Clinical linguists can help in developing linguistic skills such as reading and writing by using contrast shape letters such as bld, b/c; m/n; mlp etc which helps them to retain better.

Blind children with visual acquity 20/200 have problems in learning vision oriented linguistic concepts like watching, looking, volume, mass, speed, distance, size, colours etc. Mass, volume, speed depend on vision sensation. Audio programmes can be

Inclusion of children with cognitive deficit:

1. Children with cognitive deficit face difficulty in learning usage of language and communication skills. They find difficulty in using complex verbal structure such as

They also use one word for many situations such as they may say for ego Very happy for amusement, there are linguistic constraints because of their limited exposure to linguistic stimuli. They have limited vocabulary and this leads to expressions unintelligible and out of context. The problem is sometimes analogy and collocation which can be taken care by a linguist who is supposed to be well versed in the nature and function of language. A linguist can help them to visualize and perceive the difference of meaning better. These children need to be supported by properly designed interventional input from the beginning to help them develop linguistic skills properly. The clinical linguist can help in designing the intervention which can make these concepts very clear to the children as the teacher may not have culture-specific linguistically designed interventional material and methodology suiting to the needs of such children which requires

additional support from clinical linguists who can analyse and plan effective language teaching material. These children also have arrested linguistic development which does not permit the usage of complicated structure, grammar rules, phrases, idioms appropriately, hence help is needed to find out their limitation according to category and plan language stimulation material for teaching the usage of language more appropriately.

D. The inclusion of children with learning disabilities:

The problem of aphasic, disgraphic and the other perceptual disorders make the child unable to read, and understand and develop language like any other normal child. This also draws the attention of clinical linguists in finding solution for the specific problems faced by aphasic, dyphasic, agraphic, dysgraphic, aphonia, dyphonia, alexia, dyslexia etc. The intervention planned and given by clinical linguists on the basis of linguistic analysis of these behaviours would help them to overcome the difficulties far better than correction exercise given without appropriate linguistic analysis by the teachers. The support of clinical linguist to understand the type of language difficulties faced by these children also help in knowing whether these problems are due to neurological disorders or due to faulty teaching or language interference. Teachers without background of linguistics may label the child facing language problems due to multilingualism or interference as language disabilities which is not very right. For example a Kannada speaking child while speaking Hindi always adds /a/ in the final position of a word ending with a consonant. It is an interference of his mother tongue on Hindi but a teacher working with this child may label him as disgraphic or dyslexic or aphonic child as the case may be. This can be properly understood and rectified by the clinical linguists. Similarly we can imagine a situation where the child is faced with usage of words which has different meaning in mother tongue than the language used in school and he remains quiet (not participating as he does not find much relevance in those sentences according to his perceptions. This child may be labeled as a child with poor understanding or no understanding (aphasic). If the help of a clinical linguist is available to understand the difficulties of these children coming from minority language groups. It is essential to have linguists analyse for knowing the nature

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and type of language problem faced by children with special needs. These problems can be rectified in the beginning itself and they can be helped to develop language skills more effectively. Hence the analysis of linguistic behaviour of children coming from diverse background is very important for devising strategies for linguistic rehabilitation. The intervention suitably designed by clinical linguists can minimize the problem of dropout, stagnation and unnecessary multiplication of linguistic disorders and difficulties, reported by various researchers.

E. The inclusion of children with neurotic behaviour:

The language problems of children with neurotic behaviours such as schizophrerics, paranoid, maniac depressive personality, introversion, extroversion, anxiety, also have specific language problems. Most of them having mild and moderate neurotic disorders study in the regular schools and have been labeled by teachers as careless, inattentive, not interested etc. The human resource can be saved from multiplying the impact of mental imbalances on their linguistic behaviours which provides them better social skills and social acceptance. The analysis of the linguistic problems of the child and early intervention by clinical linguists can help them develop proper linguistic behaviour and these children can be made socially acceptable.

In short the role of clinical linguist can be visualized in the following way:
Development of appropriate language interventional material for students, on the basis of their limitation and strength. This material can be prepared for early language stimulators, parents, teachers, speech therapists and the other paramedical professionals dealing with speech and language development.
Language material should be developed by the clinical linguist to retain the linguistic concept taught in quality and quantity and he/she should be in a position to help the teachers, parents, community to realize the importance of retention of language learnt by children with aphasia or mental retardation as they tend to forget mostly whatever has been taught to them in terms of vocabulary, sentence etc. For better retention if the linguist design teaching materials based on some pragmatic linguistic theories and the principle, it is possible to minimize thus language difficulties.

For any success of the children with linguistic problems, it is necessary to enrich their linguistic competencies. In the end role of clinical linguist is to help children with language difficulties and disorders to develop communication skills for their participation with community of normals.

In most clinical linguist role may be visualized as follows:
Developing textual material to develop receptive and expressive skills among the children coming from different language backgrounds.
Mainstreaming the children with language difficulties and disabilities.
Designing corrective linguistic exercises to overcome the linguistic difference among the children having sensory

## PROBLEMS IN INTEGRATING CHILDREN WITH HEARING IMPAIRMENT

Introduction: We know that the term "Exceptional Children" refers to those who deviate from normal children.

The modern trend in the social and academic world is towards democracy. Inherent in the philosophy of a democracy is the right of all children to develop their maximum. This philosophy has led to the organization of programmes for exceptional children.

The Kothari Commission has suggested that the education of the Sensory Handicapped children is to be organized not merely on humanitarian ground, but also on utilitarian ground, Proper education enable physically challenged children to overcome their handicap and make them acceptable and useful citizens of the society. The commission has also suggested that the primary objective of education for the sensory handicapped child should be to prepare him/her for adjusting in a socio-cultural environments. It has also pointed out that the education of the sensory handicapped children should be an unavoidable and inseparable part of the general education. Hence there is a need for different education measures to ensure for these children to grow to their maximum levels.

The two concepts of education are, therefore conveniently referred as "Special Education and Integrated Education". Special education may be defined as the educational service, over & above the regular school programme, which is provided for an exceptional child to assist in the development of his / her potentialities and for in removing compensating his disabilities. Special education system is a education system which provide modified suitable teaching and learning strategies suiting to the needs of hearing impaired.

According to 'Tensely and Guilford' Special Education means "Pupils who by reason of limited ability or other conditions resulting in educational retardation, require some adapted form of education, wholly or partly in substitution for the education normally given in ordinary schools."

By educating children through special education it is required to make education truly child centered so that all that is aimed at and all that is attempted derives from the child's own capacities and needs. The educational organization should remain flexible to the needs of the children.

If we fail to facilitate special arrangement for them who need special education, their potentialities will remain undeveloped, which will result in great wastage of human resources. For inclusion there is need to adapt curriculum offered to normal children in terms of modification in teaching and learning processes and special education given in exclusive set up is based on the following principles. It offers a different treatment. It shows specific way to their problems. It gives insight to teachers and parents in specific problems. It makes the teacher feel they are different from normal. It develops that hearing impaired is different class of learners concept. It helps them to select the careers of their choice available in segregated settings only.

The other concept of Intearated Education:
Education is essentially for all, upto a given level, all children, irrespective of caste creed, location, or sex, have access to education of a comparable quality. The NPE(1986) emphasizes to provide for equal opportunity to all not only in

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access but also in the conditions for success. Hence to remove disparities and to equalize educational opportunities, NPE has made a number of recommendations.

Special schools for exceptional children are an old notion, started in the second half of the 18th century. But in modern society where psychology has entered ~n the arena of education, segregating certain number of the students from the rest is now thought as psychologically, socially, educationally & economically unsound.

According to Cruick Shank "Education for exceptional child is a part of total education". In his words separate special classes should be discouraged as much as possible. This arrangement should be accepted as the last resort.

It is for the first time that education of the disabled has been recognized as human resource development action. The programme of Action for implementation of NPE, 1986 envisages education of a sizeable number of the disabled in common with other children. The centrally sponsored scheme of 'Integrated Education for the Disable Children' (IEDC) is geared to realize this objective. It has been introduced before three decades. Voluntary organizations are taking leading role for its successful implementation. The recent trend is not to place a sensory handicapped child in a special school but to place him/her in inclusive set ups. The term 'inclusive' signifies the process of interaction of sensory handicapped children and normal children in same educational setting and providing same learning experience. But 'Integrated Education' is defined as an educational programme in which exceptional children attend classes with normal; children on either a part or full-time basis. Such strategy is always thought as social integration or academic integration or both.

In other words integrated education is the placement of the disabled children in ordinary schools with some specialized educational help and services.

Importance of Integrated Education:

Integrated education is an educational programme in which disabled receive education along with the normal children.

Education for disabled is a part of total education.

Integrated education is relatively a recent development of special education.

Integrated education provides general education with some special provisions.

It socializes a child as a disabled participant with normal children in academic and non-academic lines.

Mild disabled children's all round development becomes possible only in integrated settings,

Integrated education is based on the principles of psychology as it leads to normal growth of both types of groups.

It is based on the philosophy of equality.

It is less expensive as providing special schools would lead to lots of expenditure and unsound psychological developments.

It facilitates interaction and among these children maintains principle of equality.

It brings academic integration and participation of all together.                                    "

It is a fact that a child with hearing impairment can be educated in the regular class. The curriculum should be the same. But the hearing impaired child receives the information predominantly from vision and touch. Hence there is no need of special curriculum but approach of teaching should be multi-sensory and multi level as given later in exemplas.

Technology has come up in a big way to help the partially hearing students and children with substantial hearing loss that without getting affected by noise ratio hearing aids etc. can be used for their education.

Problems in integrating children with hearing impairment with the normal:

The hearing impaired have faced more problems in language than the normal children. They find difficulty in developing abstract concepts and emotional concepts. Their inability to use auditory channel. They can no~ participate most of the time through oral language.

It is not possible to cope up with the speed of normal children while reading and writing. Since children with hearing impairment channalize the information through vision. They get the information through speech reading.

Trained teachers are very less in number working in the normal schools. When

teachers are not aware about speech reading and singing in Indian context they are not able for facilitating and supplementing to the problems faced by them in regular class.

Lack of resources in terms of resource rooms and technical support services.

Lack of technological devices for teaching in inclusive setups.

Poor knowledge of skill in teaching, handling these devices used for hearing impaired, in normal schools and teachers generally report that they don't find enough time to workout the remedial teaching programmes which may help the children with special educational needs.

Lack of funds to improve the infrastructure of the inclusive schools particularly in remote areas. Lack of co-operation and co-ordination between teachers of the technical teacher / professionals working for content teaching for HI in inclusive setups. Based on diagram details on the coordination needed for teachers teaching normal children in inclusive set up.
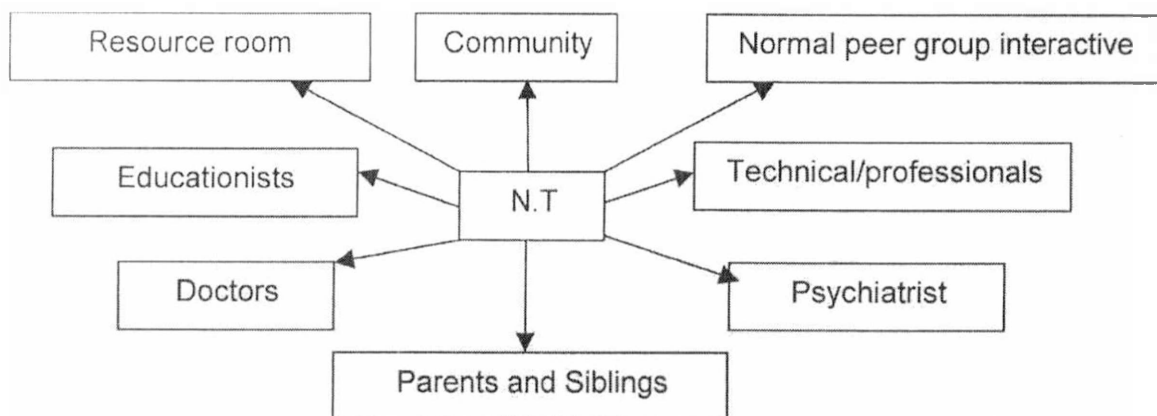


N.T: Normal School Teacher.

Lack of availability of adapted instructional materials needed to teach HI in inclusive setups.

Lack of co-ordination between different content teacher for giving best possible education to the children with the consultancy of technical teachers / professional.

**Principles involved in modification of the inclusive curriculum.**

The guidelines mentioned will help the regular teacher in adapting the instructional material for hearing impaired children in inclusive set ups.

- More visual and tactile aids should be given to compensate for hearing deficits.

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- More visual cues should be provided while simplifying the concept in class.
- Three dimensional teaching and learning aids should be provided to the children to provide a whole experience of the concept.
- The management class should be such that it allows the child to manipulate the learning aids provided.
- Essential attributes of the concepts should be determined in the light of the child's limitations.
- Compensatory aids like hearing aids, group hearing and auditory sensitization skills, signing finger spelling etc. should developed in teaching staff.
- A multisensory approach should be used to provide complete learning experience to the child.
- The adaptation of the instructional materials should be in terms of visual instruction providing additional supportive teaching and learning aids.
- The teacher should use visual explanation based on simplifications of more verbal construction so that the majority of learners do not loose interest. Likewise, the use of additional and supportive material should not disturb the other children in the class. For example total approach should be followed instead sign language.
- The teacher should take help of resource teacher preparation of additional and supportive material, for teaching difficult concepts reading visual inputs.

# INCLUSION OF CHILDREN WITH SPECIAL NEEDS

Effective teaching involves presenting material in a rational and orderly fashion, pacing the class to the students' level and taking into account individual differences, providing students with opportunities to practice and apply what they have learned, letting students know what is expected of them and monitoring and evaluating students performance in such a way that students can learn from their own mistakes.

In inclusive education, the curriculum offered to normal and children with special educational needs is same as the main purpose of inclusive education is to provide equal access to education. In order to ensure access to education of a comparable standard, the minimum level of learning (ELL) has been emerged in education as stated in National Curriculum Framework for School Education (2005). An effort to combine quality with equity, keeping in view, the developmental needs of learners from all the sections of society inclusion of children with special education needs have been recommended by Jomtien Conference on Education for All, 1990; Salamance Conference in Spain, 1994, the person with disabilities [equal opportunities, protection to rights and full participation] Act, 1995 and World Education Forum at Dakar 2002. the Mission of Sarve Shiksha Abhiyan has made it mandatory so that all the children in the age group of 6-14 in normal and 6-18 years children with special needs are enrolled, retained and helped to achieve minimum levels of learning by 2010. The National Curriculum Framework (2005) strongly believes in inclusive education with equal participation.

In spite of enormous efforts made by national and international agencies to achieve the targets of universalisation of elementary education remain unfulfilled. Various steps have been taken by national and international agencies to reduce the gap between literacy rates among advantaged and disadvantaged groups. The available survey data on universal enrollment and retention are very encouraging. Yet the literacy rates have been achieved upto 75.85% percentage for males and 54.16% for females. The disparities in enrollment, retention and

achievement, there is need to re-plan and implement integrated-education for children with different needs.

40 million persons with disabilities are there in our country out of this 20 million children are in the age group of 6-14 years. The review of facilities available in the country in terms of special schools and resource room teaching are meager can not reach to 20 million children to establish special schools to meet with the needs of 20 million is not only expensive but also psychologically unsound way of educating.

All the education commissions and committees have suggested for integrated education for children with special needs not only on humanitarian ground but also on grounds of utility. These children should be treated as integral part of the community. The Disability Act (1995) has made it mandatory that "These children should be given equal access to free education in most appropriate environment till they attain the age of 18 years.

Inclusion is the result of change in attitude with the result of change in performance of children with special needs are education along with normal children and they have shown significant improvement in their academic performance in inclusive educational setting in comparison to exclusive educational settings. A number of educators and parents who deal with these children in segregated education have some difficulty in understanding why inclusion is beneficial and how the individual needs of these students are met in inclusive education. It is incumbent upon those of us supporting this shift to inclusive education to demonstrate to teachers and parents that not only can students with diverse educational needs learn together but that specific needs are met. By educating, these children as it has increased from 19.2 million to 108.7 million in 1996-7. The enrolment of children with special educational needs has increased in integrated set ups. More children with orthopeadically handicapped and visual impairment are educated in inclusive setting. The success of integration depends upon how best the children with different needs have been helped to develop writing skills. Writing skill is highly complex

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process, which includes linguistic, paraxic, space constructional, visual and motor components. The writing skill is highly complex process, which includes linguistic, paraxic, space constructional, visual and motor components, The writing skill takes place in a particular sharply defined space along with conventions relating to the shape of the letter and directions to be used. The child's movements for teaching writing skill should start developing use of pressure of fingers wrist and arm for proper control over movements. The elementary motor conditions are achieved around the age of 6 but at minimum but the skilled handling of the writing tools anatomic and psychological maturation are very important, as good writing skills are essential for any good student to succeed. Developing writing skills among children with special needs require understanding of the limitation of each disability. For example children with substantial hearing loss they have no problem in developing size, shape of the letters but while writing they omit letters or they add letters. The coordination of phonemes and graphisms are not proper. To be successful at writing an individual must be able to write legibly, spell correctly construct sentences and paragraphs and have knowledge of words usage. Friedland (1990) report children begin to communicate usually through their drawings. For developing writing motor control of arm and hand is required the physical and mental maturity is needed to have learning writing skills efficiently. The expressive competence provides information crucial to understanding success in receiving and coding the read world. If the read word is not perceived and learnt, the child tends to write the way he perceives and speak. It is an acquired accomplishment. The writing skill learning also get refined in normal students by the content in which it takes place, the graphic figuration and the rules of spelling governing, transcription of the language writing and after attaining certain level of motor control. The deaf child like normal child develops all these components needed to learn writing but due to distorted learning inputs his/her writing skills tend to get affected. Writing is not only an orthographic symbolization of speech it is much more that it is a purposeful selection and organization of experiences.

The 38 hearing impaired children studying in 7<sup>th</sup> standard in special and IED schools of Mysore city were found to face the following writing difficulties.

1. Spelling Errors: In hearing-impaired students commit spelling errors while writing. These errors include confusion of short [hrasva] and long [dirga]; aspirated [alppran] and unaspirated [maha-pran] letters and in some places replacement of one letter with another due to their similarity of shape. For example:

ghatane – gatane
garaha – gharaha
padara – phadara
hasu - asu
dasara - dhasara

In using hrasva and dirgha they usually replace dirga with hrasva:
Haavu 'snake' - havu
Kaiciila 'hand bag' - kacila

The hearing-impaired had difficulties in writing consonant clusters. They did not use the double consonant in the required places or they use it where it is not required. For example:
orgatu – orggattu
ikala - ikkala

They added vowel to each of the consonants in a cluster whereas they were supposed to add a vowel only to the last consonant of the cluster.

For example:
Dharma – dharamma
Karma - karama
Yatna - yatana

There was misplacement of the consonants symbols. For example:
Dharma – dharmra
Kharchu - khachru

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Difficulty in using anuwara (nalsal sounds). The common difficulties arise from an omission or an addition of the anuswara. For example:

Indhana - idana
Kodu – kondu
Vanya – vannya
Manga – maga
Nadi - nandi
Kanda - kada

2. Sentence Construction: The hearing-impaired children faced problem in writing even simple sentences. What to talk of compound and complex sentences. They could not properly use subject, object and verb in the sentences. They used inappropriate punctuation marker, hardly distinguish phrasal or clausal pause. They wrote incomplete sentences by omitting letters or some constituent of a sentence.

3. Grammatical Errors: They committed grammatical errors. They did not use gender, tense, number and adjectives properly.

Besides investigator also quantified the mistakes done by hearing-impaired in construction of sentences. The 56.62% of hearing-impaired from integrated education had difficulties in writing sentences and 62.8% from special schools. The hearing-object and verb (SOV) structure in single sentences and instead of writing this way they also change the pattern (SVO) they could not make use of adjectives while constructing sentences. Strings of nouns are commonly seen ending abruptly in a verb or string of verbs. Due to absence of the proper usage of punctuation marker sentences were marked using subjective judgment by the examiner. In doing this many sentences were found to have no verb [and were deranged incomplete].

The hearing-impaired from special schools and IED schools faced problem in tense, gender, number and syntactic markers in percentage.

|  | Special Schools | IED Schools |
|---|---|---|
| Tense | 58% | 53.33% |
| Gender | 47.5% | 45.3% |
| Number | 53.5% | 48.5% |
| Syntactic Marker | 65% | 59.2% |

These problems were faced by special school children more than the IED schools. The integrated education setting found to be more favourable in learning usage of grammatical rules. Even on spelling errors hearing-impaired from special schools faced 69.017% problems whereas 61.50% problems in spelling were observed with hearing impaired studying in IED. In usage of punctuation hearingimpaired from IED were better than the hearing impaired from special schools as 68.50% were from special schools and 60% from IED schools.

Hence inclusion of hearing-impaired needs to develop writing skills properly among them otherwise they would face more problems in expressing themselves.

PHONOLOGICAL DEVELOPMENT OF HARD OF HEARING: A STUDY WITH REFERENCE TO KANNADA MOTHER TONGUE

It was the common belief that hard of hearing children have weak perception and they can never develop normal speech till they hear exactly in the same way as the normal hearing children hear. There are evidences to contradict this view and it is found that hard of hearing children could develop the language like normal children. Now it has been established that deaf or hard of hearing children do not have any total disability of learning language but they may have only delayed or retarded speech acquisition. In such cases their residual hearing with other sensory cues have to be exploited for developing their language. In such cases as having severe hearing loss speech can be developed only with

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effective teaching and therapy. It may also be pointed out here that not only auditory but the other senses such as visual, tactile and kinesthetic are also very important for any kind of learning of an experience. The language is also an experience, which is the result of these multisensory integration.

There is an agreement among the psychologists and psycholinguists that babbling is the basis of the speech development in the normal child and babbling starts even in the deaf or hard of hearing also but dies soon because of the lack of auditory feed-back. In a normal child there is auditory return of his own speech as he hears himself talk and this makes him to bring his I her speech closer to the adult speech. Due to this lack or distorted auditory feed-backs, the hard of hearing children don't get as much perfection in their speech as the normal children, but still language development in such children is of great significance for the language theory as it will show how far these handicaps are deprived of language input. This will answer the crucial question - the way auditory information is processed by the brain. Also it justifies that we should no longer believe that a deaf child's brain is less competent in language acquisition than a normal hearing child. It is only that the deaf child is being deprived of auditory input.

When fitted with hearing aid, sounds which were inaudible formerly will be amplified and will enable the hard of hearing child to acquire speech. At what age one comes into contact with speech in his environment and also factors in language acquisition. The normal hearing child is more exposed to language than the deaf, and we find that language acquisition in the deaf is mostly by the way of visual cues than by auditory input.

One thing should be certain that there is no typical case of hearing problem. Each case is unique differing physically, psychologically and socially. This implies that the audiogram which depicts the hearing handicap of an individual cannot always be used in assessing his total handicap for language acquisition.

Language as a whole constitutes the production and interpretation of speech. Speech relates vocal sounds and meaning through various levels such

as phonological, syntactic and semantic. Phonology is significant as it gives the structure of speech sounds and their relation in words, and this aims to have perfection in pronunciation, failing which causes social penalty and faulty communication. Phonemes which are the units of phonology are often distorted and not stabilized in hard of hearing and thus form a modified language which may also reflect some system, Le., at phonological level it is just not a random collection of phonemes, and that each one's individual performance is the expression of their deviation from the normal system in the development of the phonological system. Hall~ et availability (1963) have pointed out "there is a little regularity from child to child in the order of emergence of specific functional phonemic units". So just like in normals, there has to be differences in the phonemic development among hard of hearing also. So far we do not know much deviation exists among the hard of hearing patients, and this paper is an attempt made in this direction. D.B. Fry's (1966) investigation in this have failed to develop the phonological system is simply that they have not been exposed to enough speech". Some studies also point out that there is a relationship between articulatory difficulties and hearing loss.

The present study shows that the phonological system developed in the cases observed mark a great deviation from the normal hearing child. This study confirms the view that the phonological development varies in individual cases. This study also attempts at finding out the difficulty includes the study of errors committed by the hard of hearing so that appropriate steps may be taken to train them in a better way for their speech development. Also this study will determine the difficult phonemes occurring in the language acquisition for the hard of hearing. The same pattern of phonemic difficulty must be occurring in the initial stages of speech acquisition in a normal child will also be studied. Besides this study will bring into light the effect of therapy on their articulatory development as when they were admitted to the therapy they could hardly discriminate and pronounce any sound. So special language training should be given to them for speech production which a normal hearing child acquires it in the same manner as he acquires walking and other habits.

Out of several cases, two cases both males in the age group of 15+ have been taken who have been classified at the All India Institute of Speech and

Hearing, Mysore, as Hard of hearing with speech defects but who are otherwise well from neuro-psychiatric point of view and having normal intelligence. Both of them have severe hearing loss ranging from 60 to 75 dB loss (their audiogram reports). 'Kirk' classifies such cases as "educationally deaf" meaning that these children when fitted with hearing aids and given special instructions will be benefited from training. Thus, these cases are almost deaf but have been considered hard of hearing because they are using hearing aids in both the ears and have been getting therapy in the AIISH. One case has this as hereditary disease but lost hearing at the age of 3 due to high fever. This case has 60 dB loss in left and 70 dB loss in the right ear. And this case started wearing hearing aid at the age of 8 years. The other case has about 75 dB hearing loss with bilateral sensory neurological loss. This loss is since birth. He joined AIISH, Mysore, at the age of 11. both these cases have been attending speech therapy for more than 5 years. Both these cases can write and read Kannada and come from Kannada mother tongue environment. Two cases were selected as to confirm if articulatory pattern is common among them or does individual difference occur in their pattern?

Procedure:

A test consisting of words was given to them in which all the segmental phonemes of Kannada were occurring in various positions. Data were collected through reading as they know to read as the language has been taught to them. Their responses for each word were taken.

Phonological Development:

First, we shall describe the shared features of both the cases. In both the cases there is distortion, substitution and inconsistency of phonemes. Besides the different kinds of substitutions, inconsistencies and distortion of phonemes, there are many features of phonological system in them which may be given below:

In both the cases ten vowels -II, I: e, e: a, a:, 0, 0:, u, u:1 and these consonants Ip, t, T, c, k, m, n, v, yl were well stabilized.

Substitution of Voiced Stops:

In both the cases voiced stops were substituted by their corresponding voiceless stops in all the positions. Such as b>p, d>t, D>T, j>c and g>k. A few examples are:

| /b/>/p/ | buguri | > | pugurilpukri | 'top' |
| | bassu | > | passu/paccu | 'bus' |
| | be:Le | > | pe: De/pe: Le | 'pulse' |
| | ba:vuTa | > | pa:vaTu/pa:vuTa | 'flag' |
| | u:du batti | > | u:duputti/u:pate | 'incense' |

/d/>/U doNNe  ⸚  tone 'stitch'

do:Ni > to:Nilto:li  'boat'

o:du  > o:tu  'read'

kudure  ⸚  kuture horse'

aydu >  aytu 'five'

/D/>/T/  Dabbi >  Tappi  'small  tin'

Da:kTar  ⸚  Ta:kaTar 'doctor'

Vo:du >  vo:Tu  'run'

/j/>/c/ jinke >  canke/cike  'deer'

raja >  raca 'holiday'

su:ji >  cu:ci 'needle'

ajja >  acca 'grandfather'

/g/>/k/  ga:ya >  ka:ya  'wound'

giNi  >  kiNi 'parrot'

I:ga  >  I:ka  'now'

Bi:ga  >  bi:ka 'lock'

In both the cases sibilants are merged and substituted by voiceless affricate.

/s/  /s/  /s/  ⸚  /c/

Examples:

Su:ji >  cu:ci  'needle'

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| Sigare:Tu | > | cikare:Tu/cikaru | 'cigarette' |
|---|---|---|---|
| Soppu> | coppu/commu | | 'greens' |
| Simha> | cimha/cimma'iion' | | |
| Bi:saNige | > | pi:ccaDige/pi:cake | 'fan' |
| Musukina | > | pucukina 'covered' | |
| Ana:nas | > | ana:nac 'pineapple' | |
| Sose > | coce 'daughter-in-law' | | |
| Ksama | > kacama 'forgive' | | |

4. In both the cases retroflex nasal INI and retroflex lateral IU do not occur geminated and usually their dental counterparts occur as geminated. Besides Ip, t, T, c, k, m, n, yl can occur geminated in the speech of both.

Examples:

| KaNNu | > | kannu/kaNDu/kannu | 'eye' |
|---|---|---|---|
| KaLLa> | kalla/kayya | | 'thief' |
| Soppu> | coppu | 'greens' | |
| Dabbi > | Tappi | 'small tin' | |
| Hattu > | hattu/attu | | 'ten' |
| ToTTilu | > | toTTiNu/toTTilu | 'cradle' |
| Uyya:le | > | uyya:Necessary/uyya:le | 'swing' |
| Akka > | akka | 'elder sister' | |
| Amma> | amma | 'mother' | |
| Pennu> | pennu | 'pen' | |

In both the cases there is simplification of consonant clusters in the initial and medial position, but both of the cases differ mostly in the modification of clusters.

*Individual
Differences:

(1) Case 'A' can produce long words with four or more syllables but Case 'B" cannot produce any word having more than three syllables. In case of four syllable words, case 'B' drops the last syllable and reduce it to three syllabic words or distorts it.

Examples:

| KumbaL-ka:yi | > | kuppaN_ka:yi | 'pumpkin' |
| | KuppaL-ka:yi/ | | |
| | Kuma:yi | | |
| Sigare:Tu | > | cikare:Tu/ | |
| | Cikaru | | |
| U:dubatti | > | u:dupatti/ | |
| | U:patte | 'incense' | |

*examples on the left of the / marks the performance of Case A and on its right marks the performance of Case B.

2. Case 'A; has /h/ phoneme, whereas this one is dropped in case 'B' speech or is misarticulated.

Examples:

Hattu >    hattu/attu    'ten'

Ho:gu >    ho:ku/o:ku    'go'

Simha>    cimha/cimma 'iion'

3. Case 'A' has inconsistently voiced stops in the intervocalic position besides the substitution of voiced by voiceless, whereas Case 'B' does not have voiced stops at all in his speech.

Examples:

| Burguri | > | puguri/pukuril | 'top' |
| | | Pukuri | |
| Mu:gu | > | mu:kul mu:gu/mu:ku | 'nose' |
| eraDu | > | eraDu/eraTu 'two' | |
| u:dubatti | > | u:duputti/u:patte | 'incense' |

4. There are various types of inconsistencies found in both the cases. In case 'A's speech, retroflex lateral /L/ does not occur at all and is substituted by /N/, /D/ or /r/ and whereas in Case 'B's speech there is retroflex lateral but still it is inconsistently substituted by /N/, /D/ and /y/.

Examples:

|  |  |  |  |
|---|---|---|---|
| Ko:Li > | ko: | Ni | 'fowl' |
| I:ruLLi > | I:rani/I:ruye | | 'onion' |
| Ye:Lu > | ye:ru/ye:Nu | ye:Lu | 'seven' |
| Bi:Lu > | pi:Nu/mi:Nu | | 'fall' |
| BeLe > | pere/pere 'crop' | | |

Besides in Case B there is also found the inconsistency of /D/ and /L/ as in some instances this case substitutes /L/ in place of /D/ in addition to /T/ in the intervocalic position.

Examples:

Ku:Ou>      ku:Lu ku:Tu 'add' (Imp)

Both the cases have the inconsistency for the phoneme, dental lateral /l/, as it does not occur in the speech of Case 'a' and is substituted by /N/ or /n/ and in case 'B' /l/ occurs but is inconsistent with /n/ in the intervocalic position.

Examples:

|  |  |  |  |
|---|---|---|---|
| ili | > | iNi/ili~ini | 'rat' |
| O:le | > | o:necessary/O: le~o:necessary | 'letter' |
| Uyya:le | > | uyya:necessary/uyya:le | 'swing' |
| ToTTilu | > | toTTiNu/tottilu | 'cradle' |
| Navilu > | navinu/navinu | | 'pea-cock' |

6. There is found inconsistency of nasals and the corresponding stops in both the cases but there is a difference, i.e., Case 'A' mostly, substitutes stops for nasals whereas Case 'B' substitutes nasals for the stops. In case 'A' such inconsistency occurs in the words more than two syllables.

Case 'A'    /m/ > /p/

| MosaLe | > | pusaDe | 'crocodile' |
| Musukina | > | pucukina | 'of the Veil' |
| Da:Limbe | > | ta:Dipu | 'pomegranate' |

/N/>/D/

| bacaNige | > | pacaDige | "comb" |

Case 'B'

/b/ is substituted by /m/ in the word initial position, instead of /p/ which occurs often in other positions. And in some instances /m/ is substituted for /p/ in the intervocalic position inconsistently.

<u>Examples</u>:

Bi:Lu >mi:Nu      'fall'
Soppu>    Commu~coppu    'greens'

7. Case 'A' and Case 'B' substitute /c/ for /s s S/ except that in Case 'B' there is inconsistency with /t/, but Case 'A' can produce /s/ inconsistent with /c/ in the intervocalic position and this can also occur as geminated in his speech.

<u>Examples</u>:

| Bassu > | passu 'bus' | |
| BraSSu | > parassu | 'brush' |
| Su:ji > | cu:ci/tu:ci~cu:ci | 'needle' |
| Si:re > | ci:re/their:re~ci:re | 'sari' |

Besides, Case 'A' shows inconsistency of /c/ and /t/
<u>Examples</u>:

Jinke >    Tike~cike    'deer'

8. Case 'A' can produce /h/ phoneme in some environments whereas it does not exist in Case B's speech and this is either substituted by /k/ in some initial

environments otherwise dropped. In Case 'B' it also causes germination when follows another consonant in the intervocalic position.

Examples:

> HaNa >     haNa/kaNa 'money'
>
> Ho:gu  >   ho:ku/o:ku  'go'
>
> Simha  >   cimha/cimma 'lion'
>
> Teliphon ⪼ telipon/telipon          'telephone'

10. In Case 'A' /r/ phoneme exists throughout in his speech, but in Case 'B' it is dropped initially when followed by /u/ and medially when preceded and followed by /u/ vowels.

Examples:

> Rupa:yi    >     rupa:yilupa:yi'rupee'
>
> Ruci   >   ruci/uci 'flavour'
>
> Uguru >    ukuru/u:u    'nail'
>
> Mu:ru >    mu:ru-pu:ru/mu:ru 'three'

10. Both the cases simplify the clusters of consonants in the initial and medial position. Case 'A' simplifies the cluster with the insertion of a vowel /a/ or /i/ depending on the following vowels whereas Case 'B' mostly simplifies the clusters by dropping the first or second member whatever is more difficult for him or by insertion of /a/.

Examples:

Initial Clusters:- Case 'A' inserts /i/ if the following vowel is front vowel otherwise /a/. Case 'B' drops one consonant which is non-stop and also inserts /a/ vowel in some instances.

> Ble:Du     > pineTu~pile:Du/     'blade'
>
>            Pale:Tu
>
> Kle:sa >   kile:sa/kale:ka    'distress'
>
> Ksama      >   kacama/kacama       'forgive'
>
> Krama>     karama/kama     'order'

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STa:mpu　　ᵍ　caTa:pu/Ta:pu　'stamp'

Medial Clusters:- Case 'A' is able to produce some clusters of two consonants such as in which one member is /r/ or some nasals followed by homorganic stops and /y/ with some stops. In this position Case 'A' simplifies most of the clusters by the insertion of /a/ vowel and a few by dropping one consonant and in case homorganic nasal is dropped then the preceding vowel gets lengthened. In some instances the clusters are simplified by insertion of the vowel as well as metathesising. On the contrary, in Case 'B' one of the consonant is dropped which is difficult for him. He drops stops if there is the cluster of a nasal and a stop.

Ta:mra　　　>　　ta:pra/ta:ma　'copper'

Kurci　>　kurci/kuci　　'chair'

Cakra >　cakra/caka　'circle'

Rakta >　rakata ~ rakita　　'blood'
　　　　　Raka~rata

Candra　　>　candara/canara　'moon'

Ayvattu　>　ayavattu/ayattu　'fifty'

Pensil >　pilasan　　'pencil'

Na:lku >　na:laku/na:ku 'four'

Linga　>　li:ka/lika　　'gender'

Raylu >　rayanu/rayyu 'train'

ENTu >　eNTu/eNu　　'eight'

ONTi >　oNTi/oNi　o:Their　'alone'

Su:rya >　su:ra/ru:ya　'sun'

Ungura　　>　u:guru/ukura 'finger-ring'

Jinke >　ci:Kerala ~ their:Kerala/cika　　　'deer'

Aydu >　aytu/aytu　　'five'

11. There is found metathesis of vowels and consonants in both the cases but in different instances that marks the unstability of phonemic arrangement among them. Such distortion occurs in the words constituted of three or more syllables.

Metathesis of Consonants:

    KiTaki >    kiTaki/kikaTi 'window'

    Gulabi>    kulapi / kupa:li    'rose'

Metathesis of Vowels:

    Ba:vuTa    >    pa:vaTu/ba:vaTu  'flag'

    Sigare:Tu    >    cike:ra Tu/cikaru   'cigarette'

12. In both the cases there is found assimilation in some cases such as consonant or vowel affecting its immediate environment.

Examples of Consonants:

| Simha> | | cimha/cimma'iion' | |
|---|---|---|---|
| BaLgilu | > | pa:gilu/pa:lilu | 'door' |
| Manca | > | macca/macca | 'cot' |
| U:dubatti | > | u:duputti/u:patti | 'incense' |

13. Besides in Case 'B' there is found a short of sporadic nasalization with the word final back vowel /u/ to his faulty release.

    Ka:ru >    ka:ru 'car' etc.

So far I have discussed the similarities and dissimilarities of phonological achievement of the two cases studied. From analysis, it is very difficult to point out whose development is more because both have the deviations from the standard norms. One thing is sure that Case 'A' has improved more than Case 'B' as the latter has the limit of three syllabic words and in his speech, sibilant /s/, fricative /h/ and voiced stops cannot occur at all which occurs in some positions from the study that in their phonological development there is distortion, substitution, omission hardly any problem because the vowels belong to lower frequencies as compared to consonants. As found from this analysis, Case 'B' who has sensory-neural loss does not use voiced stops and fricative in his speech, subscribes to the hypothesis of 'kirk' who has pointed out "in a sensory-neural loss there may be omissions and distortions of sounds in the high frequency range (such as the fricative), omissions and indistinctness of word endings, and poor discrimination of voiced and voiceless

sounds". By our study general immaturity of the language is confirmed in the hard of hearing and their pronunciation habits are weaker than their language cognition. The hard of hearing cases know the language they read but this deviates them from the normal children who read the language they know. If we apply Houston's Articulatory Test for children stating the gradation of articulation on these cases then their phonological development is about 3 years in one and slightly more in another. As according to Houston's test the children can produce fricatives only after the age of three only. It has been noted that their speech deviates from the normal speech just, like the child's speech deviates from that of an adult's speech in a systematic way which makes one believe that the deviations are created due to the partial acquisition of the language.

The findings of this present study can be applied and made use of in speech therapy. Lessons' plans for speech therapy could be based appropriately when we have already evaluated the number of phonemes that this hard of hearing child can produce. Also a list of the type of misarticulations that these children make will enable the therapist to plan lessons accordingly depending on which phoneme occurs when in the process of speech acquisition.

Finally, this paper supports the findings of many other investigations, that the hard of hearing children, as was earlier believed, do not lack the competency for language acquisition. They do have the competencies just like normals, but it is only due to the lack of auditory input that the deaf child lacks adequate language appropriate to their age.

Some of the errors may be because of the discrepancies existing between spoken language and the written or printed symbols and the hard of hearing who sometimes depend on lip reading also has difficulty in knowing the pronunciation of words with non-phonetic spellings.

# READING IMPAIRED IN AN INCLUSIVE SET UP

Current research into the processes of reading view it as a predominantly language based phenomena. This includes a requirement of metalinguistic awareness (awareness of discrete phonological units of one's language) and utilization of structural knowledge of spoken language for the purpose of grapheme to phoneme conversion (i.e. reading process). Now it is no more considered that reading impairment can arise because of visual or auditory deficits. Current methods of identifying dyslexics and assessing their specific reading related deficits have undergone a lot of changes. Now the focus in on the language structure, its phonology and design of the grapheme that can influence reading process. In the last decade a lot of cross-linguistic data on various forms of reading impairment suggest that irrespective of orthographic design or language structure reading impairment is a major casualty in literacy acquisition among school going children. Researchers estimate that 6 to 8 % of schools going children are identified as reading impaired with other associated problems. Again strict differentiation exists between a poor reader and a reading impaired child. It has been shown that poor readers with behavior and attention problems are more likely to be identified as reading or learning impaired then readers without associated behavioral and attention problems. In India research into reading impairment among the school going children have been done in

some languages like Oriya, Hindi, and Kannada. These researches show that like other European languages, we also find reading impaired children at various age groups in our schools. Yet many of these children remain unidentified because of a lack of language specific testing material and reading norms.

## Identification of reading impaired children

Phase by phase identification of dyslexics

(I)     Poor readers are identified and information is gathered from on vision, hearing, teacher's reports, and formal assessments.

(II)    All poor readers are provided with remedial reading service in order to rule out any environmental or instructional deficits

(III)   Those students who continue to have reading problems after the completion of remedial services be diagnosed as dyslexics.

Following exclusionary criteria are followed for a preliminary identification of dyslexics

1-  IQ, generally the nonverbal IQ (RCPM) should be above then the mean of a group under study.

2-  The child must come from a well to do socio- economic family.

3-  Should have no neurological, behavioral, emotional problems.

4-  Should have had adequate literacy instruction prior to the study.

5-  There should be no family history of any mental or speech, language disability.

So the above criteria suggest that we are trying to identify the presence of reading impairment in a child who has no other associated problems. Again this view has faced severe criticisms in the past.

## Assessment tests used

Assessment battery may be designed to test both reading and comprehension. To test the ability of grapheme to phoneme conversion a battery of tasks that tap the awareness of phonology may be designed. Some of these tests have been adopted in Indian languages and available from Central Institute of Indian Languages, Mysore.

## A) Phonological Awareness

### 1-Phoneme deletion:

Here a word is auditorily given to the subject and he is asked to delete a sound (Consonant or Vowel sound) and say the rest.

e.g. kamala( k)- amala

priya (r) - piya

### 2- Syllable deletion

Hre a word (mono syllabic or multisyllabic) is again auditorily given and the subject is asked to delete a syllable and tell the rest.

e.g. jivana (ji)- vana

### 3- Syllable reversal

Here the subject is auditorily given a word ( one or more syllable) and then asked to reverse the order of syllables.

e.g. kamala- lamaka

siva-vasi

But it should be noted that the syllable structure division rules of the language concerned are followed.

4- **Homophone matching task**

Here there are tree words, out of which two sound alike. The third one does not. These are auditorily given to the child one by one, taking pause in between. The child is asked to tell the word that sounds similar.

E.g. sama, jama, pita

### 6- Rime recognition

Here the child is auditorily given two words , that either rime or do not. The child has to identify the same.

e.g. kina-mina(R)

There can be many different types of tests to tap the phonological awareness of the child. But sufficient attention should be given to the types of stimulus used for each test. As each test tests a particular underlying phonological knowledge. And children use different strategies to perform on these tasks. Our research conducted at Central Institute of Indian Languages (Sharma, J.C., Mishra, R.K. and Raju, S.N. 2002) shows that children do not perform equally on all these tasks. And there are significant individual variations.

### B) Reading tests

#### 1- Word reading

A list of graded words can be made for seeing the reading performance. These words should be selected from the class textbook to follow norms.

### 2- Paragraph reading

A paragraph can be prepared, that will have different kinds of cluster words. And the child should read the paragraph continuously. This will test their capacity of reading in a context.

### 3- Non word reading

A list on nonwords (that has no meaning) can be made for reading. This is a very important test for identification of dyslexics.

### 4- Reading Comprehension

A small meaning full passage of 4 to 5 lines can be given auditorily. After that some questions may be asked to test the comprehension.

## Remedial education to the reading disables population

For many years, the focus in learning to read was on what the teacher did or should have done rather than on what happened or should happen in the child. Beginning in the 1980's, particularly in the last ten years considerable progress have been made in understanding the reading acquisition process and its patterns of impairment in various languages. to this end both psychologists, linguists and other educational researchers have made a very rich contribution. This progress has been there because researchers have begun to focus on the processes, traits, and skills children need to become proficient readers. Progress was not made when the sole focus was on teachers and methods of teaching of " reading". This is not to say that methods of teaching are not important. Teachers need information about which instructional methods work best for particular kinds of children and classes. Teachers should know the various facts that accompany the

successful acquisition of a complex psycholinguistic skill like reading. Inorder to understand how children learn to read, it is thus important to focus on what children are learning as well as on what teachers or parents are teaching.

## Some of these factors include:

a) Time spent on reading (at school or at home)

b) Kinds of reading material that are used

c) The social setting for instruction

d) Patterns of instruction

e) Home literacy environment

f) Family expectation of literacy (reading and writing)

g) Prior exposure to print

h) Parents language skills

Remedial help can be given to a reading impaired child depending upon the specific ness of his condition. Research shows that all dyslexics of a subtype (there are four major subtypes of dyslexia i.e. surface dyslexia, developmental dyslexia, deep dyslexia, acquired dyslexia) do not show same patterns of impairment in their word identification strategy. Some of the major patterns observed are discussed below.

## 1- Letter by letter reading

Here the child reads a word letter by letter yet fails to construct the whole word. This means that the child can process the grapheme into a phoneme but cannot assemble the information for construction of a word. Here the teacher should teach the child

how different sounds make a word. The child should be explicitly taught that each sound in a word is a component of the total sound.

## 2- Confusion of letters

Here we find that the child confuses the letters at the level of orthography. For example b/d, W/M are in English. These like of confusion are quite natural for many beginning readers. These errors depend upon the design of the orthography concerned. Training may include exclusive focus where the child makes regular errors. Such confusions are also found in case of mathematical symbol manipulations.

## 3-Passage reading

Often it is found with dyslexics that though they can read a word in isolation but they cannot read the same word in a passage. Because reading a passage is strategically different as the reader depends upon contextual cues for successful word decoding. Here the child also shows deficits in comprehension of the passage read or auditorily given. For such children the stress should be on contextual reading rather than single word decoding.

## 4-Deficits in comprehension

Different sub categories of dyslexics often show marked deficit in the domain of comprehension, apart from their reading problems. There are many causes for this. Training to dyslexics for improving their reading must include parreall training for the comprehension also. We find that some children read very well but without having any comprehension of what is being read. Reading and comprehension are directly linked as far as their processing is concerned. So the reading teacher must

give specific attention to the component of comprehension whenever he is teaching "reading". Because reading without comprehension is meaningless.

In an inclusive educational context, early identification of reading impaired children and their correct assessment may lead to their successful remediation. But what it requires is awareness on the part of the teacher regarding the various forms that these deficits may take in any particular language or socio-economic context. Identification tests must be language sensitive and should follow the norms for reading in that language. Because we can't refer these children with reading or writing problems to a special school, hence an inclusive educational setting will work well for their rehabilitation.

# CONCEPT OF INCLUSIVE EDUCATION

*Segregation or Isolation is good neither for learners with impairments nor for general learners without impairment. Societal requirement is that learners with special needs should be educated along with other learners in ' inclusive schools'; which are cost effective and have sound pedagogical practices.*

National Curriculum Framework for School Education, 2000, NCERT
Pg.119

## *Overview*

The National Policy on Education, 1986 (NPE,1986), its revised edition of 1992 and the Programme of Action (1992) stressed the need for integrating children with special needs with other groups. The objective to be achieved as stated in the NPE, 1986 is "to integrate the physically and mentally handicapped with general community as equal partners, to prepare them for normal growth and to enable them to face life with courage and confidence". Further the NPE, 1986 states that the central focus in the Eeducational development of the Scheduled Castes (SCs') should be their equalization with the non-SC population at all stages and levels of education. In case of the Scheduled Tribes (STs) the policy adds that in view of the socio-cultural milieu of the STs with its distinctive characteristics including, in many cases, their own spoken languages, there is a need to prepare the curricula and teaching learning materials in tribal languages at initial stages, with arrangements for switching over to the regional language.

The World Conference on Education For All, held in Jomtien, Thailand in 1990 placed great emphasis on inclusive education. Inclusion was also a strong feature of Salamanca Statement on Principles, Policy and Practices in Special Needs Education agreed to by the representatives of 92 governments including India and 25 international organizations in June 1994. The Statement affirms:"those with special educational needs must have access to regular schools which should accommodate them within a child centred pedagogy capable of meeting these needs"

Article 45 of the Directive Principles of the Indian Constitution urges the state to provide 'free and compulsory education for all children until they complete the age of fourteen years'. This directive has now been made a fundamental right by the 93rd Amendment B of the Constitution.

The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 (PWD Act 1995) affirmed the principle of disabled children's right to education in appropriate environment. The legislation gives effect to the Proclamation on the Full Participation and Equality of the People with Disabilities made in the Asian & Pacific Decade of Disabled Persons 1993-2002 which was endorsed by India. The Act deals with education, employment, non-discrimination, affirmative action, prevention and early detection, social security, research and manpower development etc.

The National Curriculum Framework for School Education, 2000 states that bringing learners with special needs into the mainstream in an inclusive school starts with the assessment of their educational needs and preparation of their Individualized Education Plan for each one of them in consultation with their parents. Teaching then becomes learner centred. Besides group learning or cooperative learning and peer tutoring would be encouraged in an inclusive school.

The Curriculum Framework also suggests that there has to be a special emphasis on the education of the socially disadvantaged groups specially the SCs and the STs. This implies a need to integrate the socio-cultural perspectives by showing concerns for their linguistic specificities and pedagogic requirements. Specific instructional methodology has to be devised for a multilingual and multicultural environment. The only way to achieve this through inclusive education.

To achieve the objective of having an inclusive society wherein there are positive attitudes among learners of learning together, it is imperative to understand the concept of inclusion. It is also important to know the children who comprise the "Special Educational Needs (SEN) groups".

The objectives of this module are to make teachers, teacher educators and others understand:
1. the meaning of inclusive education and the difference between inclusion and integration.
2. the concept of SEN and its implication for inclusive education.
3. the meaning and methodology of an Individualized Educational Plan.
4. the features of an inclusive school and the changes required in the present scenario.
5. the implications of inclusive education for teachers and others.
6. the issues involved in the management of inclusive education.

**Inclusive Education**

The term integration has been widely used and forms the basis for educational provision all over the world. If you search for the word 'integration' in a dictionary, you would be referred to the word verb to 'integrate', for which the first definition is: 'to join to something else so as to form a whole'; or the second is:' to form or to blend into a whole; unite' (Longman's English Dictionary). The implication of this definition is which is now

a whole comprises of dissimilar or distinct parts and some of these parts were previously missing.

If you apply this to the system of education as we generally do when we use the term integrated education then we are implying that our education system is made up of two or more dissimilar parts. The process of integration is one, therefore, is one of bringing together two distinct groups, whose nature has been defined by 'custom and practice.' (Garcia & Alban-Metcalfe, 1998).

Historically the path of inclusion can be figuratively traced in the following way.
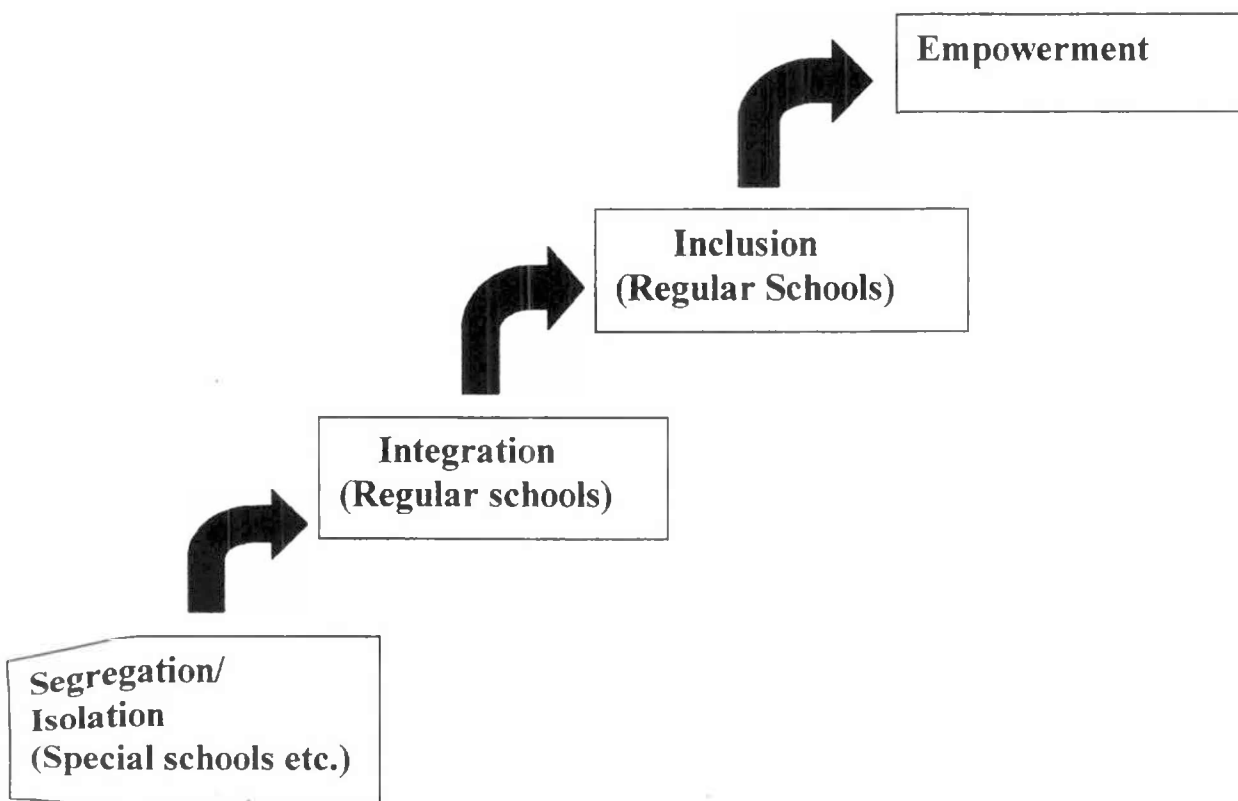


The future implication of inclusion is empowerment which is the next stage. As the figure indicates the policy for the provision of facilities for the children with SEN has progressed from segregation (special insitutions) to inclusion (the schools restructured to

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accept diversities) all over the world. You can estimate the level of provision in your state. Do you think the persons with disabilities are empowered in your state?

Inclusive education as a system is flexible in terms of methods and materials so that all children can have wider access to regular curriculum. It allows children with SEN to stay with their family and go to the nearest school as far as possible.

**Inclusion basically is an attitude of acceptance of diversities. It requires the acceptance of each child being unique and therefore requiring diversified teaching strategies in the classroom so to enable him/her to developlike his/her peers. It is not who can be blamed for slow progress. The blame is that of teachers who have not been able to develop the competencies to teach him/her well in relation to his/her needs. Uniform targets for all children should not be set without realizing their individual differences in terms of characteristics, interests and abilities. Expecting all children to learn in a uniform fashion and at the same pace is a myth. We have to move away from the tendency to locate problems within individuals and think of better pedagogical strategies and wider curriculum issues. Establishing norms or specifying boundaries prescribing who is to be taught and how teaching should take place in a teaching learning situation then, become a major barriers for providing equal opportunities to all.**

Inclusion has, thus, been defined as the acceptance of all pupils within the mainstream education system, taught within a common framework, and identified as the responsibility of all teachers (Thomas, 1997).

*Inclusion is a term which can be defined as an attitude or a commitment of appreciating diversities and accepting that all students can be educated in a common school to their maximum potential. It requires increasing the capacity of regular schools so that they can respond creatively to greater diversities. It also involves building the capacities of teachers to deal with diverse population of*

*students and to acquire pedagogical competencies that facilitate the learning of all students in their classrooms.*
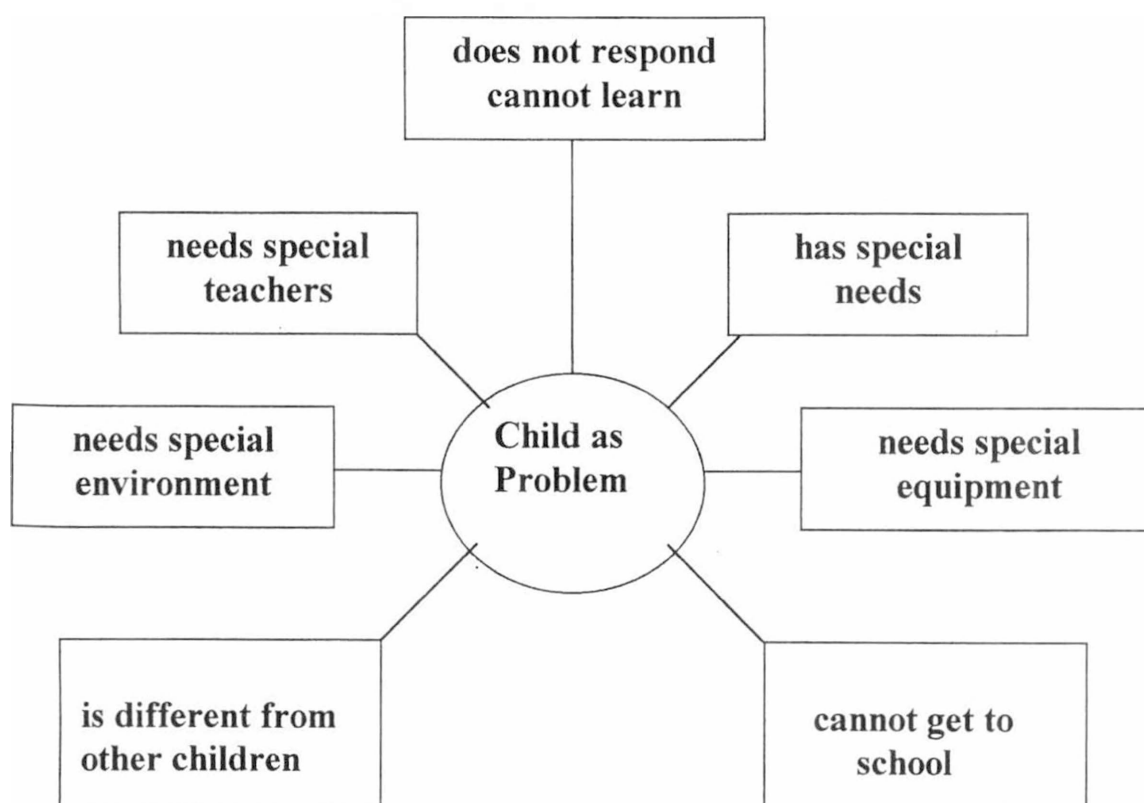
*Generally speaking, then, inclusion refers to education of all students in schools which they would have normally attended if they had no disability or SEN. The basic foundation of inclusion is respect and valuing all persons as equals. You must understand that all of us have to learn to live and work together in this society. You all know that no two individuals are alike but still they work together. Even if you do not like some aspects of your colleagues you learn to team up with them to achieve various objectives. The earlier we all learn to understand diversities the easier it will be to adjustments in our behaviour. However to understand inclusion one must understand the difference between inclusion and integration. This can be illustrated as follows: The following box gives the MAJOR differences between integration and inclusion:*

| INTEGRATION | INCLUSION |
|---|---|
| • Placement without any regard to the quality of placement. There is no change in the existing mainstream environment. | • Inclusion in terms of physical factors, curricular aspects, teaching expectations etc. Changing the existing mainstream environment. |
| • Learning problem are considered to be due to a defect in the student. | • Learning problems are considered to be due to inappropriate student environment interactions and not because of shortcomings in the student. |
| • Features of the environment do not match with diversities found among students | • The environment geared up to recognize continuum of students with different needs and abilities. |
| • Intervention in terms of correcting and remediation for sensory defects. | • Interventions strategies involve differentiated teaching methods, flexible curriculum with supplementary content and material |
| • Emphasis upon enabling the student to fit in the society | • Emphasis upon the capacity of the school to understand and respond to the individual student's requirements. |

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*Source: Julka, A. (2001).Inclusive Education in Practice. In Self Instructional Pack upper primary level Unpublished Document: NCERT.*

The IDDC seminar on inclusive education, 1998 gave the following
the differences between integrated education and inclusive education
(www.eenet.org.uk/documents/reports/agra/diagrml.shtml)

## INTEGRATED EDUCATION

```
                    ┌──────────────────┐
                    │ does not respond │
                    │  cannot learn    │
                    └──────────────────┘

  ┌──────────────┐                      ┌──────────────┐
  │ needs special│                      │  has special │
  │   teachers   │                      │    needs     │
  └──────────────┘                      └──────────────┘

  ┌──────────────┐      ╭─────────╮     ┌──────────────┐
  │ needs special│      │ Child as│     │ needs special│
  │  environment │      │ Problem │     │  equipment   │
  └──────────────┘      ╰─────────╯     └──────────────┘

  ┌──────────────┐                      ┌──────────────┐
  │ is different │                      │ cannot get to│
  │   from other │                      │    school    │
  │   children   │                      │              │
  └──────────────┘                      └──────────────┘
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# INCLUSIVE EDUCATION
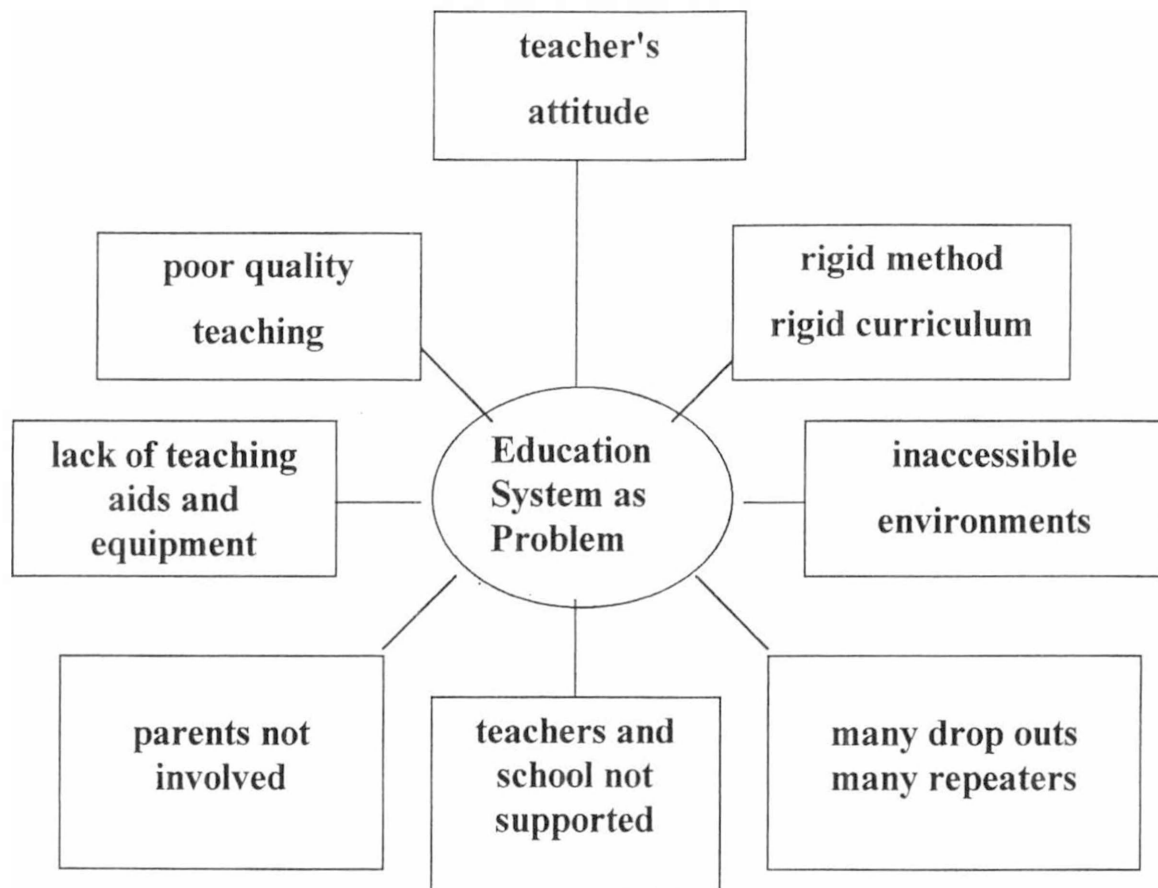


In addition to the above, the following figures also figuratively present the definitions of special, integrated and inclusive education :

(Definitions of special, integrated and inclusive education-'square holes': www.eenet.org.uk/documents/scuk/square_holes.shtml)

# CHAPTER II

# EXEMPLARS ON INCLUSIVE TEACHING

This reading material was used to orient the teacher educators on teaching strategies to be used for inclusion of disabled children and particularly of physically challenged. The first chapter of this package deals with inclusion of children with special needs where the importance of education for all has been highlighted. The efforts of national and international agencies for providing equal and quality primary education to all, has been mentioned in this chapter. The difficulties faced by children with SEN in development of language including grammar has been stated based on research done by the author on phonological development in mild and severely hearing impaired along with speech disorders. The author has also given how inclusion is possible with language disorder children in inclusive set ups. Language disorders can be with any types of abled and disabled children therefore it is essential to know the importance of early language development among these children for their academic inclusion in

existing regular schools. There are hand outs given by experts on concept of inclusive education inclusion of children with language disorders, problem in integrating children with hearing impaired phonological development. Reading impaired in inclusive set up and followed by exemplars for inclusive teaching where average, slow learners, hearing impaired, visually impaired, children with learning difficulties and orthopaedically handicapped are taught by using multilevel approach in small and large sized classrooms.

The teaching strategies used to teach normal children also can be used effectively and interestingly to teach the children with different needs. A learning that involves audio-visual tactual experiences is more interesting way to learn than by simply verbalising responses. The concepts to be learnt are thus related to concrete experiences and therefore learnt more quickly. Learning of abstract concepts, however, becomes difficult for these children since abstract concepts do not have direct link to concrete experiences. For a visually impaired child, the colour of a flower is an abstract concept while it is a concrete experience for other children simply because colour is understood through visual experience. A

hearing impaired child can see the colour of the flower but does not know the name of colour. This child will first need education in language skills. The mastery over language can help the child to learn anything. The speed of reading is very important here. The touch and feel kind of experience is much more interesting and enjoyable. The orthopaedically handicapped, on the other hand, having no deficiency either of hearing or of vision, do not necessarily have any learning problems. Both hearing and vision are complementary and help to acquire the correct conceptual understanding. But where writing is required or where laboratory experiments are concerned they face difficulty since artificial limbs will not have as firm grip as the normal limbs and the child will also have to get used to it.

The artificial limbs also prevent learning through tactual experience. However, if the physical environment is adequately adapted such children can also enjoy learning. Laboratory experiments can be carried out with the help of thick holders which can be gripped firmly with the artificial limbs. A low work-table allows for experiments while sitting in the wheel-chair. The categories of children

discussed above have one or more physical defects, but are usually intellectually sound with no mental or brain damage. The delay in understanding is only due to inadequate sound or visual input.

**Guidelines for Inclusive Teaching**

More of audio-visual aids can be used with the hearing and visually impaired children. Tape-recorders are useful for the visually impaired children. Charts and models can help the learning of both the hearing and visually impaired. The audio-video films can be prepared and shown on projector screens. Such audio-visual aids have been used for a long time mainly to improve the learning ability of the normal students. It also serves to make learning more interesting.

Field trips can be organised which brings the children in direct contact with the environment, ecology and the natural plant and animal kingdom. Stuffed animals and birds are now on display for the benefit of all children in the science museums. Here in the discovery room of the science museum children are allowed to feel the animals, sit on them, watch them and also make little animals

with the material provided. This gives good tactual experience for the children. It can benefit all the learners in the inclusive classrooms.

Laboratory experiments are the most difficult ones for these, it is also one that provides the tactual experience. In order to accommodate these children also in the laboratory experiments one will only need slight planning. First, in the dangerous experiments where chemicals like acids are used the handicapped should be paired with the normal partner. All the instructions needed to be followed in conducting the experiment should be written clearly on the blackboard. They should also be given orally for the benefit of the students who have failed to understand the written material. The visually impaired children can be given the instructions on Braille. Where the experiments are too difficult for the handicapped they should be provided support of their normal peers.

The physical environment needs to be adapted, such as adjustable furniture for the orthopaedically handicapped. Thick holders should be provided to the children with upper limb impairment. This facilitates easy holding of test tubes or thin necked bottles without the danger of dropping. A low work-table

allows for experiments while sitting in the wheel-chair. Hearing aids for the hearing impaired and Braille for the visually impaired needed in their education.

In order to provide equal learning experiences for both the normal and children with different needs the lesson plans also need to be adapted so that more of the tactual and the audio-visual material can be included. An example of the adapted lesson plan for visually impaired and normal children has been given below which would develop insight among the teacher teaching in inclusive schools for teaching other subjects also:

## EXAMPLAR-I: TEACHING THE CONCEPT OF WEIGHT IN INCLUSIVE CLASSROOM

| Teaching point | Teacher's response | Student's response | Adoption |
|---|---|---|---|
| Concept of weight | Do you all see this object on my table ? | Yes, it is iron | |
| | Student (blind) come and take this object ? | | Student (blind) is given the object to feel it |
| | Do you know what it is ? | No | |
| | It is an iron piece. Take this object for the student (blind) | Students (normal and blind) take the object and tries to weigh it | Teacher gives the iron piece to the disabled child who tries to weigh it with his hand. |
| | Is it heavy student (blind) | Yes, I think it is heavy | |
| | Student (blind) what do you think ? Is it heavy ? | Yes, heavy | Teacher gives object to another blind children |

| | Now both of you take these cotton balls and tell me what you feel. | Disabled students – yes lighter than iron piece | Teacher gives both blind children cotton balls for comparison |
| --- | --- | --- | --- |
| | | Children are engaged in comparing | Other children are also given the two objects for comparison but in groups |
| | Children write your observation in your books | Children are writing | |
| | Now let us weigh teacher here these two things and see if you are correct | | Teacher here engages the abnormal students in making tactile materials pasting numbers on the two weights – 2 gms and 4 gms |
| | This you see is a physical balance. It has two pans. Object to be weighed is put on one pan and the weight on the other. | | Blind children are asked to come forward and feel the balance while teacher explains the parts. |

| | | | |
|---|---|---|---|
| | Blind children weight the iron and cotton | Children are engaged in weighing | |

(rest of the class can form groups and engage themselves in weighing)

The class can also be taken in the laboratory where there are facilities for weighing.

| | | | |
|---|---|---|---|
| | Blind child what is the weight of the iron piece ? | It is 4 gms | |
| | Normal child what is the weight of the iron ? | 4 gms | |
| | Blind child what is the weight of cotton ? | It is 2 gms | |
| | Which do you think is heavy ? The iron or the cotton. | All children answer, iron is heavier than cotton. | |
| | Yes, even though as you see cotton looks bigger than iron in size, iron is heavier than cotton. Iron weighs. | 4 gms and cotton weighs 2 gms | |

Teacher must use other objects which are lighter than iron but heavier than cotton like wooden pieces, plastic things, feathers should also be compared to show there are things lighter than even cotton.

This is one example of an adapted lesson plan which provides equal

learning opportunities to all these children. Likewise, other subjects can also be

taught to them in inclusive schools. But some things will have to be kept in mind

while adapting the lesson plans for these children which have been pointed out in

the guidelines. While adapting the lesson plans for the hearing impaired children

all the questions and responses must be written on the blackboard. While

speaking the teacher should not go too fast allowing the child to try to read from

lips. If writing everything on the blackboard becomes difficult the lessons can be

projected on a screen or a normal child sitting next to the deaf child can take

down the important things. The teacher can, however, give only one or two

examples and allow the normal children to give more examples. This will involve

the normal children in the learning process without losing interest. As National

Curriculum 2005 emphasis the importance of multiple responses for mastery of

the concept, the teacher should allow these children also to relate their

experience to the given learning situations. Some examplars are given for

helping teachers to develop insight into inclusive education.

## EXAMPLAR 2: INCLUSIVE TEACHING ON LANGUAGE SKILLS

| General/ Sub-competency | Teacher Activity | VI | HI | OPH | Normal |
|---|---|---|---|---|---|
| **Language**<br>**1.1 To develop LSRW.**<br>**1.1.1 Listening** | The teacher sings the rhyme with proper pronunciation, tune and action. | The child enjoys listening to the rhyme. | The child enjoys the rhyme like normal children. | The child enjoys the rhyme like normal children. | The child develops interest and enjoys while listening the rhyme. |
| **1.1.2 Speaking** | | The child sings along with the teacher. | The child follows the body movement with the teacher. | The child sings along with the teacher. | The child sings and follow the teacher. |
| **1.1.3 Reading** | | The blind child listens the pronunciation and tries to understand through speech reading. | Observes the gestures and try to understand through speech,reading. | The child reads the rhyme and tries to understand. | The child reads and tries to understand. |
| **1.1.4 Writing** | | The child writes in Braille script. | The child writes obscuring the charts and black board. | The child writes by seeing the charts and blackboard. | The child writes by seeing the charts and blackboard. |

| Observe and count | Observe and count | Observe and count |
|---|---|---|
| The child picks required number of chocolates and put to the respective number. | Counts and groups the required number. | Counts , groups and demonstrates the required number of chocolates. |
| The child colours the corresponding number of the chocolates given | The child writes the number corresponding to the number of chocolates in the group. | The child writes in the group corresponding to the number of chocolates given. |
| The child looks into the adjacent child's teeth and finds how the chocolate has sticked.  He gives his views in keeping the teeth clean. | The child looks to others' teeth and also discusses about the stickiness of the teeth. | The child write in the groove corresponding to the number of chocolates given |
| The child looks himself and others | The child looks to others' teeth and | The child expresses his |

| | | |
|---|---|---|
| **MATHS**<br>2.1 To create awareness of numbers. | The teacher shows the respective number while singing the rhyme | Convert into Braille script |
| | **Activity**<br>We keep few chocolates and ask the children to group and tag the number of chocolates shown | The child picks the required number of chocolates and puts in a box. |
| | **Skill:**<br>The teacher develops writing skills as per counts. | When the required number of chocolates are given, he will show that number on Abacus or Taylor frame. |
| **Environmental Studies** | The teacher explains the dental hygiene and essentiality of carbohydrates in taking chocolates. | The child touches his teeth, feels and smells and finds how chocolate, makes his teeth sticky. He expresses his views to remove the stickiness. |
| | Teacher explains the harm done by | The child checks by eating more |

| | | |
|---|---|---|
| and compares and cleans. | also discusses about the stickiness of the teeth. | views on after effects in consuming more chocolates and dental hygiene. |
| The child collects number of pictures and also colours. He also keeps different geometrical shapes in the shape of numbers. | The child identifies the corresponding number of the objects flashed. | The child matches the numbers and the corresponding number of figures. |
| -do- | -do- | |

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | | 3 | 4 | 5 | × |
| 0 | | | | | |
| 3 | | 4 | 5 | × | × |
| 4 | | 5 | × | × | × |
| 5 | | × | × | × | × |

| | | than one and brushing. |
|---|---|---|
| | chocolates to teeth in consuming more number of chocolates. | |
| **Art Education** | Teacher inculcates aesthetic sense. | The child puts finger impressions in the required pattern and tells how many are there. |
| **Physical Education** | Teacher prepares groups and gives a game with dice. Each child has to perform something corresponding to the number of the dice. | The child if he gets two when dice is thrown, he will perform clapping twice. He also plays a game sliding or moving an object in respective place as per the number when a dice is thrown. |

| Work Experience | The teacher asks to draw cut and paste the objects corresponding to the numbers. | The child keeps the objects in the emboss and fixes them according to number as required by the teacher. | The child colours and also cuts the numbers required by the teacher. | Draws, cuts, paste, corresponding to the number. | -do- |
|---|---|---|---|---|---|
| | | Embossed Plate | | | |

# EXAMPLAR 3: INCLUSIVE TEACHING ON EVS-I

**Subject : Environmental Studies-I**
**Topic : Natural Resources, their uses and Conservation**
Composition of Students : Above achievers, Average Students, Slow achievers, PH, VI (50%), HI

**Basic Concepts/ Teaching Points :**

1. Meaning of Natural Resources
2. Examples of Major Natural Resources
3. Water as Natural Resource
4. Misuse of water
5. Conservation of Water
6. Protection of water

Competencies to be developed :

Observation, understanding, reading, writing, analyzing, suggesting.

T.L.M. :     Pictures, ordinary papers, thread, kerchief, soil, pot, pure water,
Polluted water.

**Seating Arrangements :**   Alternative seating arrangement of one bright achievers in the company of a SEN Child.

**Observation :**     Through singing a song composed by the teacher regarding the uses of water, forest and the need to protect the earth.

Presentation :

| | Concept/ Teaching Points | Strategy | Activity | Remarks |
|---|---|---|---|---|
| 1. | Meaning of Resource | Showing and comparison of raw and finished form of selected items. | Showing mountain, tree and paper and asking the choice of children to have it. | It creates enthusiasm in expressing various items. They use everyday and that forms the foundations for understanding the concept of resource. |
| 2. | Examples of major natural resources. | Eliciting answers from children through various questions. | Questions related to natural resources like water, air, etc. | Grouping of children with normal and SEN. |
| 3. | Source of water | Interaction with children in various situations/places. | Teacher gets the water from the students from the different sources. Teacher distributes the water bottles and instructs to label source and material in it. | Students participate with more enthusiasm. |
| 4. | Conservation of water. | Students are to be asked about recycling of water and consumption of water. | Questions regarding sprinklers. Dig some storage pits in your house/school. | Students understand the use of sprinklers and storage pits. |

**Evaluation :** From where do you get the water in your house ? What is the source in your school ? What are the water sources in your locality ? What are the various ways to conserve the water ? How to get the protected water ?

# EXAMPLAR 4: INCLUSIVE TEACHING ON EVS

**Composition of Students :** In each class each group consists of an above average child + 2 Average + 2 Below Average and 1 from HI/ VI/ PHC.

## BASIC CONCEPTS

| Class 4, EVS – I, "Forests" | Class : 3 Rhyme | Class : 5, Mathematics, Angles |
|---|---|---|
| Existence of forests<br>Advantages of forests<br>Environmental hazards<br>Conservation of forests<br>Awareness to protect forest<br>The topic is in the form of a 'Solo'. | To develop the four skills Listening, Speaking. Reading and Writing.<br>Rhyme :<br>'Tick 'Tock 'Tick 'Tock<br>'says the 'city 'clock<br>'Tick 'Tock '4 O' 'clock<br>'now its 'time for 'tea | How angles are formed ?<br>Types of angles : At present three angles will be introduced.<br>1. Right angle   90$^0$<br>2. Acute angle   Less than 90$^0$<br>3. Obtuse angle  90$^0$ – 180$^0$ |
| TLM : Pictures, video tapes, photographs, world map, plastic arts. | TLM : Blackboard and activities. | TLM : Straws, sticky unused clock dial. |

Seating Arrangement : Classwise and then Groupwise. Each group contains one above average child + 2 average children + 2 below average and one HI / VI / PHC.

HI    : Hearing Impaired
VI    : Visually Impaired
PHC  : Physically handicapped / orthopeadically handicapped

# EXAMPLAR 5: INCLUSIVE TEACHING ON EVS

**Motivation :** Through telling a solo (regarding the existence of trees, animals, birds, advantages of forests, need of protecting forests).

II. **Presentation of the topic**

| Concepts/ Teaching Points | Strategy | Activity | Remarks |
|---|---|---|---|
| Forests<br>Wild animals<br>Birds<br>Caves<br>Forests give shelter, food and many forest products which have economic use. | Pictures,<br>Video-tapes<br>Wild animals, birds, pictures.<br>National Geographic channel or Animal Planet. | By telling the first part of the solo and by showing the video tape, the teacher shows in the world map that there are different types of forests situated according to the climate in different parts of the world.<br>• the slow learners identify different trees, animals and birds and their existence.<br>• The HI observed the pictures, birds and trees and express their opinions through gestures or facial expressions.<br>• The blind pupil also can express by telling the names of trees, birds, animals, etc. through touch and feeling. | Creates enthusiasm in expressing various types of things in forests. They imitate the sounds of animals and birds. They draw and paint pictures of a forest. |
| **Advantages of Forests**<br>Forests give beauty to the nature.<br>Give shelter to birds and animals. | a) By asking questions ex :<br>Where do lions, wild animals live?<br>What are the | When the HI sees the produce of forest, he can express the advantages of those things through touch and feeling (Honey, tamarind, Amla, Masala spices, shikakai).<br>• The fast learner/bright/learned child tells the advantages of forests. | Bring awareness to protect trees/forests. |

| | |
|---|---|
| - The VI, normal, OHP children also tell the different types of things in the forest and their advantages to the society.<br>- All the children participate in identifying different things.<br>- Identifying the pictures of the forests which were affected by human beings and by nature.<br>- The HI expresses his views about the pictures by their facial feelings, gestures and also through writing. | Creating love for the nature make the children feel the importance to save/ protect our environment by conserving forests.<br>To raise the national income and per capital income we must conserve forests and grow trees. |
| - The HI pupils observe the pictures and express their thoughts through facial expressions and write the measures to be taken.<br>- The VI hears the discussions and realize the need of protecting forests by expressing their thoughts freely.<br>- All the children will realize the need of protecting forests and to grow trees. Also suggest alternative measures in making things other than wood. | |

| | |
|---|---|
| - food to the mankind, birds, animals and insects.<br>- Forest produce<br>- Economic value<br>- Healthy atmosphere<br>- Protecting the environment | things we get from forests.<br>b) By showing different types of forests to the children. |
| **Conservation of forests.**<br>We should arrest deforestation, smuggling, extraordinary interference, dependence on forests.<br>Alternative measures to make things other than wood. | Pictures showing Reforestation, measures – Janma-Bhoomi, Clean-Green activities, discussion on alternative measures to wood. |

Evaluation :

A.    Fill in the blanks :
1.        Forests are our ........................ resources.
2.        To control air pollution, we should ................trees.
3.        deforestation is a ....................made activity.
B.    Write an essay on "Protect the Forests".

**Class : 4    Sub : Mathematics                     Topic : Different  Types of Angles (Introduction)**

| Topics/ Content analysis | Strategy | Teacher's activity | Pupil's activity/Adaptation | Evaluation |
|---|---|---|---|---|
| **Motivation :**<br><br><br><br><br>Kerchief       paper<br><br><br><br><br><br>Shape of a triangle | Handkerchief, paper corners of different shapes. | Observe the corners in the handkerchief, paper, different shapes of triangles and the corners. | Pupils observe the corners except the visual impaired.<br><br><br>VI – given embossed material to touch and feel. | Identify the angles formed in the corners of a paper.  Are they all equal ? |
|  |  |  |  |  |

| | | | | |
|---|---|---|---|---|
| **Shape of a triangle** | Join the sticks to meet at a point. | Supply each child and ask them to join the stick to meet at a point. Demonstrates how to join and make the angle formation. | All the pupils join the two sticks. The visual impaired pupil also join the sticks with the help of the group leader.(normal child) | |
| **Right angle**<br><br>**Obtuse angle**<br><br>**Acute angle** | | Observe how you join the sticks. There is variation in the angles. According to the measurement in the angle, we give names. Teacher explains different types of angles and their names. | All the children including the visual impaired identify the names of angles formed by the sticks they arranged. | Show the different types of angles by arranging the sticks. The VI touch and learn the angles. |
| Evaluation :<br><br>Right angle<br><br>Obtuse angle<br><br>Acute angle | Through a game. | Teacher asks the children to stand up. He demonstrated with his right hand and shows the three types of angles. The students have to show the formation according to the instruction. | All the pupils follow the game. | Right angle – 90°<br>Obtuse angle < 90°<br>Acute angle 90° – 180°<br>> 90°, < 180°. |

Language :

| Presentation | Teacher's Activity | Pupil's Activity | Material used | Remarks |
|---|---|---|---|---|
| 1.3.1 Listening | Teacher says the new rhyme two times with correct pronunciation, intonation, rhythm.<br>' Tick 'Tock 'Tick 'Tock<br>'says the 'city 'clock<br>'Tick 'Tock '4 O' 'clock<br>'now its 'time for 'tea | The VI child enjoys listening the rhyme following the rhythm given by beats.<br>The HI child enjoys the rhyme observing the beats and gestures given by the teacher.<br>The slow learners and the PHC child enjoy the rhyme and follow the rhythm. | Blackboard<br>Wearing the embossed clock<br>VI child learns these concepts | Children observe the movement of the clock and the situation. |
| 1.3.2 Speaking | Teacher makes the children to repeat after him/her. | All the children follow the teacher and repeat the rhyme. | | Children observe that the rhyme goes on<br>One, two, one,<br>One, two, three,<br>One, two, one, two,<br>one, two, three. |
| 1.3.3 Reading | Say the rhyme with giving beats and action. Then ask the children to repeat the rhyme according to his beats and action. | | | |
| 1.3.4 Writing | Teacher asks the pupils to the rhyme from blackboard. | All the students write.<br>VI child written through Braille. | | |

# EXAMPLAR 6: INCLUSIVE TEACHING

**Class : V**

**Unit I**
**Subject : English**

**Lesson : A cup and a pup**
**Saying words** : **a pin, a bin, a tin, a nib, a lid**
**Rhyme** : **One two three from five ..........**

**Instructional Objectives :**

1. To enable the child to speak English with classmates and teachers.
2. To enable the child to develop necessary skills in language.
3. To enable the child to write simple words.
4. To enable the child to develop aesthetic appreciation of language.

**Objective**

1. To enable the hearing impaired child in developing language competency.
2. to enable the visual impaired child to develop competency in language learning.
3. to enable the orthopaedically handicapped child, to develop language competency.
4. to enable the normal child to develop language competency.
5. to enable all categories of children such as (visually impaired, hearing impaired, orthopaedically handicapped and normal) acquaint with the concept of MLLs.
6. To enable the children to develop language competencies in language learning.
7. to develop awareness about whole numbers.
8. to develop social awareness about fishing.
9. to develop aesthetic enjoyment among students.
10. to create an awareness among students.
11. to create physical fitness by giving some exercises through actions.

**Teaching Learning Material :**

Charts showing picture of rhyme, look and say cards, number cards from 1 to 10; fishing net model, hook, cardboard (color) and scissors.

**Motivation :** Singing of previously taught rhyme

**Rhyme :**

"One, Two, Three, Four, Five
        Once I caught a fish alive.
Six, Seven, Eight, Nine, Ten
        I let it go again.
Why did you let it go?
        Because it bit my finger so.
Which finger did it bite ?
        The little finger on my right".

Note: This unit will be taught for some time. Gradually pupil's involvement will increased.

| Pupil's Activity | | |
| --- | --- | --- |
| Hearing Impaired child | Orthopaedically Handicapped child | Normal child |
| This child carefully observes my gestures facial expressions and lip movements and enjoys the rhyme. (Next period she will follow my body language and movements). | This child enjoys listening the rhyme with all possible limb movements (Next class she will sing along with me). | The child sees the gestures and hear pronunciation and enjoy rhyme. (She will repeat after me next time). |
| This child will see the visual movements and follow me. Tr: Good morning and salute P : Stand up and Salute. | This child will learn the concept greeting people by using all possible limb movements. Tr. Good morning children. P: Good morning, Sir. | This child will follow me and repeat after me. Tr: Good morning, children. P : Good morning. Stand up and salute. |

| Subject/ Competency/ Sub-Competency | Teaching Activity | Visually Impaired child |
|---|---|---|
| English : Listening 1.5.1. | I sing the rhyme "One, two, three, four, five..." with proper pronunciation, tune and action. I ask my students to listen to me. | This child carefully observes my pronunciation and enjoys rhyme. (Next period she will sing along with me). |
| Speaking 1.5.2. | I introduce the functional item. greeting people by using the structure. I will give gesture and use body language. I use dialogue. | This child will listen the commands and follow me. Tr: Good morning, children. P: Good Morning. Sir. |

| | | |
|---|---|---|
| This child will see the book and say card and learn the word and write. | This child will learn the word and repeat after me. | The child will pronounce and repeat it after me. |
| This child will copy the script in the four line ruled book and write. | This child will copy the script and write. | This child will copy the script in her four line ruled book and write. |
| This child will write on the board. 5 < 6 6 > 5 | This child will write in the notebook and say orally. | This child will say orally and also write on the board. |
| This child will count and write which is bigger and which is smaller and which two are equal. | This child will see, count and say. | This child will see count and say. |

| | | |
|---|---|---|
| Reading 1.5.3 | I introduce the saying word by using flash cards. I spell each one three times. I ask them to repeat after me. | This child will listen and learn to count into Braille script. She will repeat after me. |
| Writing 1.5.4 | I introduce the writing pattern given in the text. I write it on the blackboard. Ask my students to copy in their four line ruled book. | This child will practice the words through Braille script. |
| Mathematics : Greater than Less than 1.5.6 | I write 5 and 6 on the board. I ask which is bigger? Which is smaller? | The blind child will respond and say orally. 6 > 5 5 < 6. |
| | I give small bundle of sticks one consists of 5, one consists of 7. I ask which two are equal? Which is bigger ? Which is smaller? | This child will count physically and say. |

| | | |
|---|---|---|
| This child will write on the board, a stick, a hook, a bait, a long wire. | This child will say that a stick, at one end a long wire. | This child will explain how to catch fish a sharp hook is tied, a small earthworm is attached to the sharp hook. |
| This child will write on the board. | This child will say the uses of eating fish. | This child will give more examples. |
| This child writes pond, rive and sea. Child writes fishermen. | This child will say and write. Child tells fishermen. | This child will say, explain and write. Child tells and writes fishermen. |

| | | |
|---|---|---|
| | * I give three sticks out of which two are of same size in length, one is short. | This child will feel and estimate the size and say which two are equal in size, which is smaller. |
| Environmental Science 4.5.1 | * Children will have idea about whole numbers also. | |
| | I introduce the concept of fishing. I ask them what are needed to catch one fish. | Now this child will hear and have awareness about catching of fish. |
| | I ask what are the uses of eating fish. | This child will say that vitamins and proteins are there in the fish. |
| | From where do you get more fish? I ask, what do you call the community who catch fish? | Pond, river, sea. Child tells fishermen. |

| | | |
|---|---|---|
| This child can write and say. | This child speaks about aquarium and its uses. | This child demonstrates about making aquarium. |
| This child draws the picture of pond and fish and also color it. | This child can draw a pond and fish on the paper. | This child draw a picture of pond and fish and illustrate. |
| | | |
| | | |
| The child sees the fish in the tumbler/ bucket and know. | The child sees, observes and know. | This child develops understanding about the survival of fish. |
| The child sees and follows. | The child, sees, listens and follows. | The child follows after me. |

| | | |
|---|---|---|
| SUPW | I ask the child to prepare a low cost aquarium by using bottles. | Child develops understanding that the fish can be grown in bottles. |
| Art Education | I ask the children to take a white paper and draw a pond and fish in it. | - |
| | | Now the child develops understanding about fish in the pond. |
| | I ask my students to take ..........and cut it into the shape of fish, cut numbers also. | |
| Activity : | I will bring a plastic fish, or dead fish and a tumbler of water. I drop the fish in the tumbler/ bucket and show to all the students. | This child will keep the hand in the tumbler, bucket and feel the fish in it. |
| Physical Education | I give 10 small exercises of body movements. | The child listens and follows. |

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| This child writes. | This child writes and says. | This child writes, say sand does action. |
| --- | --- | --- |
| Writes | Writes and says. | Writes and says. |
| The child writes on the board. | The child says that fish grow in water. | The child says and also writes. |
| Draws a picture and also color it. | Draws a picture and colours it. | Draws a picture and colours it. |
| Prepares | Prepares | Prepares |
| Does | - | Does the exercises |

| | | |
|---|---|---|
| Evaluation :<br>Language : | Say the rhyme "One, two, three, four, five..." | This child says. |
| Mathematics | Tell me some whole numbers. | The child says. |
| E.Studies | Where do you find fish or grow fish? | Child says in water, pond, river ocean. |
| Art | Draw a picture of fish on the paper and color it. | |
| SUPW | Prepare a bottle for aquarium. | Prepare with the help of his friend (Normal child) |
| Physical Education | Stand up and sit down. Simple warming exercises. | Does |
| Follow up work : | 1. Collect rhyme.<br>2. Collect the picture of various kinds of fish.<br>3. Prepare aquarium.<br>4. Draw match stick drawings. | |

**Values Developed** :   By telling the lesson 'A cup and pup' the child develops various values like punctuality.   Alertness discipline, respect, team spirit. co-operation, understanding. etc.


Note : VI – Visual Impaired
        HI – Hearing impaired
        OH/PHC – Physically Handicapped

# EXAMPLARS ON INCLUSIVE TEACHING

**Objectives :**

Enable all categories of children such as HI, VI, OPH and normal children in an inclusive acquainted with the concept of competencies in different subjects.
Enable the children acquaint with language skills – L, S, R, W.
To create awareness about the distribution of whole numbers or Division concept.
To develop social awareness of the natural resources such as land, forest, water distribution and scientific temperament.
To create aesthetic sense.
To give simple exercises such as jumping (Tokkudu Billa game)
To develop skills such as drawing, cutting and pasting.

**Story :**

Once there lived two cats. One says mew-mew-mew another says maav, maav, maav. One day both find a loaf of bread. One says it is mine and the other says, no, no, it is mine. Both quarreled for it. They decided to meet monkey brother for justice for equal share. Cunning monkey made always a remainder and ate the bread so as to make the remainder zero using a balance. Monkey ate most of the bread. The two cats and I got little piece mew and I got little piece maav.

| General / Sub-competency | Teacher Activity | VI | HI | OPH | Normal |
|---|---|---|---|---|---|
| Language : Listening | The teacher reads the story of monkey and two cats rhythmically showing puppets with a balance and bread. | Listens carefully and interestingly to the story and enjoys. Gets a concept of division. | Looks and enjoys visualization of the story. Gets concept of division. | Understands the story and gets the concept of division. | Understands the story and participate in role play interestingly. |
| Speaking | Recalls the story | Tells story with effective communication skills. | Shows signs or gestures and tries to give the meaning of concept. | Tells the story. | Tells the story and make the role play with all the category of children. |
| Reading | | The student reads. | The child reads. | Reads | Reads |
| Writing | Teacher asks some questions to write supplying activity cards. | Writes | Writes | Writes | Writes |
| Education | Teacher asks if you are a monkey, what you would do and if you are cat, what would you do ? | Expresses views. | Expresses views. | Expresses views. | Expresses views. |
| | Teacher generalizes the values. | | | | |
| Maths: | Teacher supply an activity of two to 5 pieces of bread and asks to fill the tabular form of distribution or division. | Children complete the activity. | Children complete the activity. | Children complete the activity. | Children complete the activity. |

| Takes the help of other children than VI/ HI. | | | |
|---|---|---|---|
| | Understands and realizes how to save the resources in the long run. | Understands and realizes how to save the resources in the long run. | Understands and realizes how to save the resources in the long run. |
| | Child identifies and pictograph. | Child identifies and pictograph. | Child identifies and pictograph. |
| VI child tells and asks the normal child to paste the resources. | | | |

No. of cats : 2

| No. of Cats | Bread pieces | Cat 1 | Cat 2 | Remainder Pieces |
|---|---|---|---|---|
| 2 | 2 | 1 | 1 | 0 |
| 2 | 3 | 1 | 1 | 1 |
| 2 | 4 | 2 | 2 | 0 |
| Divisor | Dividend | Quotient | Quotient | Remainder |

Generalises the terms and vocabulary of division.

| EVS | The teacher gives the statistics information of water resources, land resources and growth of population, its distribution and importance of saving the resources. |
|---|---|
| Art Education | The teacher asks to point out the different resources in a pictogram in India map. |

| Child does with the help of normal child | Child does this observing the other children. | Child does what is required. | Child does what is required. |
|---|---|---|---|
| Plays the game interestingly and happily with the help of normal child. | Plays observing the other children and enjoys. | Plays observing the other children and enjoys. | Plays observing the other children and enjoys. |
| Does | Does | Does | Does |

| | |
|---|---|
| | The teacher gives a sheet of paper and asks to divide in many number of ways and color it. |
| Physical Education | The teacher asks to play the game of tokkudu balla. It is a game played in 10 square boxes with a piece of stone throwing in boxes and jumping into those many squares equal to the stone thrown without touching the borders. |
| | |
| Work experience | Different pieces of color papers are given and asked to divide and paste. A cake is brought and given to children and asked to distribute. |

# EXAMPLARS ON INCLUSIVE TEACHING

**Subject : Science**

**Competencies :**

- Food stuffs and food values.
- Naming the food stuff and identifying what is the nutrients' value of the food stuff.

**Motivational Activity :**
Taking all the children to nearby food staff, after giving them some ground rules of how they have to be at the food stall.
Having a dialogue between the children about what they have taken in the morning and what are all the ingredients.
In the food staff, the children are taken to different stalls where different food items are sold and their names have been introduced.

After seeing different types of
- grains
- vegetables
- fruits
- pulses
- peas
- grams
- egg, meat and fish varieties
- oil, ghee, etc.

**Adaptations for HI and VI :**

- The visually impaired child is allowed with special permission to touch and taste the foodstuffs.
- The hearing impaired children were enlightened with their normal peer.
- Partially visual impaired children were provided with magnifying classes.

They are asked to assemble in the classroom.

### Activity 2 :  Teaching learning Activities

In the classroom they were given papers and asked to enlist what are the food materials that have seen.

Children can draw, color and label the food items they remember.

### Activity 3 :  The children were instructed to classify the food items.

### Activity 4 :

Teacher classifies the food items according to their food values.

- Starch containing food items like banana, jaggery, rice and wheat are named as carbohydrates gives energy for our daily routine.
- The pulses, peas, etc. give us grain building and are called protein.
- Oil, ghee, meat and egg are fatty substances.
- Greens, fruits are protective food and help us in providing vitamins.
- Milk is a complete food.

### Adaptation for VI and HI :

- Teacher went near to VI child and asked to image the food stuff and listen what the name is.

- Teacher asked the HI child to listen carefully and try to classify.

## Activity 5 : (Reinforcement Activity)

With the help of activity sheets containing the foodstuff and nutrients, the children were enlightened about food values or various food items.

The VI and HI are asked to sit next to bright children and the peer learning was admitted in the classroom.

## Announcement of next day's activity

Teacher informed that lot of materials are available with her for the next day's activity.

## Follow up activity

The children are asked to enlist all the food stuff they know. Collect the pictures and paste that pictures in an album according to their food values.

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