Early Intervention Manual for Speech Therapy

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Enabling Inclusion through
Early Intervention (EI) Programme

AMAR SEVA SANGAM

Amar Seva Sangam (ASSA) is a premier organisation in the field of disability management focusing on rural areas, located in Ayikudy Village in Tenkasi District of Tamil Nadu. Our approach is to establish a centralised resource center to act as a catalyst for change in the development of children and adults who are differently abled and intellectually challenged. We do this by involving the village community in the process. This mission of ASSA is to establish a Valley for the Disabled, whereby persons with physical / intellectual challenges live in a pro-active society where equality prevails irrespective of physical, intellectual or other challenges with the rest of the society. It is a futuristic vision whereby Amar Seva Sangam plays the role of an enabling agent to provide persons with physical / intellectual challenges "equality of status, equality in opportunities and equality in access".

Amar Seva Sangam (ASSA) was established by Mr. Ramakrishnan, in the International year of the Disabled to cater to disability management focusing on rural areas.

S. Ramakrishnan, Founder President

S. Ramakrishnan, while in his 4th year engineering, injured his spine while attending the last round of Naval officers' selection test and became a quadriplegic. He established ASSA in 1981, the year for the Disabled and named it after his Doctor and mentor Air Marshal Dr. Amarjit Singh Chahal of Defence hospital. **Padma Shree awardee** S.Ramakrishnan is the President of ASSA.

S. Sankara Raman, Secretary

S. Sankara Raman, a Chartered Accountant and a wheel chair user, affected by muscular dystrophy joined ASSA in 1992. He is the Secretary of ASSA. Along with Mr. Ramakrishnan, they have built a **Valley for the Differently Abled** in a 30 acre land at Ayikudy, as a Rehabilitation and Development Centre and developing models for self-help initiatives by integrating individuals with disabilities within society for improved living conditions.

In 2020, he established Amar Seva Global, a social enterprise focused on spreading Amar Seva's Enabling Inclusion program globally.

What is Development Delay ?

Skills such as taking a first step, smiling for the first time, and waving "bye-bye" are called developmental milestones. Children reach milestones in how they play, learn, speak, behave, and move (for example, crawling and walking). Children develop at their own pace. However, when developmental milestones are not met by a certain expected age, it is called "developmental delay". Early stimulation and intervention can help children reach these milestones.

What is Development Disability?

Developmental disabilities are a group of conditions due to an impairment in physical, learning, language, social or behavioral areas. These conditions begin during a child's developmental period, may impact day-to-day functioning, and can last throughout a person's lifetime. According to the WHO, "If children with developmental delays are not provided with appropriate early intervention, their difficulties can lead to lifetime consequences, increased poverty and profound exclusion".

What is Early Intervention?

Interventions promoting child development should address physical, social, emotional, language, and cognitive areas of development. Services targeting these domains of development are termed, "Early Intervention therapy" and can encompass physical therapy, occupational therapy, speech-language therapy and special education. Early Intervention has a significant impact for children who have delayed development in physical, cognitive, emotional, sensory, behavioural, social and communication domains of development. With quality early intervention services, children can reach their potential, live a meaningful life and integrate into their communities.

Enabling Inclusion Programme

Amar Seva Sangam's Enabling Inclusion programme uses community rehabilitation workers to provide early intervention services to children in their own homes or in community centres by connecting these community workers with rehabilitation specialists (physiotherapists, occupational therapists, speech therapists/trainers and special educators) through the use of the award winning Enabling Inclusion (EI) app. The program has proven to improve outcomes for children with disabilities and their family members and has allowed many children to reach their potential.

An Introduction to Understanding Communication, Speech and Language, Assessment . Treatment Techniques of speech and language disorders in children

Tracey Norman-Rice M.Sc. (Speech-Language Pathologist), Jessica Tomarchio (Speech-Language Pathology student), and Sydney Acker (Speech-Language Pathology student)

WHAT IS COMMUNICATION?
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HOW IS SPEECH PRODUCED?
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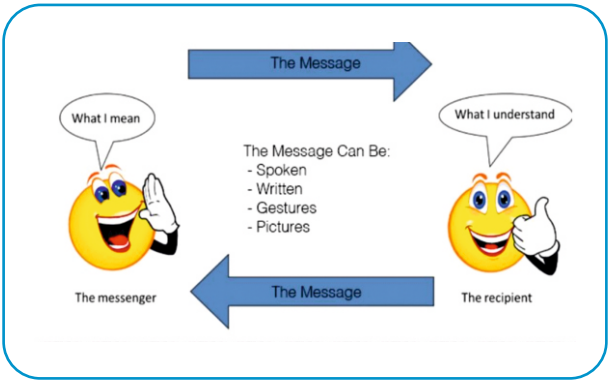
SPEECH TRAINING:

This book is for speech trainers, special educators, caregivers and parents who are supporting children with speech and language difficulties. It is designed to provide a basic understanding of communication, speech, expressive language and receptive language. This book also offers specific tips and strategies that can be used daily at home, in school, and in the community

What is Communication?

- Communication is passing information from one person to another.
- Communication can be verbal (words, sounds/vocalizations), nonverbal (gestures, writing, pictures), or a combination of the two (e.g waving while saying hello).
- Children communicate in various ways and for various reasons depending on their abilities.
- New born Babies communicate through cry then begin to use vocalizations (sounds such as cooing, babbling, and laughing) to express a message.



Age Range	How They Communicate
New born babies	Various types of Cry
Toddlers (ages 1-3)	Gestures, Sounds, Facial Expressions, and Body Movements. Gradually then 2 -3 word combinations.

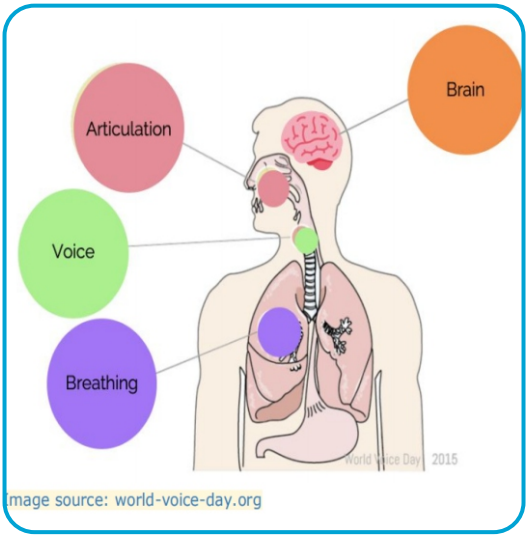
What is Speech?

Speech is the process of combining different sounds into words.

1) Babies start making vocalizations (e.g. crying and laughing)
2) Then slowly start producing specific sounds (e.g bababa).
3) Then eventually combined together to form words (e.g. amma, mama,thatha).

How is Speech Produced?

Speech is made by air travelling from the lungs, through the vocal cords, and out of the mouth. The muscles of the face, tongue, lips, and jaw help to shape the air into different sounds.



Breathing – The "Energy" for Speech.

- Breathing provides the power for speech
- Air comes up from the lungs and is pushed through the vocal cords and out the mouth

● The child must have enough muscle control for breathing to support speech

Voice – The "Sound" for Speech

● The vocal cords are two very small muscles in the neck.

● When air passes between the vocal cords, they vibrate.

Articulation – The "Production" of specific speech sounds

● Once air enters the mouth the sound is shaped using different muscles.

● The muscles of the mouth used to shape sounds include:

Jaw: opens and closes

E.g. try "ah" as in auto (open jaw) vs. "e" as in me (closed jaw)

○ ***Tongue***: moves up and down, side to side and back to front

E.g. try "L" as in love (tongue forward) vs. "K" as in cat (tongue back)

○ ***Lips***: can be round or straight

(E.g. try "oh no" (lips round) vs. "see" (lips stretched and straight))

○ ***Palate***: can move up and down to help the air stay in the mouth or go out the nose ▪ (*E.g. try "s" as in see (air travels through the mouth) vs. "mmm" as in mom)*

(air travels through the nose)

The Brain – The "Control Centre"

● The muscles needed for breathing, voicing, and articulation are all controlled by the brain

● The brain sends messages to every muscle in the body

● If the brain is not developing properly, it will have difficulty sending messages to specific parts of the body
● This difficulty may result in speech developing slower than other children or not at all.

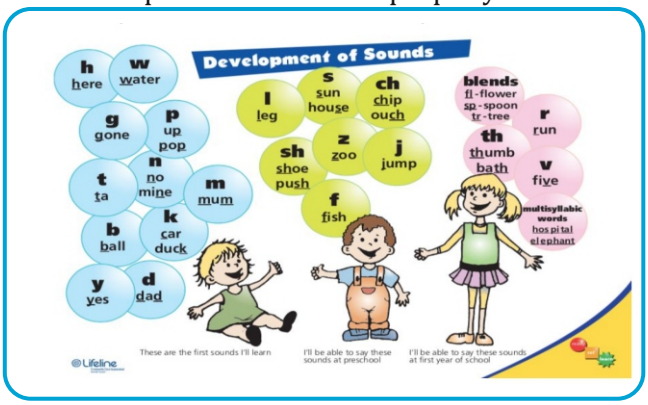
How do Sounds Develop?

● Speech sounds develop in a specific order at different ages so it is important to understand the development of sounds in the child's language

E.g. in English a child will make the sound "m" as in mom before "k" as in cat

Eg. in English a 2 year old child might say "tah" for car but would not be expected to say the word "car" properly until about 6 years old

● Speech sound production requires the development of the tongue, lip and jaw muscles. These muscles must have adequate strength and movement to produce the sounds properly.



The image shows the order that English speech sounds develop.

Developed by SLPs for the Ready Set Learn Program Lifeline Northern Gold Coast Communities for Children Initiative, 2004-09

What are Some Signs that Speech May Not Develop Properly?

- Born with hearing loss or experience frequent ear infections
- Limited babbling or vocalizations as an infant
- Limited speech sound development or development of sounds stop
- Born with autism, down syndrome or cerebral palsy
- Born with physical impairments like cleft palate
- Weak muscle control demonstrated by difficulty:
  - Sucking or swallowing
  - Opening, closing or moving the jaw
  - Sticking out tongue or moving it side to side or up and down
  - Rounding or stretching lips wide
  - Sitting upright by themselves
  - Keeping their head in an upright position
  - Running out of breath while speaking

What is Language?

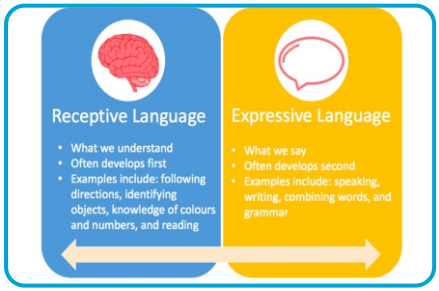
Language is the process of following specific rules to combine words into phrases and sentences so that the message makes sense and is understood by others.

Children learn the rules of their language by listening to and interacting with people.

Language consists of two parts:

Expressive language (speaking)

Receptive language (understanding).



What is Receptive Language?

Receptive language is what a child is able to understand. This includes the child's ability to follow directions (e.g. "Go get the ball"), respond to their name, and understand basic concepts (e.g. size, shape, and colour).

Receptive Language Milestones:

Age Range	What they understand
12 Months	Responds to their name by turning to look at the speaker Knows at least one body part (*e.g. head, nose, eyes, ears, or mouth)* Follows simple, 1-step directions (*E.g."Come here", "Don't touch")* Understands routines and what they mean (*E.g.bedtime, bathtime, mealtime)* Recognizes people and objects and looks for them when asked *E.g."Where is appa?", "Where is your ball?"*
18 Months	Understands the meaning of in/out and on/off Can point to 2 body parts when asked Follows 1-step directions
24 Months	Follows 2-step directions (*Ex: ''Get the ball and put it in the bin.'')*

30 Months	Understands the concepts of size (big/small) and quantity (a little/a lot) Understands simple, short stories
3 Years	Understands simple "Who", "What", and "Where" questions *(Ex: "Who has your shoe?", "What colour is that?")*
4 Years	Follows 3+ step directions (*Ex: "Get a piece of paper, draw a flower, and give it to the teacher.)*

What is Expressive Language?

Expressive language involves communicating a person's wants, needs, feelings and ideas through speech (vocalizations, words and sentences), gestures (pointing, waving, hugs and hand holding), facial expressions (smiling, frowning, looking away), writing and drawing.

Expressive Language Milestones:

Age Range	What they understand
8-12 Months	Produces different sounds for different situations (e.g. happy, hungry) Gestures independently (clapping, thumbs up, say hi fi etc.)
18 Months	Uses nearly 10- 20 words
24 Months	Use 100-150 words Uses 2-4 word combinations to request and identify items (e.g."Ma come" or "want milk")
30 Months	Is able to use at least 350 words Uses action words (e.g. run, jump, sleep, eat, drink)
3 Years	❑ Talks about events that have happened in the past (e.g. last time I saw cow)
4 Years	Starts to say stories Speech is clear and understandable Communicates easily with familiar adults and other children

Assessment:

Assessment is the method of diagnosing and evaluating someone to find their conditions so that we can formulate therapy / training plans.

Each assessment procedure must involve:

- Demographic data

  The clients personal details (name, age, place etc)

- Family history

  This involves details of the client's family for known impairments /disorders

- Medical history

  This involves the details like birth cry, birth weight, birth colour, k/h of keeping the child in NICU, any associated medical conditions.

  - Hearing and Vision
  - Mode of communication
  - Speech Mechanism assessment
  - Vegetative skills assessment
  - Pre linguistic skills
  - Comprehension and Expression

COM- DEALL

- The communication DEALL developmental check list is used for formal evaluation of children with developmental delays.
- The speech trainers evaluate the receptive and expressive language part of the check list and the calculations are done.
- There are seven groups each and consists of 36 questions respectively
- It covers the age range between 0 to 72 months (1- 6 years of

age)

- This check list is used for all developmental disorders which includes autism spectrum disorders, intellectual disabilities, hearing impairment and cerebral palsy.
- Evaluation is done for every 6 months for follow up.

Tirunelveli early intervention care giver assessment tool

- This scale is parent based assessment tool.
- This scale involves 4 sections,
    - Family empowerment scale (12 items)
    - Modified caregiver strain index (13 items)
    - Interactions with the child (10 items)
    - Evaluation questions (10 items)
- The speech trainers ask the questions to the parents and the scoring is done.

Treatment/ training

The first and foremost step of any kind of treatment is to set a goal.

Goal Setting

Setting goals is a very important part of the therapy process. Goals should focus on helping the child to become a better communicator and increase their participation in everyday activities. A good goal should include:

- WHAT skill the child is working on
- WHY the skill is important to the child
- HOW to improve the skill by using specific activities

Therapy goals should be SMART:

S- Specific (what exactly is the task?)

M- Measurable (how will you measure progress?

A- Achievable (Is the task achievable?)

R- Realistic (Is the task realistic?)

T- Timely (how long will it take to complete?)

SMART goal examples:

In a 2 month period, the child will use eye contact with a gesture to request something from parents or teachers, 80% of the time

In a 4 month period, the child will combine 2 words (description word + object, e.g. "blue ball") when describing objects in his immediate environment when provided with a verbal cue with 80% accuracy.

In 6 months, the child will follow simple directions (stop, come here, give me) with a visual cue (i.e. picture) 80% of the time.

Tips and Strategies for Speech and Language Development

Teach the things in the child's environment which the child is interested, introduce the name of the thing and make the child speak that.

If the child is doing any action like jumping or playing with the ball develop communication through that. (e.g. if the child is jumping, say "Jump")

Adding words to the child's gestures (e.g. if a child points to a cow, say "Cow")

Make the child look at you when u try to communicate with him.

- Interact with the child in a playful way.
- Your facial expressions provoke the interest of the child
- The Child will also see your tongue and mouth movement

Wait for the child to choose an activity and then go with the activity (E.g. If a child rolls a ball to you, roll it back to them)

Describe what you are doing and comment on the actions while playing to help build the child's vocabulary

Take turns

Play games like passing the ball, naming the objects, puzzle boards, which promote the child's turn taking capacity.

Look at the child when you are expecting a response to help them understand that it is their turn. Be patient and give the child time to respond

Modelling

A child learns new sounds and words by listening to others talk

If a child says a word incorrectly, praise the attempt and then say the word correctly. Don't expect the child to repeat the word correctly right away

(E.g. child says "dod" for dog, model the response "yes that is a dog")

Comment

Comment on what the child is doing and seeing

E.g. "Wow, what a fast car!", "I see a cow, moo", "That's a big temple"

Match + 1

Repeat what the child says and add a sound or a word

E.g. If the child says _____, we say _____:

Ba → Ball *Dog → Big dog*

Milk → Want milk *Give me → Give me ball*

The four S's

Say less: use short, simple sentences when talking to the child

Stress: important words to make them stand out

Slow: slow down your rate of speech

Show: by pointing, gestures, or pictures

Repeat, Repeat, Repeat

A child needs to hear a word multiple times before learning it

Try and repeat the word in different contexts

E.g. "That's a big tower", "These shoes are too big for me", "You ate a big meal"

Role of the Speech Trainer

1. *Identify* children who are not meeting specific milestones. The milestones can include development in the areas of communication, expressive and receptive language, and speech sound production.

2. Provide *education* to family members and caregivers about the child's strengths and weaknesses.

3. Teach the family and caregivers to use specific strategies and do specific activities that will help the child to become a better communicator

4. *Support* the child's ability to learn in the classroom and at home by using the strategies, and activities regularly.

Tips and Strategies for Supporting Learning

Make the Environment Reliable

Create daily schedule or routine so that the child knows what to expect

Use a visual schedule to help the child learn and remember the routine

Provide clear rules about what to do and what not to do

Be consistent when reinforcing those rules

Let the child know when an activity is going to end a new activity is going to start.

(E.g. provide a countdown of the minutes a child has left before they have to stop the activity ,"You have 5 more minutes to play, then we have to go to class")

Make changes to the Environment

Remove any kind of distractions

E.g. facing the child away from the distractions (e.g. window, other students)

Sit the child close to the teacher, parent or caregiver

Be aware of the child's sensitivity to light and/ or noise

Modify the Activity

Give instructions more than once and in different ways

Make activities interesting for the child

Know when to stop the activity and move onto something else

Give the child a break when needed

Allow the child opportunities to move and stretch when needed

Give the child time to complete an activity

Create Positive Learning Opportunities

- Give the child time to process instructions and questions. A good strategy is to count to 5 in your head before repeating yourself.
- change instructions and use simple language
- Speak slowly and clearly
- Focus on positive reinforcement and celebrate the child's successes (e.g. “Great job, I love how you are listening”)
- Build trust with the child and create a safe environment
- Be a good role model
- Be a good listener

Few training Techniques for Trainers:

To Improve Eye Contact:

Use funny facial expressions

e.g. making funny reactions like putting the tongue out, filling your cheeks with air and then punching it to make sounds

Use stickers on your face specifically on eye levels and forehead

Torch activities - follow the light along the wall. Cover torch with different colors to make it interesting

Play games like peek a boo, hiding games

(E.g. hide behind doors and curtains)

Use funny masks and glasses

Stand infront of them and push them in swing, sing rhymes or funny songs

To improve attention span:

Allow the child to decide his/her interest. Creatively think and develop activity based on their interest. Eg: if the child is interested in a toy, then take a animal toy sing rhymes related to it or make sounds like the animal. Move the toy with the child and make it to run, fall down come back make sounds etc.

Give puzzles. Teach the names of the objects in the puzzle and engage in solo and parallel play

Stick stickers on board, painting, drawing Turn taking games like passing the ball, tapping hands, do high fys etc. Introduce new toys and speak about the toy Use verbal and tactile cues that is make the child look at you and also take the child's hand to feel the objects you use.

Appreciate for each desired activities.

Visual communication aids

Visual communication tools are used to help the children understand a message or instruction and express a thought or idea. These tools should be simple, easy to follow and specific to the child's daily routine. A visual communication tool should ultimately help to reduce the child's frustration and anxiety around communicating and help the child to become a more confident and independent communicator.

Tips for Developing Visual Communication Aids

- Use basic pictures or symbols
- Provide choices for the child to choose from
  - E.g. "Do you want water or milk?"
- Use it to help provide structure for a daily routine
  - E.g. have a schedule with pictures on the wall of the classroom to show the

Students what is happening next

- Teach the children how the tool works and the rules they need to follow
- Make the tool portable and easy for the child to use in different environments
  - E.g. at home and at school
- Make the tool personalized and motivating for the child to use

Hearing Impairment:

Hearing Impairment is the loss of hearing. The hearing Impaired children have a difficulty in understanding and speaking.

Signs and symptoms associated with hearing loss-including behaviours of affected individuals-include

- Delayed speech and language development
- Unable to hear what others speak
- asks for repeating
- Speaks unclear with errorful speech.
- Looks for lip reading and gestures.
- Poorly attends to conversation.
- Not participating in activities and be alone.
- Reduced academic performance.

Hearing Aids and Speech Training:

- Children with hearing loss are provided with assistive listening devices like hearing aids.
- With hearing aids the child is given speech therapy based on their needs
- Articulation training is the important training to be given for the child.

Speech Training:

The child with speech and language disorders has difficulty in understanding and producing speech.

These children should be trained to use functional communication skills.

Functional Communication:

Functional communication refers to the most basic of communication skills.

This type of communication gets one's basic wants and needs known, such as "I want that", "I am hurt", or "I need to use the bathroom".

The following phrases are some ideas for utilising functional communication.

Requesting

"Give me (desired object/food)"

"Help me"

Protesting

"No more"

"No more (specific action/food/object)"

Labelling

Name items, toys, food in his environment that he is looking at or playing with

Labelling action

Utilize 2-word phrases to describe simple actions

For example: "Ball_____" (in, up, out, down"

For example: "_____ ball/car" (push, roll, bounce)

This may also be used during other activities ("Johnny eat")

Recurrence

"More (toy/action/food)"

Disappearance

When something is taken away or he or you are done playing with or eating something

"All done (specific item/action)"

"All gone (specific item)"

"Bye bye (specific item)"

Turn-taking

"My turn"

"Your turn"

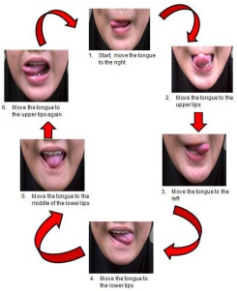
"Mommy's turn"

"Johnny's turn"

Drooling Control Exercises:

This exercise is specifically needed for cerebral palsy children.

- Make faces in mirror making various shapes with lips (for example, smiling, protruding, retracting,)
- Hold spoon or piece of paper between lips
- Make the child produce sounds like p, m
- Place foods such as honey on the top lip and encourage removal with the bottom lip.
- Attempt to lick lips.
- Try and make the tip of your tongue touch the nose.
- Encourage the person to lick, candy's, lollipops and so on.



- Remind the person to swallow their saliva quite often
- Remind the person to keep their head up.
- Encourage the child to wipe his saliva on his own.

Articulation Training:

The children with articulation disorders
have SODA errors.
S- Substitution (e.g. 'tha' for 'ta' in tape)
O- Omission e.g. 'bana' for 'banana'
D-Distortion (unclear sound production)
A-Addition ('daaapa' for 'dappa')

The child is encouraged to produce syllables in isolation, (P,m,tha etc)
Then the child is then trained to use the syllable in initial, medial and final position of words.
Sound - P (initial – pen; medial –paper ; final- tape)

e.g. ***P****aint (initial), pu****pp****y (medial), cu****p*** (final)

Summary

A child's education starts at home. Parents are the first teachers and play an important role in the development of expressive language, receptive language, speech, and communication. Children typically learn these skills by watching, listening and interacting with those around them. For children who are not developing communication skills according to the expected milestones, it is important to provide them with extra support. Reading books, looking at pictures, playing together, and singing songs are some of the ways to help support a child's speech and language development. Remember, communication isn't just about talking. Children can communicate in a variety of different ways (e.g. making faces, using words, pictures and gestures) so speech trainers, parents and caregivers should be open to interacting with children in different ways. Understanding how the child is communicating and why the child is communicating is the first step to supporting their speech, language, and communication development. Try different strategies, be consistent with practice, be patient, and focus on the positive moments.

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Enabling Inclusion through
Early Intervention (EI) Programme

https://earlyintervention.amarseva.org/

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