

Chandra's[®]



BLUE BOOK

Name Keerthana Anil

Class II BASLP

Subject Child language disorders

School _____

Date _____ Page _____

Language disorders in children

SECTION - A

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Srujan

1. Biological maturation theory

- Biological maturation theory suggest that the language acquisition is closely related to the structural and functional development of brain affecting the environmental and genetic factors.
- Universality of language learning in humans is explained in this theory.

Assumption

- * There are macrostructures that play a major role in the language learning. These structures are present in brain and include temporal and frontal lobe.
- * There are microstructures that play a role for language learning along with other functions.
- * The environmental and genetic factors that also play a major role in the language learning.

Nativist introduced that the child's brain play a major role of language development but genetic and environmental factors are not that important. Even though the other clinicians took his views, they added that brain functioning along with environmental and genetic factors influence language learning.

Chomsky introduced LAD [Language Acquisition Device] for assessment and he find out how these can be enable the child to learn rules of language within a short period of time.

Marshall goes for a detailed structural & functional evaluation of LAD. He took the factors that affect LAD, and he made his findings.

There are 3 areas that will be affected in language learning

- Cerebral asymmetry
- Brain weight
- Neural control.

① Cerebral asymmetry

- Early it was believed that the left and right hemisphere have equal potential.
- This applies until an age 2, after that lateralization will take place.

By Broca in 1865, introduced that

"Even though the left hemisphere is dominant in language acquisition, this function can be reversed, overpowered, to right hemisphere if there is any accident or injury in the brain at the critical period"

- Later it was found that, there are cerebral asymmetries that are present at birth.
- Sylvian fissure is large in newborns & children

Brain weight

The structural development of brain can affect the functional implications. The weight of brain is triple times more at first 2 years of life.

Neural development

- Neural development take place as the brain weight increase and there is a development in ~~new~~ structures & functions of ~~the~~ brain.
- Neural development will increase the branching, dendrites and axons.
- It will also ~~to~~ increase myelination on dendrites.

Advantages

- * We can understand the cause of language development by checking if the child have any brain injury, and any disorders in brain. ... causes could be understood easily.
- * This theory can be used in clinics for assesment & diagnosis and therefore have some clinical implications.

Disadvantages

The theory is not widely accepted and there are areas yet to be discovered and worked on.

The language learning as said in this theory is not only depended on brain development there are many other factors that affect acquisition, so we can not only rely on this for assesment.

Clinical implications

→ for taking therapy for any disorders we need to diagnose the patient first.

→ we need to identify whether the:

→ the oral structures is functioning properly

→ is there any language difficulty

→ Learning / developmental disability

→ Brain injury / trauma / accident

• So, by using this theory, as it is stated that structural & functional abnormalities in brain affect language, we can check that during assessment

• This theory is applicable for children with learning disability, developmental delay, cerebral palsy etc

• Marshall introduced IAD, which can also be used for finding the language acquisition in child.

7/1/20

4.5. Reinforcement in language therapy

- For better involvement / participation of child, we will give some reinforcement for the child during a therapy session.
- Reinforcement play a major role in achieving a goal as the child will be encouraged to do a specific activity
- also, reinforcement can be used for the removal of certain unwanted behaviours.

Reinforcement are of 2 types

- Positive Reinforcement
- Negative Reinforcement

Positive reinforcement

Positive reinforcement is positively we encourage a right activity that is done by the child.

eg: We are working on preposition and child kept the car under the table we will give any token/verbal praise to reinforce the child

Positive reinforcement are of 2 types:

Primary & secondary

Primary: We will give the child tangible items & foods, tokens etc.

Secondary: We will give the child verbal praise, high five, social smile and hence reinforce him.

Negative Reinforcement

Negative reinforcement as include

- Punishment
- Timeout
- Response cause
- Avoidance

Punishment is any undesired behaviour that can result in an unwanted situation/event

Timeout: We will remove the child from the activity and we will continue the activity.

Response cause: We will make the child understand the cause of our behaviour due to his unwanted response.

Avoidance: We avoid the ~~the~~ child for sometime and we won't give attention to what he is doing.

Schedule of Reinforcement

Intermittent: Reinforcement given for a specific time interval

Continuous: ~~We~~ The clinician will give reinforcement soon after every activity in a continuous way

Intermittent is divided into

- Fixed ratio - fixed no. of reinforcements for fixed activities
- Fixed duration - reinforcement after certain time intervals
- Variable ratio - Varying reinforcements (in number)
- Variable duration - Reinforcement is not fixed under time.

b) PECS

Picture Exchange Communication System

- This is a type of AAC method used for children with Cerebral palsy, Developmental disability, Autism, or any motor speech disorders.
- AAC devices are augmentative and alternative communication device that can be used

These are any tool/techniques or devices that can be used to supplement or support natural speech

→ AAC is divided into 2:

- Aided
- Unaided

Aided: is used for with help of elect devices.
i.e. from writing with pen in book to high tech electronic devices will come under aided

Unaided: is used using body language, gestures, sign language for communication

PECS is a type of aided AAC.

- In PECS, the patient will be communicating through pictures and the exchange of these pictures for his/her desired needs.
- Pictures that of words that the child use during communication [functional words] are made, these communication will happen through this pictures.
- Then training is given under therapy setting for saying this words.

There are six phases for PECS.

① They include how to communicate?

Here, we will give the client an idea about the entire process of communication and the child will be able to say the pictures that are used for this communication method.

② Clinician and client will practice the exchange of pictures as communication.

③ This is more useful in children with Autism Spectrum disorders because their visual memory is high as compared to that of cognition.

④ The child will then be able to understand the situations where to use these pictures for communication.

⑤ his needs will be conveyed later in a social space to unfamiliar people.

2) Autism Spectrum Disorders

a) Definition

→ Autism spectrum disorder is a developmental disability that can affect the speech and language learning abilities in a child.

→ There are certain areas that will be affected by autism
child's ability to interact & communicate with others

The domains of autism include

- lack of communication ✓

- lack of social interaction ✓

- stereotypic behaviours ✓

Lack of communication: Inability to communicate with the environment and not showing interest in making friends, not explaining about their emotions

Lack of social interaction: No interaction with peers, not maintaining eye contact

Stereotypic behaviours: flapping, spinning, unwanted rock behaviours
→ rocking of chairs

Autism is a ~~neurodevel~~ language developmental disability that can affect the ~~secondary~~ ~~chara~~ social skills of child.

b) Characteristics of ASD

- Not listening to name call
- Not able to look at an object when pointed
- Inability to follow command
- Not showing interest to see things when shown
eg: aeroplane flying child won't see them
- Pretend play is not found
- difficulty in academic performance
- Tempus tantrums can be seen
- short attention span of activities
- The child won't maintain eye contact
- lack of social smile
- Not showing interest in making friends
- Stereotypical behaviours
eg: Rocking of chair, spinning, flapping
- Lining of objects
- No object permanence
- Can't wait in lines
- Cannot wait until their turn comes
- Problems in sleeping
- Unwanted crying
- Inability to understand others feelings & emotions
- Cannot convey their emotions
- Not able to understand ca. orders
- Unusual play behaviours
- banging of head on chairs.

2) Causes

There are biological & environmental causes.

• biological

- Genetic problem ✓
- Any problems during pregnancy ✓
- Unwanted usage of drugs, alcohol by mother ✓
- Parental history ✓
- Any person with autism in family ✓

• Environmental

- Usage of any chemicals ✓
- Any drugs ✓

• Infections

- Any infections that takes place during pregnancy to mother ✓

SECTION-B

6. Bilingualism

- Bilingualism is the usage of multiple language by an individual
- Bilingual/Monolingual individuals have same cognitive ability
They are determined based on:
 - Proficiency in learning second language
 - Age at which second language is learn
 - Manner of learning
 - Context in which the second language is used

There are 2 types of bilingualism:

- Additive bilingualism
- Subtractive bilingualism

Additive Bilingualism

- If the person know the first language and in addition to that a new language is learned due to situations that give exposure to second language acquisition.

Eg: Learning Kannada in addition to Malayalam

parallelly

Subtractive bilingualism

Subtractive bilingualism is second language will become dominant compared to first language ~~do~~ because the first language can be used by a limited population.

Steps for second language acquisition

Pre-production

Early production

Intermittent fluency

Proficient fluency

Pre-production - usage of about 500 words for communication

Early production = usage of 1000 words

Intermittent fluency - usage of about 6000 words

Proficient fluency - after 5 years we will be able to communicate properly due to high vocabulary

8. REELS

→ Receptive Expressive Emergent Language Scale

→ Introduced by Brock & League

→ age from 0-3, extended till 7.

→ here we will check the reception,

i.e. the child's understanding about objects,
concepts, emotions

expression

i.e. the output child gives, how he convey
his message.

Passing criteria 2/3 under the specified age.

Assessed based on age, one age below their chronological age.

↳ if the child is able to answer the question then he/she is age adequate.
or else we can find the age under which child fall

→ Useful for planning goals in therapy and other interventions

COMDEAL

Communication developmental editic approach of language learning

- Assessment based on picture manual & questionnaire
- Parental assessment - questions are asked to parents
- Introduced by Pratibha Karanth
- 0-6 yrs of age
- 6 domains are assessed.

- ✓ ✓ ✓ ✓ ✓ ✓ ✓
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We will check all these domains and ask questions related to each domain

- 0 - Abnormal Not present
- 1 - Emerging
- 2 - Acquired & inconsistent
- 3 - Acquired & consistent
- 4 - Acquired & consistent in every situation.

9. Choosing and Framing goals for intervention:

Choosing a goal is very important for the treatment of a disorder for children with ASD.

Goals are of 2 types

- Short term goals
- Long term goals

Short term goals: We will concentrate on a particular goal for a certain short period of time and we will shift to next goal.

Long term goals: Clinician will set a goal for a long period of time for consistency of the goal.

While setting a goal, it is necessary to look at these 3 categories

- ^{DO} condition ✓
- criteria ✓
- on-working ✗

Condition: Under what condition the child is achieving goal or giving a positive response

Eg: after some prompt & modelling child was able to say preposition.

criteria: what is the criteria for the goals achieved
 percentage of achievement
 eg: 80% consistency 2/3 trials ✓

on-working: These are the ~~the~~ categories we are working.
 eg: working on comprehension of lexical category

7) Specific learning disorders

Specific learning disorder is a ~~hetero~~ group of heterogeneous disorders that can affect the learning in a child.

Eg: writing, learning, reading, cognition, comprehension etc is affected.

Kirk's class definition

Kirk defined as retardation or ~~de~~ reduction in the learning of a child

There are many causes for specific learning disorder.

head injury - open injury - only there is laceration in skull

close injury - there is a ~~few~~ rupture of skull and brain.

Any infections,

stroke → interruption in flow of blood to the brain

There are certain categories that can be affected by learning disability

- 1 → dyslexia
- 2 → dyspraxia
- 3 → dyscalculia
- 4 → dysgraphia

1. Problems in reading

skipping of lines while reading.
not understanding some words
incorrect pronunciation, spelling

2. Fine motor skills & gross motor skills are affected

3. Problems related to solving maths

inability to understand mathematical symbols eg: $>$, $<$.
Unaware of time & money concept

4. Writing difficulty

mixing upper case and lower case
not \neq not writing with proper spacing
not holding pen properly
messy handwriting

10. Incidental teaching

- Incidental teaching is a therapy technique used for by clinician
- Incidental teaching uses the method of modelling & prompts
- We will teach the child what is the concepts & category of specific objects -

Modelling

We will model the child about the object, for eg: showing an apple and we say
This is a red apple, this is sweet.

Self-talk

The clinician will say what he/she is doing
explaining our own activities

Parallel talk

Self-talk done for client.

We will explain what the child is doing.

eg: Now, you kept blue block on red one.

Recasting

We will ~~com~~ add comments to the remarks said by the child.

eg: picture of a doggy

we will ask oh, what the doggy is doing? -

BLUE BOOK

ACHIEVER

INTERNAL ASSESSMENT BOOK

Name..... LAKSHITA LANKED

Subject..... NEUROLOGY Class..... 1st BASLP (11th SEM)

Sl.No.	PARTICULARS	Test Date	Page No	Marks Awarded	Signature of Staff Incharge
1	TEST - I				
2	TEST - II				
3	TEST - III				
4					
5					

Certificate

This is to certify that Smt. / Sri.....has satisfactorily completed
the course of Assignment prescribed by the.....University for the semester
.....Degree Course in the Year 20 - 20

MARKS	
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Signature of the Student

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Signature of the Staff Member
(Incharge of the Batch)

SECTION - A

① There are 12 pairs of cranial nerves present in our body. They are:

- CN I - Olfactory nerve
- CN II - Optic nerve
- CN III - Oculomotor nerve
- CN IV - Trochlear nerve
- CN V - Trigeminal nerve
- CN VI - Abducens nerve
- CN VII - Facial nerve
- CN VIII - Vestibulocochlear nerve
- CN IX - Glossopharyngeal nerve
- CN X - Vagus nerve
- CN XI - Spinal accessory nerve
- CN XII - Hypoglossal nerve.

SSMM BMB SBBMM

The cranial nerves important for speech, language,

Hearing and balance are:

CN no.	Name	Origin	Sensory/ Motor	Function	Importance
II	Optic nerve	anterior part of the brain	Sensory	visual perception and integration	helps in the reading & writing of language.
V	Trigeminal nerve	pons	Sensory and motor.	It provides sensory perception (of touch, temperature and pain) in the face and proprioception of facial and oral structures. supplies anterior $\frac{1}{3}^{\text{rd}}$ of the tongue	important for articulation of speech and chewing of food.

CN no	Name	Origin	Sensory / Motor	Function	Importance
				<p>the mandible (jaw) and the teeth</p> <p><u>Dysfunction</u>: loss of sensation to the face, abnormal jaw movement and abnormal movements of facial and oral structures</p>	
VII	Facial nerve	pons	Sensory and motor	<p>it supplies the muscles of the face, the circular muscles of the lips, anterior $\frac{1}{3}$rd of the tongue (to taste buds) and the auricle of the external ear.</p> <p><u>Dysfunction</u>: facial paresis (weakness of the muscles of the face), facial palsy (paralysis of one / both sides of the face), loss of taste and lack of containment of food in oral cavity due to improper lip closure</p>	important for articulation of speech, chewing of food and the perception of taste.
VIII	Vestibulo-cochlear nerve	pons	Sensory and motor	<p>perception of auditory stimulus from the cochlea of the inner ear and important in body balance and head movement responses</p>	important in hearing and body balance.

CN no	Name	Origin	Sensory/ Motor	Function	Importance
				<u>Dysfunction</u> : may lead to hearing loss and loss of body balance.	
IX	Glossopharyngeal nerve	medulla	sensory and motor	<p>supplies the posterior 1/3rd of the tongue and lateral and posterior walls of the pharynx. Also supplies the soft palate.</p> <p><u>Dysfunction</u>: absent or diminished gag reflex and nasal regurgitation due to insufficient contraction of the soft palate.</p>	Important in producing gag reflex, swallowing of food.
X	Vagus nerve	medulla	sensory and motor	<p>sensation to most of the muscles of the larynx and their proprioception. Also supplies vocal cords and the posterior 1/3rd of the tongue</p> <p><u>Dysfunction</u>: diminished or absent gag, changes in voice perceptual quality (hoarse, breathy, wet, gurgly).</p>	Important for articulation, voice production and resonance
XII	hypoglossal nerve	medulla	motor	Supplies intrinsic and extrinsic tongue muscles	Important for feeding and

Cranial IX

X

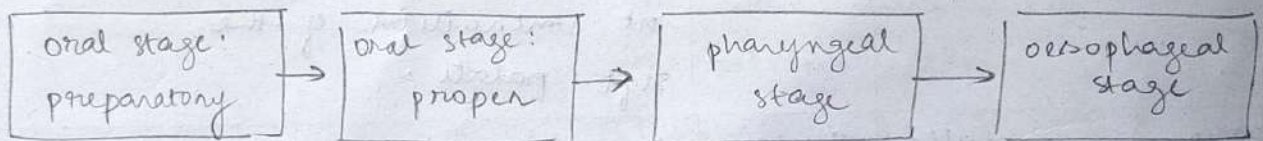
Dysfunction: tongue fasciculations (involuntary tongue movements), food left over in oral cavity after swallowing

and articulation of speech.

SECTION - B

① Stages of swallow:

Swallowing or deglutition is the act of the movement of food from the mouth until the stomach through the gastro-intestinal tract through co-ordinated neuromuscular movements. There are four main stages of swallowing:



a) Oral stage: preparatory

In this stage, the food, after being introduced into the oral cavity is prepared to be converted into a consistency and form that is suitable to be swallowed. First, chewing, biting, tearing of food takes place and it is then mixed up with saliva (mastication) and formed into a semi-solid state in the form of a ball of food called bolus. The tongue is used to move the food around and occlusion helps to contain the food.

→

b) Oral stage: proper: in this stage, the bolus is made to move to the posterior part of the tongue. The tongue then shrinks in size due to activity of its intrinsic muscles and touches the hard palate by elevation due to extrinsic muscle activity. The bolus is contained in the oropharyngeal region.

c) Pharyngeal stage: in this stage, the bolus moves from the oropharynx into the oricopharyngeal region by contraction of the velum, to avoid any nasal regurgitation. It is a complex reflexive stage and is involuntary, unlike the last two stages.

d) Oesophageal stage: in this last stage, the bolus moves from the oricopharynx into the oesophagus by the co-ordinated upward elevation of the larynx and the closing of the epiglottal flap over it. The vocal folds are adducted and the bolus moves into the oesophagus and down by peristalsis and takes 10-15 seconds to enter the stomach.

Warning

5) Oral reflexes:

The oral reflexes seen in typically developing infants are:

a) Rooting reflex: movement of the tongue towards the point of contact of the nipple of the breast during feeding.

can be elicited by touching the lower edge of the infant's lip. The infant first moves the tongue

towards the point of contact and then turns the head towards the same side.

b) Sucking reflex: reflex wherein the infant sucks and any object placed in it's oral cavity can be elicited by placing a finger in the infant's oral cavity, he/she will suck at the finger.

c) Swallow reflex: it can be of two types:

congenital swallow: non conditioned reflex when the infant thrusts the tongue out and swallows with mouth open

acquired swallow: conditioned reflex where tongue thrust is absent and infant swallows with mouth closed.

d) Mastication reflex: reflex wherein the infant/child chews the food placed in it's oral cavity. can be elicited by placing food in oral cavity.

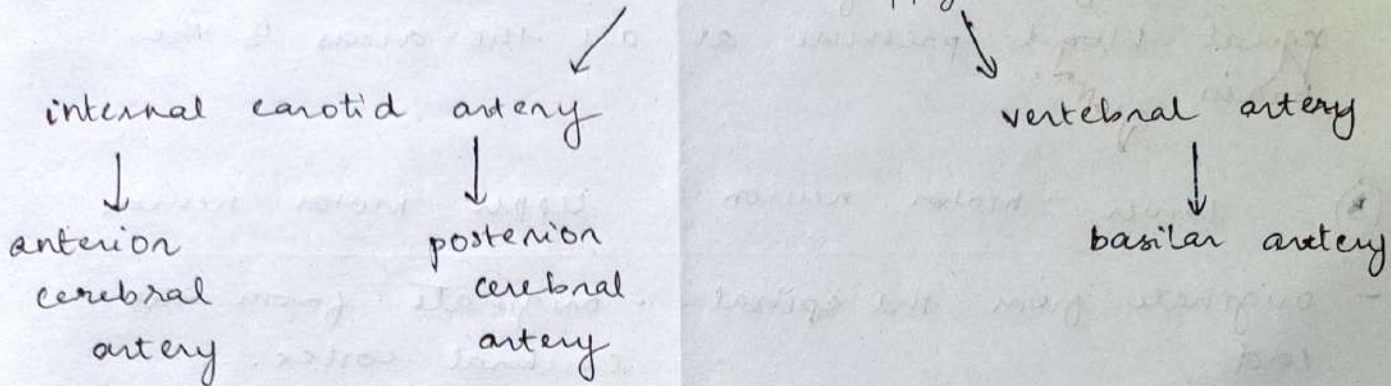
e) Cry reflex: non-conditioned reflex where the child cries to express needs.

3

Differential cry is wherein the child has different types of cry for different needs.

(4) Cerebral blood supply: it is carried out by 2 main pathways:

Cerebral blood supply



a) The common carotid artery divides into an internal and external branch. The internal carotid artery enters the brain and further divides into the anterior and posterior cerebral artery.

Anterior branch - supplies medial parts of frontal and parietal lobe and corpus callosum.

posterior branch - supplies the lateral parts of frontal and parietal lobes.

b) vertebral arteries branch out of the subclavicular artery and run upward and parallel to the spinal cord and supplies the brain stem. Then it divides into basilar arteries which supply the subcortical structures of the brain, occipital and temporal lobes and the cerebellum.

The vertebral - basilar network and internal carotid network converge to form a circle of blood vessels called the circle of Willis.

The significance of this is to neutralise and have
equal blood pressure at all the areas of the
brain

Diagn?

③ lower motor neuron upper motor neuron

- originate from the spinal cord
- terminate at muscles and glands
- regulated by acetylcholine neurotransmitter
- Do not have further classifications

- originate from the cerebral cortex.
- terminate at brain stem and spinal cord.
- regulated by glutamate neurotransmitter.
- classified into :

- a) somatic
- b) brachial
- c) general visceral

3

*Diagn?
Delupm to be
more elaborate*

2/2/20

27/8/2022