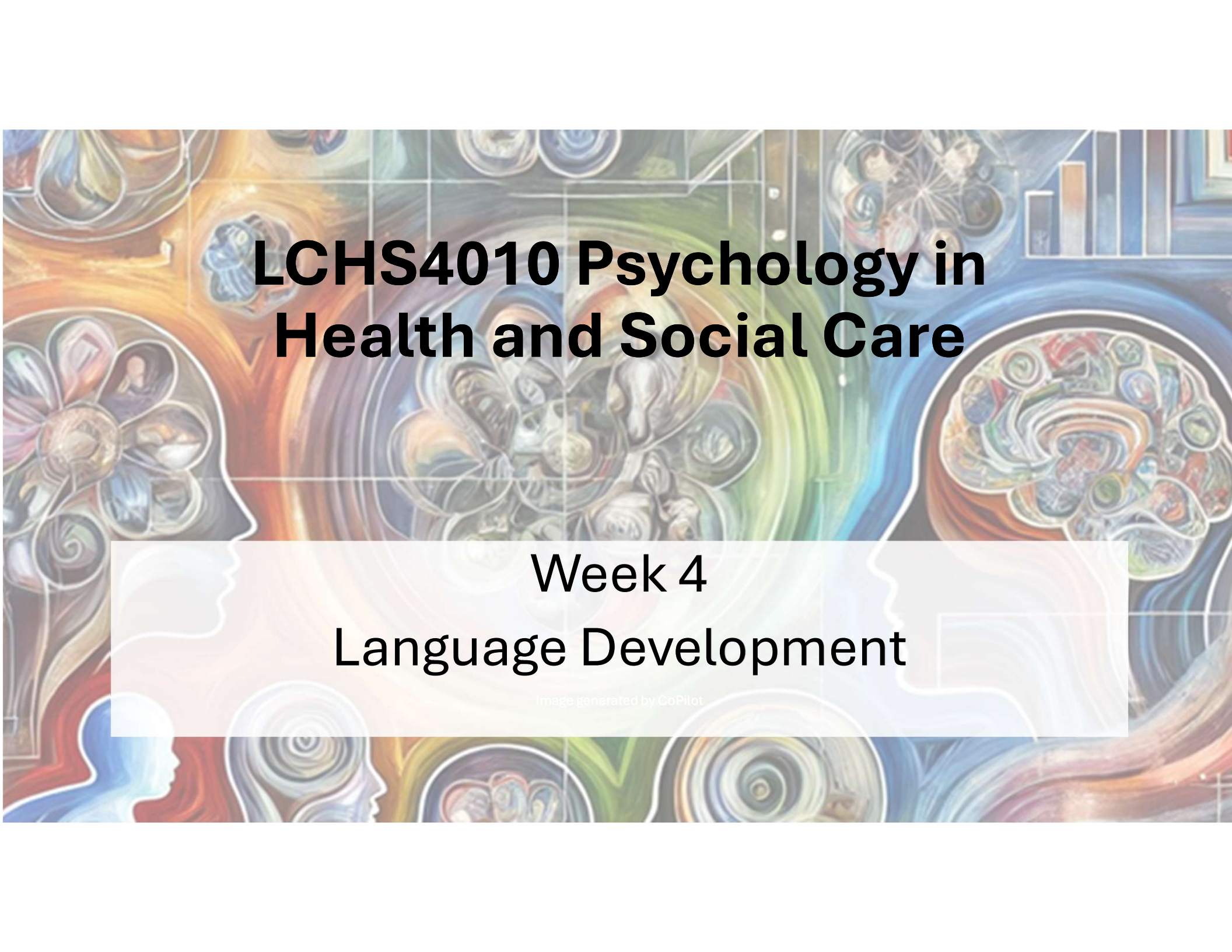




LCHS4010 Psychology in Health and Social Care

Week 4

Language Development

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Plan for today

Language milestones



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graph TD; A[Language milestones] --> B[Theories of language development]; B --> C[Language, communication and learning]; C --> D[Applications to health and social care];
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Theories of language development

Language, communication and learning

Applications to health and social care

Language Development

- Refers to the process by which children acquire the ability to understand, produce, and use words and sentences to communicate.
- This includes the development of skills in **listening, speaking, reading, and writing**
- Language development is crucial for communication and cognitive growth.

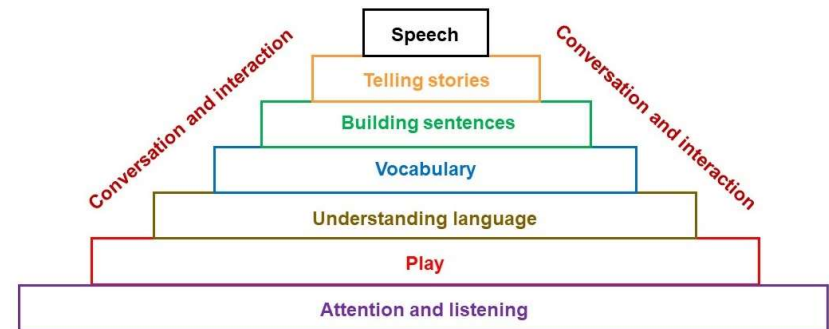
It typically unfolds in stages from infancy through early childhood.



Language development

Language development is crucial in childhood because it:

- **Supports cognitive development:** Language is essential for thinking, problem-solving, and learning.
- **Enables social interaction:** It allows children to express needs, share ideas, and build relationships.
- **Facilitates academic success:** Strong language skills are foundational for literacy and overall educational achievement.
- **Influences emotional regulation:** Children use language to understand and express their emotions effectively.



Four aspects of a language infants need to learn about



Phonology: Segmentation of sounds



Semantics: meaning of sounds



Grammar: Structure words in the right order (Syntax)



Pragmatics: Produce sentences in the right context

What does it mean when someone asks you: can you pass the salt?

A three-year-old boy arguing his case

- Can you see how the four aspects of language being used in this clip? Phonology, semantic, grammar and pragmatic
- How did he stop his mum from talking back?
- How did he signal for his mum to reply?



Infants' responses to speech sounds (Berko Gleason, 1997; cited in Martin & Carlson, 2023)

Age of first occurrence	Response
Newborn	Is frightened by loud noise
	Moves head to face the source of sound
	Is comforted by hearing a voice
	Prefers voice of mother over a stranger's
	Differentiates between various voice sounds
1-2 months	Responds to voice by smiling
3-7 months	Response varies to different intonations
8-12 months	Recognises and responds to name
	Reacts to 'no'
	Identifies game-related terms- Peekaboo
	Recognises routine words like 'bye bye', waves, or hand motions
	Knows some words

Receptive:
understand
words



Expressive:
produce
words



Language



The 6 Stages of Speech Development

Stage	Approx. age	Characterized by
Prelinguistic stage	Birth-6 mos	Cries, gurgles, and coos to express needs and feelings
Babbling stage	6-12 mos	Strings of consonant-vowel combinations, such as "bababa"
Holophrastic (single-word) stage	12-18 mos	Use of a single word to convey a complete idea or message
Two-word stage	18-24 mos	Two-word combinations forming simple sentences that show some grammar awareness
Telegraphic speech stage	24-36 mos	Short sentences that omit non-essential words but still convey complete ideas

Language Development in the First 2 Years (adapted from Boyd & Berk, 2019)

Age	Milestone	Receptive language (ability to understand words)	Expressive language (ability to produce words)
2–3 months	Makes cooing sounds when alone; responds with smiles and cooing when talked to		Cooing with vowels at 1-2 m
20 weeks	Makes various vowel and consonant sounds with cooing		
6 months	Babbles; utters phonemes of all languages		Babbling with consonants 6-7 m
8–9 months	Focuses on the phonemes, rhythm, and intonation of language spoken in the home; has receptive vocabulary of 20–30 words	Around 8 months, storing words in memory	Babbling becomes more language like from 9 months
12 months	Expressive language emerges; says single words		
12–18 months	Uses word–gesture combinations combined with variations in intonation (holophrases)	At 13 months, typically around 100 words	
18–20 months	Uses two-word sentences (telegraphic speech); has expressive vocabulary of 100 to 200 words		

Key stages of language development

typically observed in a UK context:

1. Pre-linguistic Stage (0–12 months)

Cooing and babbling: Infants produce vowel-like and then consonant-vowel sounds (e.g., “ba-ba”). Non-verbal communication: Gestures, eye contact, and facial expressions are used to interact.

2. Holophrastic Stage (12–18 months)

Single-word utterances: Children begin using one word to represent a whole idea (e.g., “milk” to mean “I want milk”). Vocabulary is limited but growing rapidly.

3. Two-word Stage (18–24 months)

Simple combinations: Words are paired to form basic phrases (e.g., “mummy go”). Early grammar begins to emerge.

4. Telegraphic Stage (24–36 months)

Short, grammatically incomplete sentences: Key content words are used, omitting less critical ones (e.g., “want toy”). Vocabulary expands significantly.

5. Later Multi-word Stage (3–5 years)

Complex sentences: Children begin using more grammatically correct and longer sentences. They start to grasp tenses, plurals, and question forms.

6. Continued Development (5+ years)

Refinement and literacy: Language becomes more sophisticated, with improved grammar, storytelling, and comprehension. Reading and writing skills develop alongside spoken language.

Why is it easier for babies to understand words than to produce words?

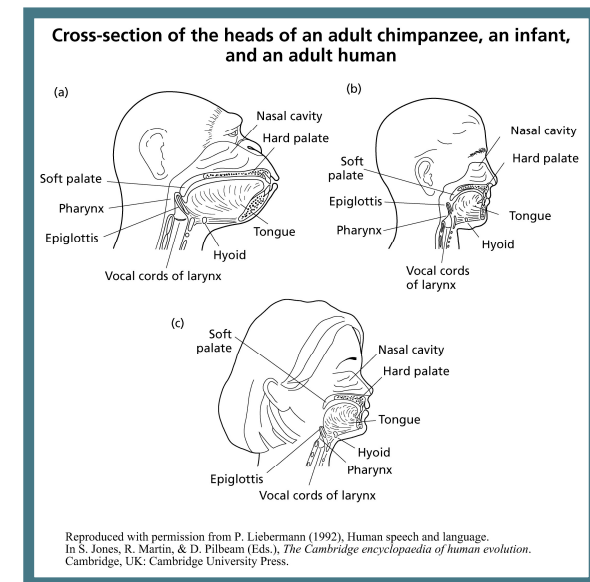
Receptive language
around 8-9 months

Expressive language
around 12 months



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Initially, young infants use associated learning to pair up a word with an object/person/event. To produce a word, they need to learn to move and coordinate different facial muscles. This takes a lot of practice through initial babbling and later imitation.



Reproduced with permission from P. Liebermann (1992), Human speech and language. In S. Jones, R. Martin, & D. Pilbeam (Eds.), *The Cambridge encyclopaedia of human evolution*. Cambridge, UK: Cambridge University Press.

Milestones in Language Development

- Infancy: Babbling, first words.

- Early Childhood: Vocabulary growth, simple sentences.

- Childhood: Complex sentences, storytelling.

- Adolescence: Abstract language, advanced grammar. (Piaget? Erikson? Vygotsky?)

Biological Influences on Language



- Genetics and brain development.

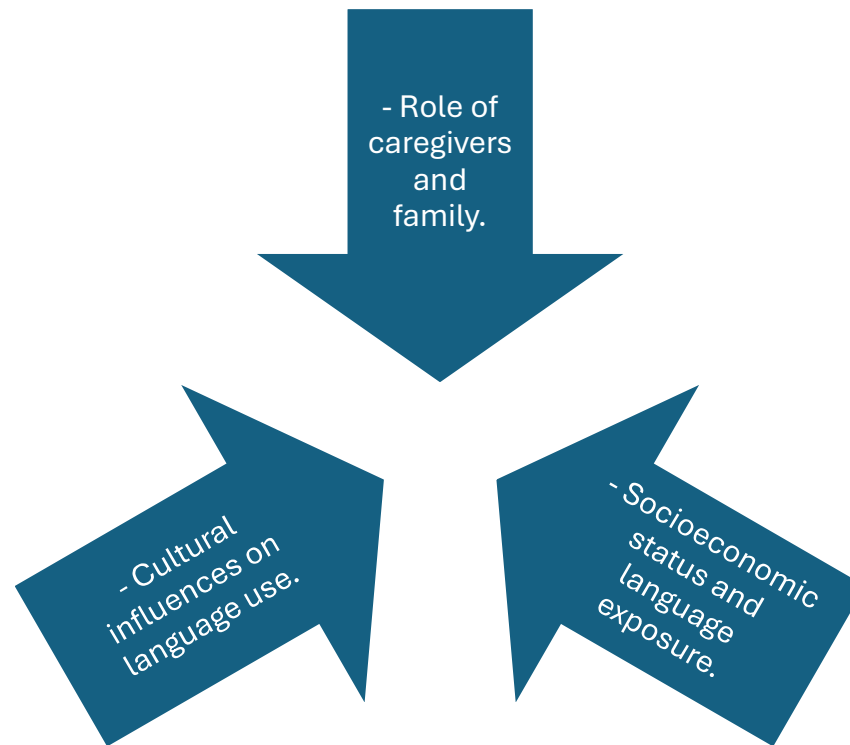


- Critical periods for language acquisition.



- Neurological basis of language.

Environmental Influences on Language





Overview of the main theories of language development

Nativist Theory

(Noam
Chomsky,
1957, 1980)

Language development is innate

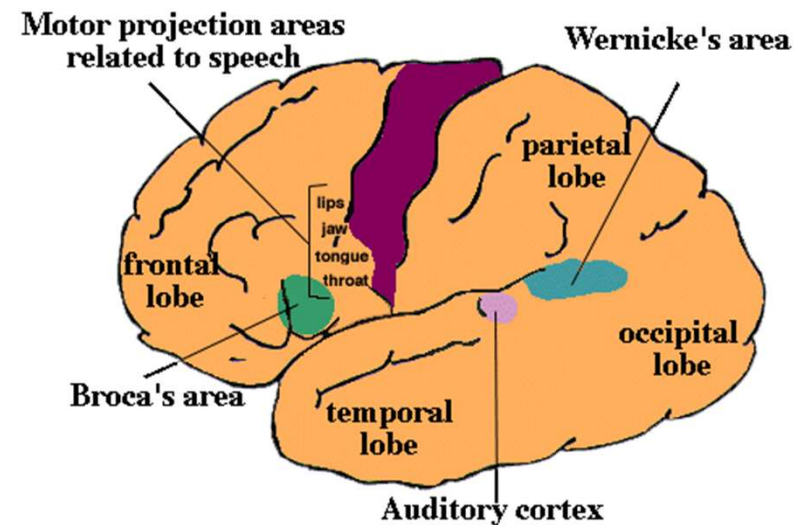
Humans are biologically programmed to acquire language.

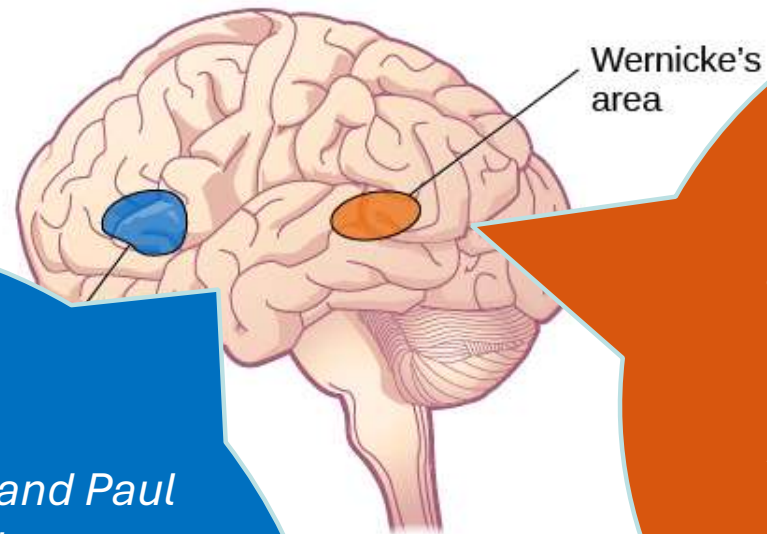
Key concept: *Language Acquisition Device (LAD)* – an innate mental structure that enables children to learn language.

Evidence: Universal grammar and the rapid pace of language acquisition in early childhood.

Nativist explanation

- Language is independent of cognition (Chomsky, 1957; 1980)
- Grammar is acquired because of an innate Language Acquisition Device (LAD) - an innate mental structure that enables children to learn language.
 - Reinforcements are not needed (Pinker, 1990)
 - Strong biological underpinning from specialised areas that process language (Broca's area: expressive language; Wernicke's area: receptive language)
 - There is a critical/sensitive period for learning language





Broca's aphasia

'Ah... Monday... ah Dad and Paul [patient's name]... and Dad... hospital. Two... ah doctors... , and ah... thirty minutes... and yes... ah... hospital. And, er Wednesday...nine o'clock. And er Thursday, ten o'clock... doctors. Two doctors... and ah... teeth. Yeah,... fine' (Goodglass, 1976, p. 278)

Wernicke's aphasia

"Well this is mother is away here working her work out o'here to get her better, but when she's looking, the two boys looking in other part. One their small tile into her time here. She's working another time because she's getting, too" (Carroll, 1999).

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Evidence Supporting Nativism

Chomsky proposed that all human languages share a common underlying structure, known as **Universal Grammar**. Children seem to acquire complex grammatical rules without explicit instruction, suggesting an innate framework.

Poverty of the Stimulus - Children often produce grammatically correct sentences they've never heard before and understand rules that are not explicitly taught. This suggests that the linguistic input (stimulus) they receive is insufficient to explain their language competence, implying the presence of an innate language faculty.

- **Critical Period Hypothesis** There appears to be a **critical period** for language acquisition, typically before puberty. Cases like **Genie**, a child who was isolated and deprived of language exposure until adolescence, show that language acquisition is severely limited if not begun early, supporting the idea of a biologically determined window for learning language.
- **Cross-Linguistic Similarities** Despite the diversity of languages, many share structural similarities (e.g., noun-verb distinctions, hierarchical syntax), which supports the idea of a shared, innate linguistic blueprint.

Application of the Nativist approach in Health and Social Care



Recognising innate potential in children.



Supporting natural language development.



Early identification of language disorders.

Behaviourist Theory (B.F. Skinner, 1957)

Language is learned through interaction with the environment via operant conditioning - imitation, reinforcement, and conditioning.

- Role of Caregivers: Provide reinforcement to shape language use.

- Emphasis on nurture: Environment and experience shape language development.

Criticism: Doesn't fully explain novel sentence creation or the speed of acquisition.

Behaviourist explanation of language development

- Baby notices the association between a particular sound pattern and the consequence in the environment
 - Associated learning
- Language develops from imitation (from the child) and reinforcement (from the parents and others)
 - Explain how we learn our regional accent and expressions well
- Parent-reinforced babbling and grammar use.
 - Correct grammar is reinforced, and becomes more frequent.
 - Non-grammatical words are not reinforced and become less frequent
 - Is this what you observe when parents interact with very young children?



Recognise the Brummie accent in this clip?

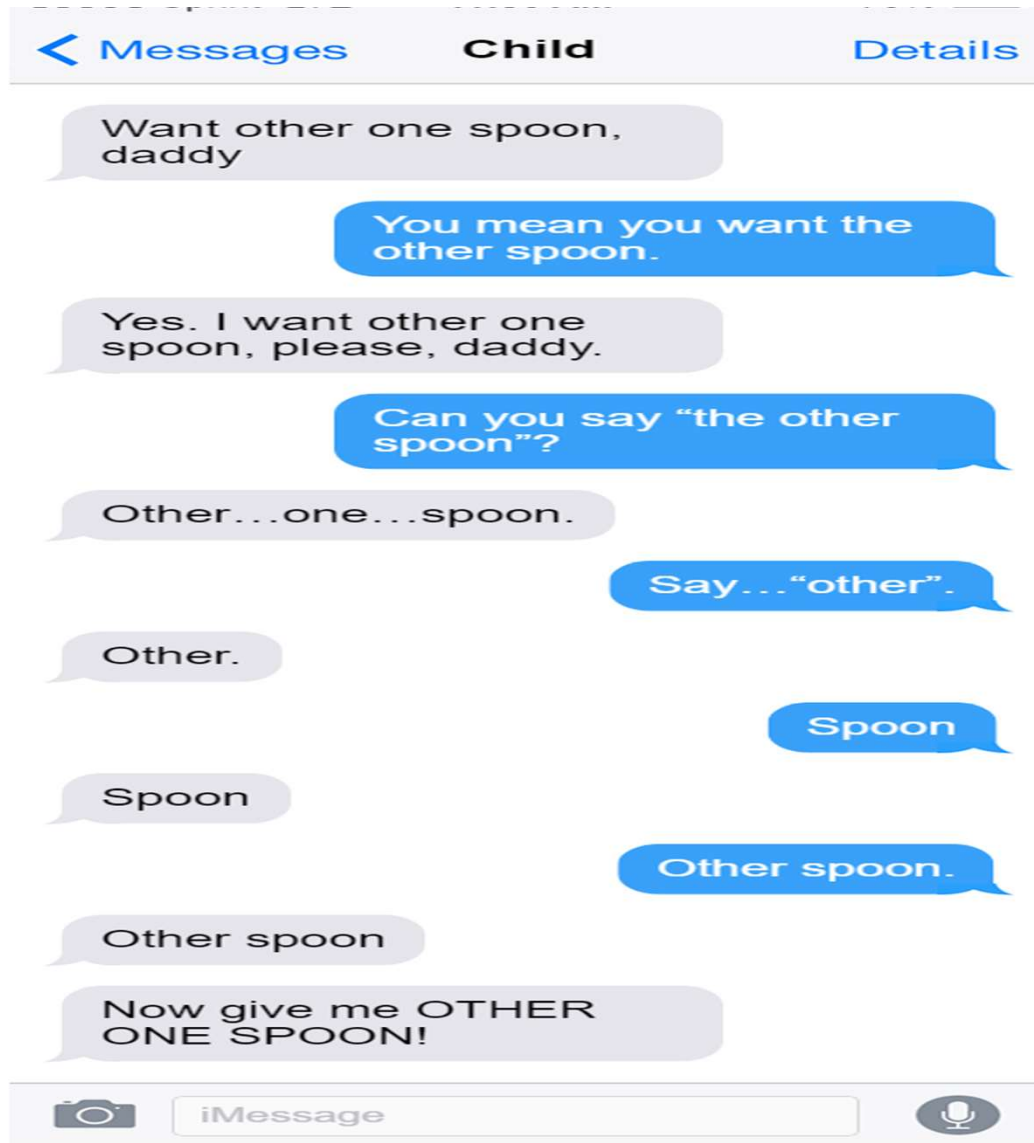
Example of over extension and parents teaching the correct word

How successful was the parents' attempt to teach a new word to their son?

Can you see modelling and reinforcements being used?

Why was it difficult for the boy to change the word in the first place?





How effective is parents' correction of their child's language? (Braine, 1971)

Correct modelling was provided early on: "You mean you want the other spoon?" Scaffolding was then used in this example here. The dad broke down the phrase to make it easier for his son to copy.

However, Daddy was missing the point here. His son wanted the other spoon, not a grammar lesson.

Remember, the behaviourist approach to learning falls short on accounting for the learner's motivation.

What do parents really reinforce?

Child: “Doggie bited daddy”

Mother: “**Yes, that’s right**”

Child: “And Walt Disney comes on Tuesday”

Mother: “**No. He doesn’t**”

In reality, parents are more concerned with ‘semantics’ than ‘grammar’.



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The boy was so proud of his great sense of achievement while his mother was correcting his grammar.

Reinforcement is more effective when the child is interested in the same thing.

Many creative uses and speech errors suggest there is more to simple associated learning and direct reinforcement.

“Me do it”

“I am ballereening” (Kuczaj, 1978) (pretend to do ballet)”

“Why is it weathering?” (when it was raining outside)

“Daddy is noisying” (when dad was cutting grass in the garden)

“Please may can I have some sweets”.

Child aged 2 - “This is my jigsaw. I’m **sawing** some jig.”

Same child aged 3 (pointing to the back of her knee):

“My **legpit** hurts.”

Children seem to be applying grammatical rules in these examples, even though they were not successful.

Application in Practice (Behaviourist)

- Speech therapy techniques using reinforcement.

- Behaviour-based interventions in early years settings.

- Supporting parents in language-rich interactions.

Interactionist Theories – Bruner (and Vygotsky)

Language
development
requires social
interaction

- Language
Acquisition Support
System (LASS).

Importance of Social Interaction

- Jerome Bruner's (1983) social interaction theory of language development emphasizes the crucial role of social interaction and communication with caregivers in helping children acquire language.
- Language develops **primarily through social interaction**. Children learn language by engaging with more knowledgeable individuals—such as parents, teachers, or peers—who help them make sense of their environment and communicate effectively.
- **Key concepts:**
 - *Zone of Proximal Development (ZPD)* – the gap between what a child can do alone and with help.
 - *Scaffolding* – support provided by adults or peers to aid learning.
 - Social Constructivism

Unlike theories that focus solely on innate biological mechanisms (like Chomsky's), Bruner believed that language develops through guided interaction within a social context.



Language Acquisition Support System (LASS)

The Language Acquisition Support System (LASS) involves the support provided by adults to help children learn language. (How does this differ from Chomsky's LAD?)

- Role of caregivers in scaffolding language.
- Joint attention and shared activities.

For example: Imitation and Expansion - If a toddler says “ball,” a caregiver might respond, “Yes, that’s a red ball!”—expanding the child’s language use.

Application in Practice (Interactionist)

- Early years settings and language-rich environments.

- Supporting parents in interactive language activities.

- Multidisciplinary collaboration in language development.

The interactionist explanation



- Four key ideas

Language follows rules as part of cognition.

Language includes internal and external factors.

Infants are born with biological preparedness to pay more attention to language than to other information.

The infant brain has generalized tools used across all cognitive

This theory does not propose language-specific neurological model like the nativist/innate explanation

- **language driven by need to interact and supported by social agents**



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Positive environmental influences on language development

- Infant-directed speech
- Babies spoken to in a higher pitch to attract their attention
- Repetitions with variations: expansion and recasting
- Tuning into infant's focus of attention: A baby more easily (Lieven, 2019; Rollins, 2003) picks up a new word when adults provide a new label to the object the baby is attending to or imitates a correct grammatical form "recast" from his own sentences by an adult.

Frequency of mother-child talk predicts the child's vocabulary size (Huttenlocher et al., 1991)

Children whose parents talk to them a lot develop richer vocabularies and are able to form more complex sentences (Gilkerson et al, 2016).



Infant/child directed speech

- Shorter, less complex, in high pitch and mostly referred to concrete vocabulary: guide infant's attention and highlight linguistic properties
- It helps babies mapping between speech sound and meaning
 - Newborns able to distinguish between IDS and adult-like speech in a different language
 - Declined use when infant becomes more 'verbal' (Golokoff et al., 2015)
 - Infants' IDS more mature than that of their carer's when they initiated the communication (Ko et al., 2015)



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University of Washington, I-LABS.

Parents use expansion & recasting to model language

- 2 year-olds produced more repetitions of the correct form if heard their own sentence being recast by parents (Farrar, 1992; Nelson, 1977)
 - **Expansion:** Repeat with expanded grammatical forms
 - M: Who stepped on that?
 - C: Muffy.
 - M: Muffy stepped on it.
 - **Recasting:** Reformulate the child's incorrect uses (Chouinard & Clark, 2003)
 - C: I want *butter mine*.
 - F: OK, give it here and I'll put *butter on it*.
 - C: I need *butter on it*.



Scaffolding from
Vygotskian theory?

This is a two-year-old talking to his dad about a 'snake'



- This theory emphasizes the **social and cultural context** of language learning.
- It highlights the importance of **interactive dialogue, play,** and **shared activities** in developing communication skills.
- It also underpins many **early years education practices** in the UK, such as dialogic reading and adult-child conversations in play-based learning.





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- Which theory makes a better explanation of a child's language development? How does each consider the child's contribution to their language development?
- Is it good to talk to your baby a lot?
- Should parents focus on reinforcing the correct grammar when they 'talk' to their child?



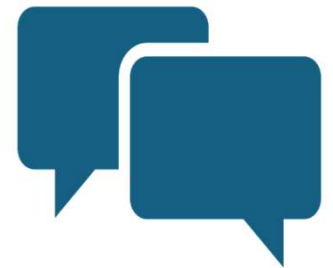
Apply Language Development Theories

Use the **Nativist**, **Behaviourist**, and **Interactionist** theories to analyse Amira's limited verbal communication.

- Briefly define each theory.
- Discuss how each theory might explain Amira's language development challenges.
- Consider how nature (biology) and nurture (environment) interact in her case.

Questions:

- What role might Amira's home environment play?
- Could anxiety affect her language development?
- Does the theory consider cultural or individual differences?
- Are there aspects of Amira's language development the theory doesn't explain?





Comparison of Language Development Theories

Aspect	Innate (Nativist)	Behaviourist	Interactionist
Key Theorist(s)	Noam Chomsky	B.F. Skinner	Lev Vygotsky, Jerome Bruner
Core Idea	Language is biologically hardwired	Language is learned through environment	Language develops through social interaction
Mechanism of Learning	Inborn Language Acquisition Device (LAD)	Imitation, reinforcement, conditioning	Scaffolding within the Zone of Proximal Development (ZPD)
Role of Environment	Minimal – triggers innate ability	Crucial – provides stimuli and feedback	Essential – provides interaction and support
Strengths	Explains rapid and universal acquisition	Emphasises observable behaviour	Emphasises cultural and social context
Criticisms	Underestimates role of environment	Doesn't explain novel sentence creation	Less precise about biological mechanisms



A child hears language from different sources: with their older sibling or from the exchange between their sibling and parents; exchange between other parent and their child; from chatters among their peers.



Social learning theory works well in how they can observe and learn from others' 'conversations' (Bandura, 1992).

Babies and toddlers are more responsive to an adult's 'attempts' at shaping/modelling their language when the adult keeps the baby's interest at the front and centre of the interaction.

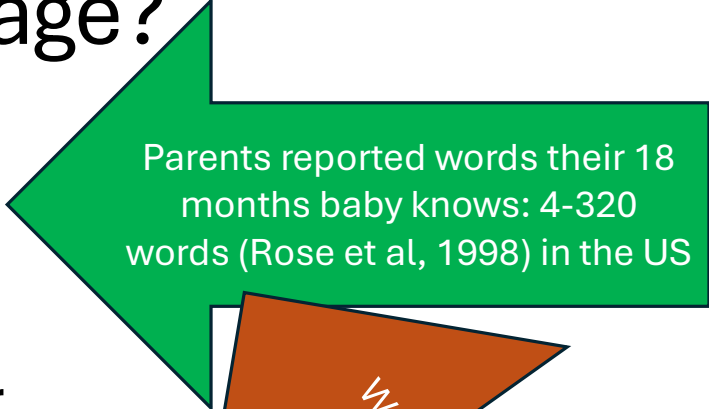
Infants' IDS more mature than that of their carer's when infants initiated the communication (Ko et al., 2015)



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How good is your child's language?

- **Broad range of individual differences in the child's language and the language they hear**
 - A typical 2.5-year-old has a 600-word vocabulary.
 - A 5–6-year-old's vocabulary is as large as 15,000 words; he or she adds 10 new words a day.

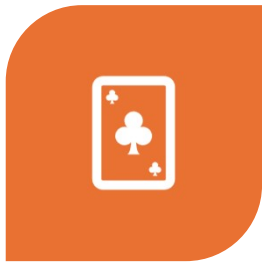


Parents reported words their 18 months baby knows: 4-320 words (Rose et al, 1998) in the US



Words 18-21 month olds hear in a day: 7,239-43,926 (Jago et al., submitted; Lieven, 2019)

These amazing vocabularies and good grasp of grammar are beneficial



PLAYING WITH OTHERS



COMMUNICATING WITH
OTHERS AND FORMING
RELATIONSHIP



FORMING IDEAS ABOUT THE
WORLD AROUND THEM

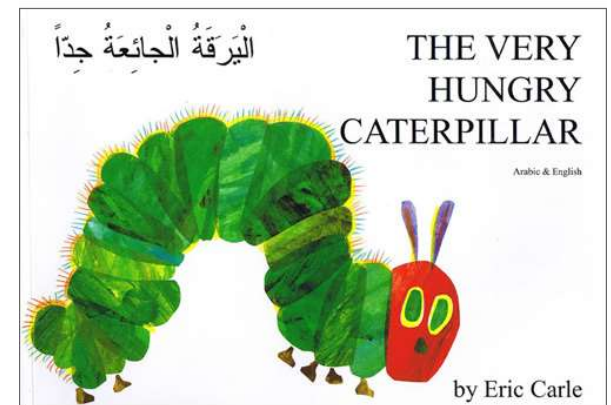


LEARNING TO READ AND
COUNTING IN NURSERY
AND SCHOOLS

Children who hear a lot of emotional talks tend to show higher level of emotional awareness.

Bilingual/multilingual child in school

- 20.2% of primary children who speak English as an additional language in 2023 (gov.uk, 2023).
- Given that there is a strong link between a child's language and reading in school, should parents stop speaking their home language to their child, so their child has a better head start in school in the UK?
- There are myths and misconceptions about language development in bilingual children.
- What can we learn from research in language development to make an informed decision?



Applying research in language development



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Download the worksheet and the Evidence Briefing document referenced below. Don't forget to take note of the full references.

Serratrice, L. (n.d.) 'Myths and misconceptions about language development in multilingual children'. *The ESRC International Centre for Language and Communicative Development (LuCiD)*

After completing the worksheet, what can we do to support children speaking English as an additional language in nurseries and primary schools?

You could take a further look at the reference list.