

Notes Jan 12-16

Infancy (0-12 months)

0-1 mos.	Startle response to sound, quieted by human voice
2-3 mos.	Cooing; production of some vowel sounds, response to speech, babbling
4-6 mos.	Babbling, strings of syllables, imitation of sounds, variations in pitch & loudness
7-9 mos.	Comprehension of some words and simple requests, increased imitation of speech sounds, may say or imitate /mama/ or /dada/
10-12 mos.	Understand of "no", response to requests, response to own name, production of 1+ words

- This is the task of an infant: separate this into words: Play Radio Japan Swahili
- Major milestones:
 - Attention to prosodic regularities
 - Frequency (pitch)
 - Duration (length)
 - Intensity (loudness)
 - Stress (word level)
 - Prefer strong-weak (by 9mos. – 6mos. Don't have preference – what type of test allows for PREFERENCE)
 - Giant
 - PICTURE
 - Over weak-strong
 - aCROSS
 - aHEAD
 - today
 - Useful because
 - Giant TABLE not ANTta
 - KILLer DOLphin not LERdol
 - Intonation (sentence level)
 - Statement
 - Question
 - Phonetic Regularities

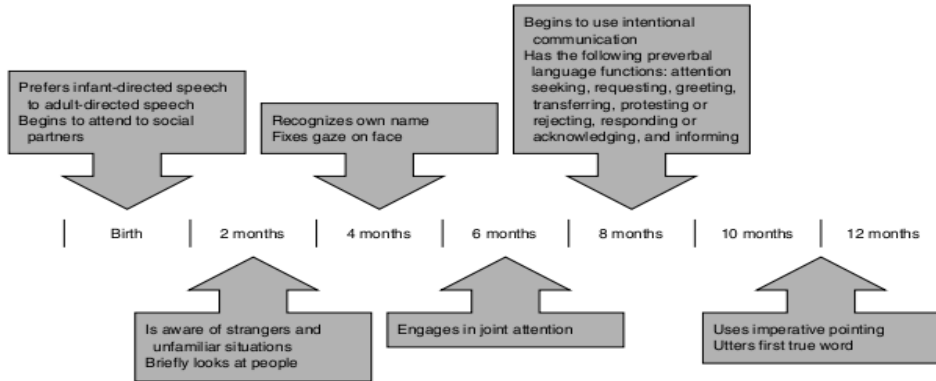
Primate BBC Movie

- Stager & Walker experiment
 - 8mos. care re "bih" vs "dih"
 - 14 mos. don't care
 - both care re "lif" vs "neem"

- (final exp. With checkerboard (probably doesn't have a name), both cared "bih" vs. "dih")
 - 14mos. learning words more grossly
 - 8mos. picking out sounds
 - Categorical perception
 - Aspiration doesn't matter in English, so we don't use valuable mental energy listening to it.
 - r/l gradation
 - Non-native sounds
 - Perceptual narrowing (6mos. to 1 year)
 - Speech sounds
 - Faces
 - Musical rhythm
 - Probably domain-general
 - Phonotactic regularities
 - RULES!
 - /ps/ is word-final, NEVER word initial
 - Categorical perception of speech
 - Speech vs. non speech
 - Voice onset time – interval between the release of a stop consonant and the onset of vocal cord vibrations
 - Audacity
 - VOT is long for /ptk/ short for /bdg/
 - Awareness of actions & intentions
 - 4mos. start attending to intentions rather than details of actions
 - looking at goals rather than paths (reaching events)
 - Category formation – VERY BEGINNING
 - Superordinate (preschool to really get this – generally learn with repeated exposure and nearly explicit teaching at home)
 - General concepts
 - Food
 - Clothing
 - Dishes
 - Basic
 - General exemplars
 - Apples
 - Chicken
 - Rice
 - Subordinate
 - Grapefruit
 - Chicken picatta
 - Basmati
 - Categories at each level
 - Perceptual - appearance
 - Color
 - Shape
 - Size

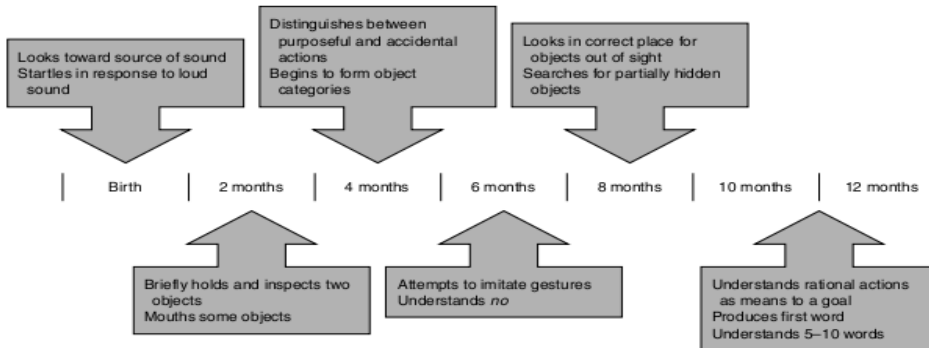
- Texture
 - 3 mos. cats/dogs
 - 4mos. animals/furniture
 - Conceptual
 - Based on what objects do (not necessarily what they are)
 - This is when categories start becoming so different (i.e., the pond/lake example)
 - Early vocalizations
 - 5 mos. non-cry elicits more than crying
 - Stage model
 - Reflexive (0-2 mos.)
 - Cries
 - Fussing
 - Control of Phonation (1-4 mos.)
 - Cooing going
 - Mouth noises
 - Near vowels
 - Raspberries
 - Nasals
 - Trills
 - Expansion (3-8 mos.)
 - Loudness
 - Pitch
 - Consonant-like & vowel-like sounds
 - Basic canonical syllables (5-10 mos.)
 - CV syllables
 - Babbling
 - Reduplicated babbling
 - Variegated babbling (non-reduplicated)
 - (nasals & stops)
 - Deaf babies do the exact same when exposed to sign language
 - Advanced Forms (9-18 mos)
 - Diphthongs
 - Change up the syllables
 - VC (am) CCV (sti) VCV oto
 - JARGON!
 - Special babbling w/ 2 syllables & 2 different consonants & vowels (w/stress & intonation)
 - NOT words b/c not referential or meaningful

Pragmatics



Sources: Colombo, Shaddy, Richman, Maikranz, and Blaga (2004); Cooper and Aslin (1990); Gard, Gilman, and Gorman (1993); Jusczyk (2003); Nathani, Ertmer, and Stark (2006); Woodward (1998); and Woodward and Hoyne (1999).

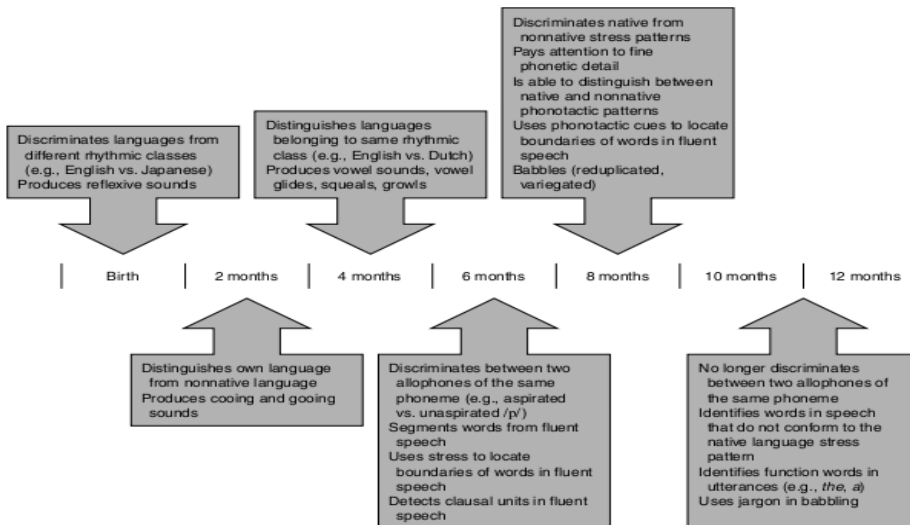
Semantics



6

Infancy:

Phonology



How do babies develop this? What are the foundations?

- Characteristics of child-directed speech
- Play Hebrew Motherese

Voice	Singsong, higher pitch w/ broader range of inflection & stress
Fluency	Slower speaking rate More fluent than adult-directed speech
Semantic	Small vocab More frequent use of nouns that represent concrete objects High rate of redundancy & overlap
Syntactic	Shorter utterances w/ simplified syntax Fewer MLUs (You want potatoes? Vs. Do you want potatoes w/ dinner?) Fewer subordinate clauses (I got you a present. Gma got you a present. Gpa got you a present. Vs. I got you a present & so did gma & gma) Higher content word ratio (See bike? Vs. see that bike over there?)
Phonologic	Exaggerated artic accuracy
Pragmatic	Face within child's view Topics are here & now Increased use of gestures & facial expressions More frequent & longer pauses Repetition More questions

- Joint Reference and Attention
 - ZPD: increasing social interaction
 - Phase 1: attention to social partners (0-6mos)
 - Receptive to interpersonal interactions
 - Maintain attn. when engaged w. others
 - Phase 2: Emergence & coordination of attention (6-12mos)
 - Object focused activities
 - Attempt to communicate w others
 - Supported joint engagement (attention)
 - Books, activities together
 - Caregivers help (animated voice, pointing)
 - Huge influence in vocab dev.
 - The more a caregiver hold attn., the higher the vocab
 - The more caregiver redirects, the harder to develop vocab
 - Intersubjective awareness
 - Recognition of when 1 person shares a mental focus on an object or action w another person "Look at this" (8-10 mos)
 - Alternates eye gaze w referent & convo partner
 - Pointing
 - Imperative

- Gimme
 - Declarative
 - Later – to point out or comment
 - Phase 3: Transition to Language (12mos.+)
- Helping Infants Succeed
 - Waiting & listening – wait for initiations, use slow pace & allow child to speak
 - Following the child’s lead – what is s/he interested in?
 - Joining in & playing
 - Being face-to-face
 - Using a variety of questions & labels (wh Q’s, few yes/no (clarity only), few test/rhetorical questions)
 - Encouraging turn taking (i.e., wait for child responses)
 - Expanding & extending

Milestones

Form – ugh! what do we know?

Content

12mos. – first word

- must have intention & referent
- approximate adult form (no pseudowords)
- “Fluffy” doesn’t count, but “kitty” does if applied to all kitties

Use

- Attention seeking to self – largely physical (ie tugs)
- Attn seeking to events, objects, other people (points)
- Request objects (imperative pointing)
- Request action (hand object to adult)
- Request information (pointing)
- Greetings (hi/byby)
- Transferring (give objects away)
- Protest/reject (cries)
- Respond/acknowledge (smile/laugh)
- Inform (pointing)

Why isn’t my child doing...

- Intraindividual differences
 - Regardless of SES, how much a parent talks to kids will be biggest predictor of success.
 - Biggest predictor of parent-child talk is SES
 - Expressive & receptive at age 12:80
 - Late Talkers (fewer than 50 expressive at age 2, about 10-20% of population)

Toddlerhood

12-36mos.

Creating matches between objects and actions

13-15 mos.	Production of 5-10 words (mostly nouns), appropriate pointing responses
16-18 mos.	Following simple directions, production of 2 word phrases, production of <i>I</i> and <i>mine</i>
24-30 mos. (2-2.5 yrs)	Response to some yes/no questions, naming everyday objects, production of phrases & incomplete sentences; production of the present progressive (ing), prepositions, regular plural, and negation “no” or “not”

- First word – TRUE word
 - Clear purpose “coke” has clear purpose. “Maria, say “coke”” does not
 - Pronunciation similar to adult form
 - Phonetically consistent forms (“goo” for “mom” is not a word, but it is a PCF) – important to learn consistency
 - Consistent use that extends beyond singular context (i.e., “eat” at home & “eat” at restaurant or “book” for a variety of books)
 - Transition from gestures to words (14 mos use both equally) 22mos prefer words
 - Referential gestures – advanced (like declarative pointing plus – combining regular gestures together to make multiple words)
 - Basically pretending to do things... means that they have a representation of the word without having the word

Toddlerhood is a BIG DEAL for language!

Need to talk about **customary age of attainment**: the age by which 50% of children produce whatever we’re talking about

Age of mastery is when most children produce whatever in an adultlike manner

- Phonology

At age 2

p/t/k/b/d/g/m/n/ f/s/w

At age 4

p/t/k/b/d/g/m/n/ng f/v/s/z/sh w/j/l/r

- To test a sound, can’t just use words that start with the sound, have to move it around in the word... /table/ /tent/ /rent/ /writing/ (clusters, too – stop, trip)
- The cute errors are actually rule-governed *phonological* processes (possibly to reduce the phonemic inventory) these are UNIVERSAL!
 - Syllable structure changes
 - Weak syllable deletion
 - Reduplication (baba, mama, dada, wawa, kiki)
 - Consonant cluster reduction (string – sting/spaghetti – susgetti) (closer to CV)
 - Final consonant deletion (closer to CV)

- Assimilation
 - Voicing - Tell/dell pig/big push/bush soup/zup
 - Place – doggi/goggi baby/bibi (identical vowels) self/felf dance/nance
- Place of articulation
 - Fronting
 - Backing
- Manner of articulation
 - Stopping
 - Gliding
- Phonological perception
 - Toddlers recognize that the same word said by 2 speakers is the same word (infants don't know this) – so the vocalizations are not actually part of the word (other animals probably never get this)
 - Toddlers know they aren't doing it right – see example in small sheet
 - Transition period
 - Inconsistent
 - Successfully learn novel non-neighbors (not phonologically similar)
 - Struggle with novel neighbors (phonologically similar)
 - Pole/bowl is hard
 - Bowl/plate is easy
 - Toddlers probably process words incrementally and make contextual guesses (picture identifying task)
 - 25 months word recognition speed & vocab size predicts (not 100%, but significantly) 8yrs. Old. & 3rd grade is THE grade
- Morphology
 - 50 word mark (18-24mos)
 - Morphemes appear!!!
 - Hidden in the box experiment (at 24 mos, they search longer, but not at 20 mos)
 - A car
 - Some cars
 - My car
 - My cars

TABLE 3.1
Grammatical morphemes acquired in early childhood

Grammatical morpheme	Age (in months)	Example
Present progressive <i>-ing</i>	19–28	"Mommy eating"
Plural <i>-s</i>	27–30	"Baby shoes"
Preposition <i>in</i>	27–30	"Hat in box"
Preposition <i>on</i>	31–34	"Hat on chair"
Possessive <i>'s</i>	31–34	"Baby's ball"
Regular past tense <i>-ed</i>	43–46	"Kitty jumped."
Irregular past tense	43–46	"We ate."
Regular third person singular <i>-s</i>	43–46	"Mommy drives."
Articles <i>a, the, an</i>	43–46	"The car"
Contractible copula <i>be</i>	43–46	"She's happy."
Contractible auxiliary	47–50	"She's coming."
Uncontractible copula <i>be</i>	47–50	"We were here."
Uncontractible auxiliary	47–50	"She was coming."
Irregular third person	47–50	"She did it."

Source: Information from *A First Language: The Early Stages*, by R. Brown, 1973, Cambridge, MA: Harvard University Press.

- Syntax!
 - Combine words
 - 2 word stage
 - no juice
 - baby cry
 - dada bottle
 - Telegraphic quality (often omit grammatical markers)
 - Begin yes/no Q's "Are we going?"
 - Wh Q's "What's that"
 - Commands "You do it"
 - Negatives "Mammy no go"

USE Table 6.3 Brown's MLU Stages – do NOT use Table 3.3 – it's less accurate

TABLE 6.3
Roger Brown's (1973) stages of language development

Brown's stage	Age (upper limit in months)	MLU	MLU range	Major achievements
I	18	1.31	0.99–1.64	Single-word sentences are used. Nouns and uninflected verbs are used ("Mommy"; "eat").
II	24	1.92	1.47–2.37	Two-element sentences are used. True clauses that are not evident are used ("Mommy up"; "Eat cookie").
III	30	2.54	1.97–3.11	Three-element sentences are used. Independent clauses emerge ("Baby want cookie").
IV	36	3.16	2.47–3.85	Four-element sentences are used. Independent clauses continue to emerge ("The teacher gave it to me").
V	42	3.78	2.96–4.60	Recursive elements predominate. Connecting devices emerge ("and"; "because").
Post-V	54	5.02	3.96–6.08	Complex syntactic patterns appear. Subordination and coordination continue to emerge. Complement clauses are used ("She's not feeling well").

MLU = mean length of utterance.

TABLE 3.3
Stages of grammatical development

Stage	MLU range (midpoint)	Stage description
I	1.0–1.99 (1.75)	Single-word utterances predominate. Grammatical inflections not used.
II	2.0–2.49 (2.25)	Two- and three-word utterances predominate. Grammatical inflections emerge (e.g., present progressive marker, plural marker). Emergence of grammar as child follows basic word-order patterns (e.g., Agent + Action: "Mommy go"; Agent + Action + Object: "DeeDee ate bone").
III	2.5–2.99 (2.75)	Emergence of different sentence modalities: yes–no questions, <i>wh</i> -questions, imperatives, and negatives.
IV	3.0–3.99 (3.5)	Complex sentences emerge to feature multiclausal sentences, such as object–noun phrase complements ("This is the one I made"), embedded <i>wh</i> -questions ("That's why she went outside"), and embedded relative clauses ("Clifford, who was so good, is still waiting").
V	4.01	Emergence of coordinating conjunctions and adverbial conjuncts ("I am tired because I didn't take a nap"; "I'm helping Daddy do the dishes and make dinner").

MLU = mean length of utterance.

Source: Based on *A First Language: The Early Stages (1-59)* by R. Brown, 1973, Cambridge, MA: Harvard University Press.

- Content
 - Vocabulary spurt – your book is wrong, they aren't actually LEARNING 7-9 new words a day, they are PRODUCING 7-9 new words a day.
 - In infancy, receptive:expressive is about 80:10.

- This shifts in toddlerhood, and they can produce lots of new words every day. It's not necessarily a vocab spurt even though we perceive it that way
 - Overextension
 - Categorical
 - Knows cat, calls everything fluffy a cat
 - Knows juice, calls everything liquid juice
 - Analogical
 - Perceptually similar
 - Ball so everything round is a ball
 - Umbrella/hanger expression
 - Relational
 - Semantically or thematically related
 - Fork to all dishes & eating utensils
 - Do this for about 1/3 – because they don't have the categories set up yet, still creating those relationships
 - Pragmatic errors
 - Don't know the word yet, so do something close
 - Underextension
 - Book is only my book about dolphins
 - Overlap
 - Over & underextension
 - Retrieval errors – we all do this!
- The Quinean conundrum
 - The mapping part – the rabbit
 - Lexical principles Framework for acquiring new words
 - Tier 1 – simple because rely on cognitive-perceptual abilities, not
 - Reference – the symbolizing of something
 - Extendibility
 - Object scope
 - Whole object, not just the fur
 - Tier 2
 - Conventionality
 - Do away with pseudowords
 - Categorical scope
 - Move from extendibility to categories
 - Novel name-nameless category
 - Objects have only 1 label
 - Social-Pragmatic Framework
 - Not a domain-specific process... rather, children only use social cues to figure out what people are referring to
 - Fast mapping
 - Just a few exposures and a child will learn a word
 - BIG debate if it's language specific for word learning or domain general
 - Thematic Roles

- Agent (*Wanda* loves Vegas) Theme (*Wanda* drove a *car*) Source *Wanda* took a cookie from *the jar*) Goal (*Wanda baked a cake*) Location (*Wanda* lives in *Vegas*)
 - Great at picking up the kind of verb from just one training exercise
- Language Use
 - Discourse
 - Can do all the forces of utterances
 - Conversation
 - Still suck at it – can't initiate and don't answer questions in the way we expect them to.
 - Assume way more context than is there

What factors contribute to individual achievements?

- Gender
 - Girls' lexical development is almost uniformly higher
- Birth Order
 - First borns
 - Greater lexical & grammatical development
 - Later borns
 - Better conversational skills
- Childcare
 - Small group size
 - Language stimulation has lasting effects up to 3 years on language outcomes
- SES
 - Has more to do with education – higher SES usually means more education, but not always. Significant effect of education on language exposure

Measuring child language abilities

- Production
 - Observation (like the lang analysis)
 - Elicited imitation (good for syntax)
 - Elicited production (Wug test, good for morphology)
- Comprehension
 - Picture selection (time/dime; grass/glass; Wanda hit Betty/Wanda was hit by Betty)
 - Act it out (do X with stuffed animals)

TABLE 6.5
Morphosyntactic contrasts tested by using the picture selection task

Contrast tested	Sample sentence pair
Affirmative vs. negative	<i>The girl is cooking.</i> <i>The girl is not cooking.</i>
Subject vs. object (active voice)	<i>The train bumps the car.</i> <i>The car bumps the train.</i>
Present progressive tense vs. future tense	<i>The girl is drinking.</i> <i>The girl will drink.</i>
Singular vs. plural possessive	<i>That's his wagon.</i> <i>That's their wagon.</i>
Present progressive tense vs. past tense	<i>The paint is spilling.</i> <i>The paint spilled.</i>
Mass noun vs. count noun	<i>There's some mog.</i> <i>There's a dap.</i>
Singular vs. plural auxiliary <i>be</i>	<i>The deer is running.</i> <i>The deer are running.</i>
Singular vs. plural inflections	<i>The boy draws.</i> <i>The boys draw.</i>
Subject vs. object (passive voice)	<i>The car is bumped by the train.</i> <i>The train is bumped by the car.</i>
Indirect vs. direct object	<i>The girl shows the cat the dog.</i> <i>The girl shows the dog the cat.</i>

Note: Morphosyntactic contrasts are presented in order of comprehension difficulty.

- Judgment Tasks
 - Yes/No – Does every child have a dog? Does every dog have a child?
 - Reward/Punish – the puppets and the cookies. Every child has a dog = cookie
 - Can't do GJT's yet – save it for Preschoolers

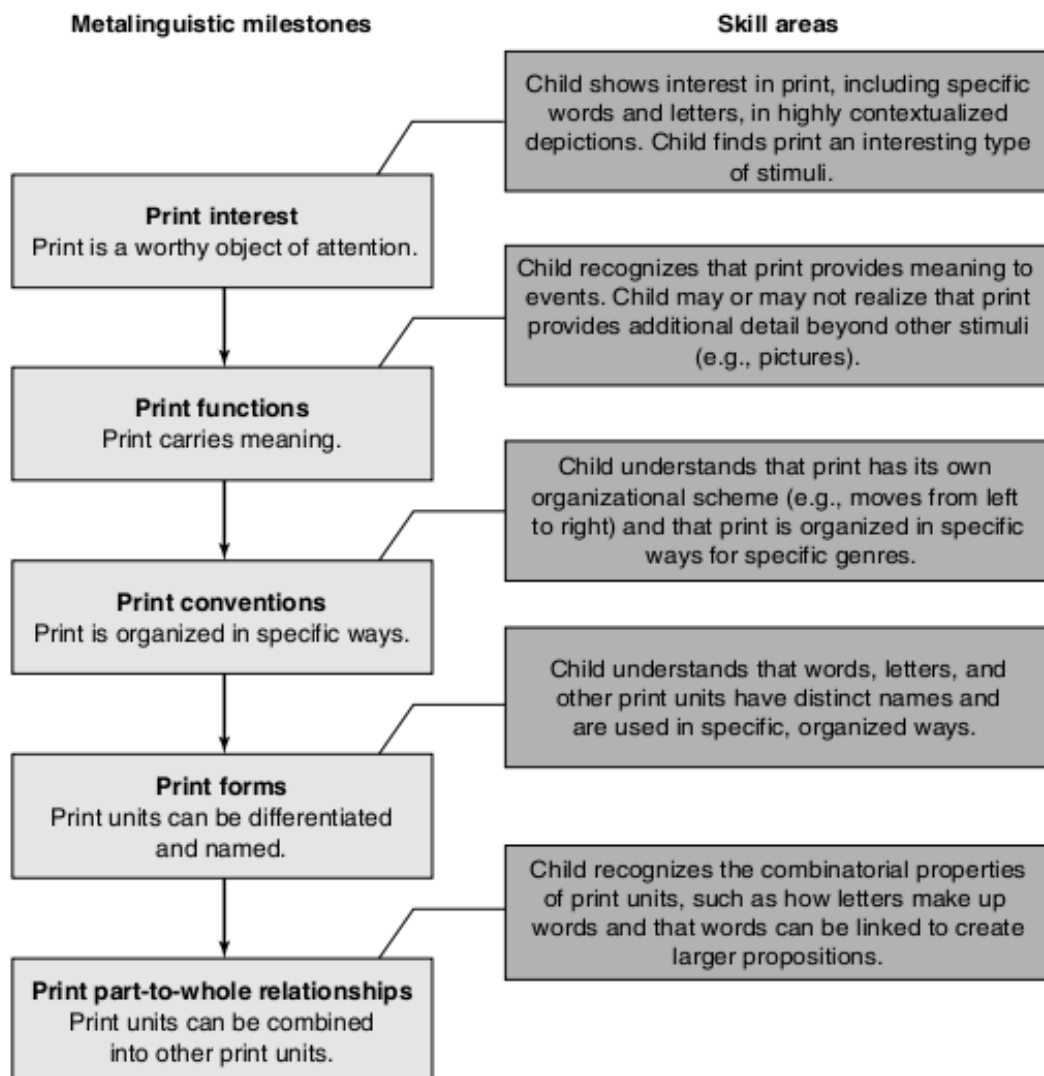
Clinicians use the MacArthur–Bates Communicative Development Inventories - a lot of it is available online, too

Preschool Age 3-5

36-42 mos. (3-3.5 yrs)	Production of 3-4 word sentences, production of possessive morpheme, several forms of questions, negatives “can’t” and “don’t”, comprehension of “why”, “who”, “whose”, and “how many”, and initial productions of most grammatical morphemes
42-60 mos. (3.5-5 yrs)	Greater mastery of articles, different tense forms, copula, auxiliary, 3 rd p sg, other grammatical morphemes, production of grammatically complete sentences.

- Biggest Deal: Decontextualized language!
 - They can talk about things that are not here and now, or things that are in a different time/place.
 - School totally depends on this
 - Requires Theory of Mind: Watch video

- Second biggest: Emergent literacy
 - This is the foundation for school
 - Phonemic awareness
 - Vocabulary
 - Metalinguistic awareness
 - Language as a thing
 - Pretending to write
 - Pretending to read
 - Make up rhymes
 - Alphabet knowledge
 - own-name-advantage 80% of middle class kids know their name letters
 - Letter-name pronunciation effect (what are X & J all about?)
 - Letter-order (Learn your ABC's book)
 - Consonant order – ptkbdgmnf are learned first cause the sounds are learned first
 - Print awareness



Caregivers have huge effect in developing print awareness

- Just reading a book, kids look 12 times
- Nonverbal references to print, kids look 18 times
- Explicit, verbal references, kids look 21 times
- Phonological Awareness (don't need phonemic to do pre-literacy)

TABLE 7.1

Achievements in phonological awareness

Phonological awareness skill	Description	Level	Developmental expectation
<i>Word awareness</i>	Segments sentences into words	Shallow	Early to middle preschool
<i>Syllable awareness</i>	Segments multisyllable words into syllables	Shallow	Early to middle preschool <i>Syllable counting</i>
<i>Rhyme awareness</i>	Recognizes when two words rhyme; produces pairs of words that rhyme	Shallow	Early to middle preschool <i>Rhyme detection</i>
<i>Onset awareness</i>	Segments the beginning sound (onset) from the rest of a syllable; blends the beginning sound (onset) with the rest of a syllable	Shallow	Late preschool <i>Initial sound ID</i>
<i>Phoneme identity</i>	Identifies sounds at the beginning and end of the word; identifies words that start with the same sound	Shallow	Late preschool, early kindergarten
<i>Phoneme blending</i>	Blends phonemes to make a word	Deep	Early kindergarten <i>Initial Sound elision</i>
<i>Phoneme segmentation</i>	Segments a word into its phonemes	Deep	Middle to late kindergarten
<i>Phoneme counting</i>	Identifies the number of phonemes in a word	Deep	Late kindergarten to end of first grade <i>Phoneme Counting</i>
<i>Phoneme manipulation</i>	Deletes, adds, and rearranges phonemes in a word	Deep	Elementary grades

- Phonology (4&5 yr olds are very good at most adult sounds sounds)
 - Weak syllable deletion & cluster reduction can persist into age 5, though.
 - Very difficult clusters continue to be reduced (spaghetti)
 - Liquid gliding (l/r → w)
 - Stopping (th → t)
 - Very important to get adequate adult input to develop receptive – this is where phonemic awareness comes from
- Morphology
 - Verbs!

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- Form
 - Make more complex sentences
 1. Subject–verb–object–adverb: Wanda drives the car fast
 2. Subject–verb–complement–adverb: Wanda is happy today
 3. Subject–auxiliary–verb–adverb: Wanda was working yesterday
- Language Content
 - 2 words per day
 - Slow mapping
 - Refining meanings
 - They know enough to do bootstrapping now! (also called extended mapping)
 - *why would syntactic bootstrapping be more useful earlier than semantic bootstrapping?
 - Stop doing perceptual overextension & start doing functional
 - Start making clear distinction between animacy & nouns/verbs/adjective
 - Find the wug vs. Find wug
 - Alligators like to use the computer vs. this alligator likes to use the computer
 - End of preschool – master deixis (here/this before there/that)
 - Better at questions (like they actually can answer them with some sense)
 - Temporals to describe order & duration (before/after) (since/until) (while, during)
 - Opposites

- Rest of the prepositions
 - Kinship
- Conversational skills
 - Better at taking turns and understanding conversational breakdown
- Narrative skills
 - Intro, high point, resolution (very culturally situated)
 - Predicts future school success
- Lots of things impact preschool language (all the usual suspects –SES, gender, exposure)
- Researchers do GJT's w/ reward/punishment paradigm
 - What your favorite movie is?
 - She saw himself

Measures applied to spontaneous language samples

Measure	General goal	Specific goal	Calculation
Mean length of utterance (MLU) in morphemes	To measure syntactic complexity	To determine the average length of morphemes in utterances	Total number of morphemes/total number of utterances
Percentage of complex sentences	To measure syntactic complexity in later stages of syntactic development	To determine the percentage of sentences in a sample containing more than one clause	Number of complex sentences/number of complete sentences
Total number of words (TNW)	To measure lexical productivity	To determine the total number of words used in a sample	Raw frequency of number of main-body words
Number of different words (NDW)	To measure lexical diversity	To determine the number of different words used in a sample	Raw frequency of different main-body word roots (e.g., <i>girl</i> and <i>girls</i> would be counted only once)
Type-token ratio (TTR)	To measure lexical diversity	To determine the ratio of different words used to the total number of words used in a sample	NDW/TNW
Conjunction use	To measure syntactic complexity and the ability to organize discourse	To determine the number of coordinating conjunctions (e.g., <i>and, or, but, so</i>) and subordinating conjunctions (e.g., <i>because, still, although</i>) in a sample	Raw frequency of conjunctions used in a sample or Percentage of utterances containing conjunctions
Percentage of responses to questions	To measure discourse abilities	To determine the percentage of questions responded to in a sample	Number of questions responded to immediately following the question/ number of questions asked by another speaker
Percentage of intelligible utterances	To measure intelligibility (i.e., phonological abilities)	To determine the percentage of complete utterances that are intelligible	Number of complete and intelligible utterances/ number of complete utterances
Number of mazes (language disruptions)	To measure fluency	To determine the extent to which a speaker uses false starts, filled pauses (e.g., <i>um, uh</i>), repetitions, and reformulations	Raw frequency of mazes in a sample or Percentage of utterances containing mazes

School age & beyond (5yrs+)

- Big deal: shift towards written input from oral (in this culture)
- Literacy
 - Decoding (5-7 yrs)
 - Substitution errors (semantically plausible for a word they don't know)
 - Confirmation, fluency & unplugging from print (7-8yrs)

- Becoming more confident & able to read for content rather than just reading the letters
 - Reading to learn – a REALLY BIG DEAL (9-14)
 - (9-11yrs) read for things beyond egocentric purposes
 - (12-14) can read adult length, but not complexity
 - Multiple viewpoints (14-18)
 - Can consider different ways of looking at a problem
 - Construction & reconstruction (18+)
 - Critical thinking – can question validity
- Metalinguistic competence (can talk about language as an object unto itself)
 - Phonological – Phonemic awareness
 - Sound manipulation
 - What happens if you switch the k& t in cat?
 - Semantic
 - Figurative language (think must have a good grasp of categories before can really do this)
 - Metaphors
 - Similes
 - Hyperboles
 - Idioms (overt idioms (hold your tongue) age 5-9, opaque hold your horses takes a bit longer)
 - Irony & sarcasm (9-10yrs – have to understand speakers' intentions)
 - Proverbs – requires deep cultural knowledge
- Language Form
 - Morphophonemic awareness
 - (5-6) – matches, watches vs. packs, snacks
 - 5-6 stress & emphasis (blackboard vs. black board or record vs record)
 - 17+ vowel shifting (sane-sanity serene-serenity)
 - morphological
 - the derivational suffixes and prefixes and the infix
 - complex syntax
 - np modification (a store for selling appetizers)
 - perfective aspect (the birds have flown south)
 - adverbial conjunctions (consequently, furthermore, however)
 - passive construction (the car was driven by)
 - *all of these are related to caregiver linguistic complexity and show up in persuasive writing*
- Content
 - Lexical development
 - 60,000 words at age 18
 - direct instruction (classroom learning/dictionary)
 - contextual abstraction (bootstrapping)
 - morphological analysis
 - Multiple meanings
 - Scale the fish before weighing it on the scale

- You may see a rainbow in may
 - Lexical and sentential ambiguity
 - Did you leave the refridator running? You better go catch it!
 - I saw a man on the hill with a telescope
 - Literate language
 - Highly decontextualized
 - Elaborate NPs (age 11 can do “the man with the hat”)
 - Adverbs
 - Conjunctions
 - Mental and linguistic verbs
 - Think know believe, hope, say, tell, call, shout
- Language Use
 - Registers and language forms
 - Argue with counterarguments
 - Politeness as a bargaining strategy
 - Negative face
 - Avoid negative strategies (whining, begging)
 - Control the discourse
 - Age 7: indirect language (i.e., hints, and recognize indirect questions)
 - Develop mature narratives
- Factors to language competency
 - Gender
 - Females tend to preserve negative face, use fillers, question, direct body language
 - Males tend to preserve positive face, few fillers, commands, turn away
 - Age
 - TOT errors
 - Prosody becomes harder