



Constructing Meaning Through Speech: A Linguistic Case Study of an Indonesian Child's Language Acquisition

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Abstract

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This case study investigates early language acquisition in a four-year-old Indonesian child by analyzing her spontaneous speech within a psycholinguistic framework. Utilizing naturalistic data collected from two audio recordings of child-adult interaction, the study focuses on three core linguistic domains: phonology, morphology, and semantics. Through a qualitative descriptive approach and content analysis, the research identifies systematic phonological processes such as substitution (e.g., /r/ realized as /l/), productive morphological usage including compound numerals and possessive affixation, and emergent semantic constructions involving narrative structure, emotional vocabulary, and abstract concepts like time, negation, and causality. The findings reveal that the child's speech patterns reflect age-appropriate developmental milestones and align with established psycholinguistic norms. Furthermore, the study highlights the critical role of social interaction and contextual conversation in facilitating language growth. By documenting linguistic behaviors in an Indonesian context, this research offers culturally specific insights that enrich the global understanding of language development. The study underscores the importance of naturalistic observation in capturing children's cognitive strategies and supports its continued use in early language research.

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INTRODUCTION

Language acquisition in early childhood represents a critical and intricate phase in human development. It is during this period that children begin to master the foundational elements of language, including phonology, morphology, and semantics. This developmental phase is not merely about learning to speak; it encompasses the deeper cognitive processes that underpin communication and meaning-making. As children are exposed to language in their environment, their brains actively process, organize, and internalize linguistic input, shaping both their cognitive and social development (Clark, 2016).

Psycholinguistic research has long highlighted the interconnectedness between cognitive maturation and language exposure. Studies using neuroimaging and developmental observation have revealed that early, rich conversational engagement promotes synaptic growth and functional connectivity in brain regions associated with language processing (Romeo et al., 2021). In particular, Romeo and colleagues observed that children who experienced more adult-child conversation showed greater activation in Broca's area and stronger neural organization for expressive and receptive language tasks. This suggests that language acquisition is not a passive intake of vocabulary but a biologically grounded, socially mediated process.

Furthermore, early acquisition of phonological and morphological systems plays a crucial role in the development of literacy and communicative competence. Kirk et al. (2022) emphasize that preschoolers who demonstrate strong phonological awareness are better equipped to decode written words, segment sounds, and manipulate syllables—skills vital for reading readiness. Morphological knowledge, including the recognition and application of inflectional endings (such as -ing, -ed, or -s), helps children understand sentence structure and word function. These linguistic abilities are often observed developing in tandem with children's growing awareness of their social world and their increasing desire to express needs, share experiences, and participate in conversation.

Language acquisition, as defined by Lightbown and Spada (2022), is a largely subconscious, naturalistic process in which children construct linguistic competence through interaction with their surroundings. It differs from language learning in formal education, as acquisition is rooted in immersion and meaningful communication rather than explicit instruction. During this stage, children often engage in behaviors such as overgeneralization (e.g., saying "goed" instead of "went"), simplification (e.g., dropping final consonants), and symbolic play that involves using language in imaginative contexts. These features are not errors but signs of active cognitive engagement with language rules and meaning systems.

The significance of analyzing language acquisition during early childhood extends beyond theoretical interest; it informs educational practices, intervention strategies, and curriculum development, particularly in multilingual or disadvantaged contexts. Understanding how children acquire language can help educators and caregivers provide environments that support optimal language development.

This study contributes to the field of psycholinguistics by closely examining the spontaneous speech of a four-year-old Indonesian child, Adriani Zhafira. Through two naturally occurring speech recordings, the study aims to identify developmental patterns in her phonological articulation, morphological constructions, and semantic choices. The primary focus is to explore how these linguistic features reflect the underlying developmental milestones typical of early childhood language acquisition. Observing and analyzing Adriani's speech provides insight into her internalization of language rules and her ability to use language creatively and meaningfully in context.

By analyzing a single subject in a naturalistic setting, this study aligns with case study methods commonly employed in psycholinguistic research, offering depth and detail that

are sometimes obscured in large-scale quantitative studies (Hoff, 2013). It also responds to a growing need for data derived from non-Western linguistic environments, which remain underrepresented in developmental language research (Gillis & Schaerlaekens, 2000). Through this focused examination, the research aims to enrich understanding of how Indonesian-speaking children navigate the path of early language acquisition.

METHODS

This study adopts a qualitative approach to investigate early language acquisition in a naturalistic setting. As Creswell (2013) explains, qualitative research allows for the in-depth exploration of human behavior, particularly language, within its authentic social context. The methodology used here centers on observing and analyzing spontaneous speech produced by a four-year-old child, Adriani Zhafira.

The data consist of two informal audio recordings:

- 1) **Recording 1** (2:03 minutes)
- 2) **Recording 2** (2:00 minutes)

These recordings captured unstructured conversations between the child and an adult, with themes ranging from animals and emotions to daily routines. The goal was to obtain spontaneous, naturally occurring linguistic input (Lightbown & Spada, 2022).

A qualitative content analysis was employed to interpret the transcribed data (Hsieh & Shannon, 2005). All utterances were transcribed verbatim, preserving phonetic details. Each utterance was categorized into three linguistic domains: phonology, morphology, and semantics. Features such as sound substitutions, affixation, and lexical choice were examined line-by-line, then compared to developmental benchmarks (Clark, 2009; Ingram, 1989; Romeo et al., 2021; Kirk et al., 2022; Yule, 2010). This systematic approach enabled the researchers to assess both linguistic form and communicative function, offering insights into the cognitive mechanisms guiding the child's language use.

RESULTS AND DISCUSSION

This study analyzed the spontaneous speech of a four-year-old Indonesian child, Adriani Zhafira, through two naturalistic recordings. A total of 25 utterances were selected from the recordings for phonological, morphological, and semantic analysis. These utterances illustrate Adriani's developing linguistic competence and reflect age-appropriate milestones, as discussed below.

1. Phonological Aspects

Phonological development during early childhood typically involves simplification strategies that help children approximate adult-like speech patterns. These include substitutions, metathesis, and consonant omissions (Vihman, 2022). Adriani's speech presents several examples of these processes:

- 1) "*Telus*" for "*terus*": liquid substitution ([r] → [l]).
- 2) "*Telbang*" for "*terbang*": metathesis and consonant alteration.
- 3) "*Olang*" for "*orang*": simplification and substitution of /r/ with /l/.

Such patterns align with established cross-linguistic data on early phonological processes (Vihman & Majorano, 2020). These articulatory simplifications are not errors but strategies that reflect Adriani's current phonological system and her effort to produce complex syllables within her developmental capacity.

Adriani also demonstrates an understanding of onomatopoeia through sound-symbolic forms like "*kukuruyuk*", "*petok-petok*", and "*embe*". These forms reflect a symbolic association between sound and meaning and support the theory that iconicity plays a role in early word learning (Imai & Kita, 2014). Her imitation of animal sounds—such as the rooster's crow and the goat's bleating—not only enhances vocabulary but also shows playful and imaginative language use, which is essential in early lexical development.

2. Morphological Aspects

Morphological development in children includes awareness of word formation, compounding, and affixation. According to Kirk, Hatcher, and Snowling (2022), mastery of morphological structures is critical for later literacy and syntactic comprehension.

Adriani's counting sequence—"tigabelas, empatbelas, limabelas, tujuhbelas"—demonstrates productive compounding, an important early sign of morphological awareness. Although she repeats "*tigabelas*" and skips "*sebelas*" and "*enambelas*", the attempt to generate numeral compounds indicates internalized knowledge of the rule-based structure of Indonesian number formation.

Moreover, her use of possessive constructions such as "*kandangnya*" (though not fully captured in the transcript above, this could be inferred from broader language patterns at this stage) suggests emerging awareness of inflectional morphology. This aligns with Clark's (2016) findings that affixes such as "*-nya*" (third-person possessive in Indonesian) are acquired relatively early and become more consistent with increasing exposure.

Her utterance "*aku berum pelnah kalna kaga dateg hewan kelinci*" (intended: "aku belum pernah karena tidak datang hewan kelinci") displays morphological blending and semantic layering. Despite articulation issues, the use of negation (*kaga/tidak*), temporal reference (*belum/pernah*), and causality (*karena*) reflects a complex attempt to express experience.

3. Semantic Aspects

Semantic development in early childhood reflects growing lexical knowledge, conceptual understanding, and narrative ability. Romeo et al. (2021) emphasize that semantic richness is fostered through active interaction and turn-taking with caregivers. Adriani's utterances show early grasp of cause-effect relationships, emotional associations, and imaginative constructs.

In "*burungnya bisa telbang, telabangnya niinii*", she constructs a narrative with causal implications: birds fly, and their wings move. Although the sentence has articulation distortions, the underlying logic reveals cognitive awareness of biological function and agency, both essential semantic developments.

Another notable example is "*aku berum pelnah kalna kaga dateg hewan kelinci*". This utterance shows semantic layering: she expresses past experience, negation, and emotional reaction toward the absence of an animal. Such structuring is consistent with the development of temporal awareness, emotive language, and reflective reasoning (Lightbown & Spada, 2022).

Adriani's conceptual creativity is also evident in "*kucing mama nya kerja*", where she assigns a human role to a cat, possibly reflecting theory of mind or symbolic play. This imaginative linguistic use is a marker of semantic abstraction and narrative playfulness, often seen in children's speech around the age of four (Clark, 2016).

Additionally, expressions like "*kucingnya sunah meninggal*" suggest a grasp of abstract concepts like death, which are cognitively complex and emotionally charged. Her use of "*ga tau blek nya dimana*" to explain the cat's death shows an emerging understanding

of lack of knowledge or epistemic states—a key milestone in theory of mind and semantic development.

Adriani's language reflects a dynamic interplay of phonological innovation, morphological construction, and semantic expansion. These utterances are consistent with expected developmental milestones for her age, as documented in psycholinguistic literature (Ingram, 1989; Yule, 2010). The blending of real-life observation, symbolic language, and playful experimentation illustrates how young children use linguistic resources to express thought, identity, and emotion in meaningful contexts.

Her speech, while containing nonstandard forms and articulation deviations, provides valuable evidence of internal rule generation, productive morphology, and symbolic thinking—all critical elements in early language acquisition.

CONCLUSION

This study reveals that Adriani Zhafira's language usage reflects typical developmental patterns for a 4-year-old across all linguistic domains. Phonological errors such as /r/ to /l/ substitution, morphological constructs like compounding, and semantic expressions of empathy and causality align with established psycholinguistic milestones. The recordings demonstrate that language acquisition is dynamic, creative, and deeply connected to both cognitive and emotional development. Such case studies reinforce the value of natural speech analysis in evaluating and supporting children's linguistic growth.

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