From Sounds to Meaning: A Case Study of Linguistic Development in a Preschool-Age Indonesian Child

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Abstract

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This study investigates the phonological, morphological, and semantic aspects of spontaneous speech in a four-year-old child, aiming to uncover developmental patterns and common linguistic challenges during early language acquisition. Employing a qualitative case study approach, naturalistic data were collected through audio and video recordings of the child's daily conversations. The transcribed speech was analyzed to examine articulation, word formation, and meaning construction. The findings revealed systematic phonological processes such as consonant substitution (/r/ to /l/), simplification of consonant clusters, and omission of final consonants. Morphological observations included frequent use of reduplication and overgeneralized application of the derivational suffix -in. Semantically, the child demonstrated an emerging lexicon with early signs of conceptual confusion and limited categorical differentiation. These developmental characteristics suggest that while the child is actively internalizing language rules, the acquisition process remains error-prone and exploratory. The study highlights the importance of meaningful interaction, corrective input, and exposure to rich linguistic environments in supporting children's language growth. The insights gained are relevant for parents, educators, and speech-language practitioners in designing age-appropriate strategies that nurture early communicative competence.

INTRODUCTION

The process of language development in early childhood is both intricate and dynamic, involving the gradual mastery of core linguistic subsystems—most notably phonology, morphology, and semantics. By the age of four, children typically demonstrate significant progress in spoken language, such as increased vocabulary size, more complex sentence structures, and improved sound articulation. These developments reflect not only cognitive and social maturation but also an emerging grasp of the fundamental systems of language.

Language, as defined by Owens (2016), is a socially shared code that uses arbitrary symbols and rule-governed structures to convey meaning. It comprises several interconnected components, including phonology (sound systems), morphology (word structure), and semantics (meaning), all of which children acquire through meaningful interactions with caregivers and their environment. These interactions provide the necessary input for internalizing the rules of language and developing communicative competence.

Among the subsystems, phonology plays a foundational role in the early stages of language acquisition. Phonological development refers to how children learn the sound patterns of their native language. Alsharif (2020) emphasizes that phonology differs from phonetics in that it deals with the mental representation and organization of sounds rather than their physical articulation. Understanding how children begin to perceive, differentiate, and produce speech sounds is essential for tracing the trajectory of language acquisition. Darcy, Park, and Yang (2015) further explain that phonological knowledge includes not only sound recognition but also the mental processes that structure sounds into syllables and words, enabling fluent speaking and accurate listening. These abilities are particularly important in both first and second language development.

Moreover, phonological awareness—the conscious ability to detect and manipulate sound patterns—is a crucial predictor of language success. It enables learners to break speech into recognizable parts, recognize patterns, and become sensitive to prosodic features like stress, intonation, and rhythm (Pennington & Rogerson-Revell, 2015). Such sensitivity supports effective oral communication and lays the groundwork for emergent literacy. According to Darcy et al. (2015), strong phonological processing skills enhance listening comprehension and pronunciation—two essential facets of early language development.

Following phonology, morphology becomes increasingly prominent as children begin to experiment with word structure. Morphology is the study of morphemes—the smallest units of meaning—and how they are used to form words. As Camp (2020) explains, morphological knowledge helps learners understand how affixes (such as prefixes and suffixes) modify a word's meaning and function. This understanding is critical for developing grammatical competence, sentence construction, and lexical expansion.

Morphological awareness also has strong links to reading and academic performance. Bowers, Kirby, and Deacon (2019) found that morphological instruction improves vocabulary development and reading comprehension, especially in educational settings. Similarly, Rastle (2019) argues that morphological awareness facilitates word recognition and meaning construction—skills central to literacy and academic achievement. Stoffelsma et al. (2020) support this view, noting that explicit morphological instruction enhances vocabulary acquisition and comprehension when learners engage with complex academic texts. In this sense, morphology is not only key to learning a first language but is also vital in second language learning and academic success.

Equally essential is semantics, the branch of linguistics concerned with meaning. Semantics explores how words, phrases, and entire texts create and communicate meaning across contexts. According to Qassem and Al-Shboul (2020), semantic competence allows learners to interpret idioms, manage ambiguity, and understand cultural nuances—skills

necessary for effective communication. Riemer (2021) further highlights the importance of context, shared knowledge, and inference in semantic interpretation, suggesting that meaning is constructed jointly between speaker and listener.

In educational contexts, semantics plays a vital role in reading comprehension and cognitive development. Huang and Liao (2017) found that semantic mapping and explicit semantic instruction help learners understand abstract concepts, generate inferences, and navigate texts rich in meaning. Their study suggests that strong semantic awareness contributes not only to vocabulary growth but also to broader critical thinking and interpretive skills essential for academic achievement.

Phonology, morphology, and semantics are interrelated and essential components of early language development. Each contributes uniquely to a child's ability to understand and produce language. Understanding how these systems unfold during early childhood—especially through naturalistic observation—offers deep insights into the cognitive, social, and linguistic growth of young learners.

METHODS

This study adopts a qualitative approach to investigate language development in early childhood, focusing on the spontaneous speech of a four-year-old child, Adnan Sidiq, during natural daily interactions. Qualitative research is essential for capturing the lived experiences, emotional nuance, and cognitive complexity behind verbal behavior—dimensions that quantitative methods may overlook (Allison & Sous, 2014). In this context, the child's unplanned speech serves not only as linguistic data but also as a window into inner thoughts and social meaning-making processes. The research follows an iterative and immersive process, as described by Aspert and Corte (2019), who argue that qualitative inquiry fosters deeper scientific understanding by enabling researchers to refine conceptual distinctions through direct engagement with the subject. This study involved continuous observation, real-time documentation, and detailed note-taking during the child's routine conversations with caregivers. The utterances were later transcribed and analyzed thematically across three linguistic domains: phonology, morphology, and semantics. By situating linguistic expressions within their developmental and social context, the study captures the subtleties of how meaning is constructed, how sounds are formed, and how word structures emerge. This qualitative method allows for a nuanced understanding of language acquisition as a socially embedded and cognitively dynamic process..

RESULTS AND DISCUSSION

This study investigated the spontaneous speech of a four-year-old child, Adnan Sidiq, within the framework of psycholinguistics, focusing on three core domains: phonology, morphology, and semantics. The utterances, drawn from daily interactions, reveal how the child navigates language development through systematic patterns, typical errors, and creative approximations.

1. Phonological Development

Phonological patterns in Adnan's speech show clear signs of developmental substitution, particularly involving the liquid consonant /r/. For instance, *"telbang tinggi"* instead of *"terbang tinggi"* and *"keleta api"* for *"kereta api"* exemplify the replacement of

/r/ with /l/—a common phenomenon at this age due to immature articulatory control (Vihman, 2022). This substitution, known as rhotacism, is expected in early childhood as the motor control for producing the trill or flap /r/ sound is still developing.

In several utterances, such as *"belenang"* for *"berenang"* and *"belwalna melah"* for *"berwarna merah"*, similar replacements indicate phonological simplification strategies (Darcy et al., 2015). Additional errors such as *"sebok seditit"* for *"sobek sedikit"* show a shift in nasals and stops (/d/ to /t/, /k/ to /t/), which may reflect difficulty in distinguishing place and manner of articulation—also consistent with developmental norms.

These observations highlight that while Adnan possesses a growing phonological inventory, articulation is still unstable and subject to variation. The use of reduplication, as in *"bola-bola"*, may be interpreted as an early attempt at pluralization, though not yet following formal morphological rules.

2. Morphological Development

Morphological errors reveal an emerging understanding of word formation, albeit with overgeneralization and affixation mistakes. For example, the use of *"sudah pakaiin"* instead of *"sudah pakai"* shows an inappropriate application of the causative suffix *-in*, suggesting the child's exploratory use of derivational morphology without full mastery of function (Clark, 2016). Similarly, in *"tidulan"* for *"tidur"*, incorrect verb formation points to developmental efforts in affix manipulation and internal rule generation.

In terms of pluralization, *"bola-bola"* indicates an early grasp of reduplication—a common plural marker in Indonesian—though its semantic function may still be developing. Likewise, *"mainan suka main"* demonstrates confusion between noun and verb forms, reflecting incomplete understanding of word class conversion.

The utterance *"lali-lali"* instead of *"lari"* suggests both reduplication for emphasis and potential speech instability. This aligns with Kirk et al. (2022), who argue that morphological experimentation at this stage is productive, though often inconsistent.

3. Semantic Development

Semantically, Adnan's utterances show a developing conceptual framework, but also illustrate typical misclassifications. For instance, *"kulsi"* is used when attempting to name either *"kursi"*, *"apel"*, or *"nasi"*, indicating challenges in lexical retrieval or category differentiation. Similarly, *"makanan kucing atau binatang itu?"* reflects confusion between pet and food categories, possibly due to overextension—a frequent strategy in early word learning (Lightbown & Spada, 2022).

Errors such as answering *"gelap"* to a question about wearing a raincoat illustrate a conceptual confusion between environmental conditions—darkness versus weather—suggesting that semantic networks are still forming and require more experiential input to solidify (Riemer, 2021).

Additionally, utterances like *"tucing"* to refer to both a cat and a larger animal suggest a preference for familiar terms, or word approximation driven by phonological constraints. Semantic mislabeling, as in *"nagis"* for *"menangis"*, where the prefix *me-* is dropped, also ties to limited morphological-semantic integration at this age.

These findings reinforce Qassem and Al-Shboul's (2020) view that early semantic growth depends heavily on interaction and context. Adnan's utterances show creativity and meaning-making strategies even when lexical accuracy is lacking, affirming the child's active role in constructing linguistic knowledge.

CONCLUSION

This study explored the linguistic development of a four-year-old child, Adnan Sidiq, with particular focus on the phonological, morphological, and semantic dimensions of his spoken language. Through structured prompts and spontaneous interactions, the analysis revealed consistent developmental patterns that align with typical language acquisition processes at this age.

In the phonological domain, Adnan demonstrated articulation errors such as consonant substitution (/r/ to /l/), simplification, and distortion. These patterns reflect an ongoing developmental process where phoneme production is still being refined. His frequent phonological substitutions suggest that he is actively engaged in experimenting with speech sounds as part of his natural cognitive-linguistic growth.

From a morphological perspective, instances of overgeneralization—such as reduplication for plurality ("bola bola") and inaccurate affixation ("pakaiin," "makannya")—indicate an emerging but incomplete grasp of word formation and grammatical structure. These errors are consistent with early efforts to internalize morphological rules and reflect a productive phase of trial-and-error learning.

In terms of semantics, Adnan displayed both foundational understanding and conceptual confusion. Misclassifications (e.g., referring to kursi as edible) and logical inconsistencies (e.g., confusing darkness with rainy weather) suggest that while core lexical meanings are forming, his conceptual framework is still maturing and requires further refinement through social interaction and contextual learning.

Overall, Adnan's speech patterns highlight the dynamic interplay between language use, cognitive development, and environmental input. His errors are not signs of deficiency but important indicators of active learning and cognitive engagement. This study reinforces the importance of rich linguistic environments—where children receive meaningful interaction, feedback, and exposure—to support and accelerate language development in early childhood.

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