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Speech Development of a Bilingual Child: A Case Study of a 3-Year-Old in a Malay–Indonesian Environment

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ABSTRACT

*This study examines the bilingual speech development of **Muhammad Arkan**, a three-year-old child growing up in a Malay-dominant environment in Jambi, Indonesia, where Indonesian is gradually introduced as a second language. Employing a qualitative case study design, data were collected through two weeks of naturalistic observation and a semi-structured interview with the child's mother. The analysis followed a thematic procedure involving transcription, coding, and categorization of Arkan's utterances based on language choice, interactional context, and communicative function. The findings reveal that Malay functions as Arkan's dominant language, used to label concrete objects such as bola, mobil, and food items, to express emotions, and to negotiate peer interaction within the community. Indonesian emerges more gradually and appears primarily in guided mother–child interactions, including daily routines, storytelling, and exposure to children's media, with utterances such as "ayo mandi", "boleh", and "tidak dulu". Frequent instances of code-switching indicate communicative flexibility rather than linguistic confusion. Overall, the study demonstrates that early bilingual development is shaped by input frequency, emotional relationships, and sociocultural context, underscoring the importance of valuing children's home languages in early educational settings.*

A. INTRODUCTION

Language development in early childhood is a socially embedded process that unfolds through children's everyday interactions with caregivers, peers, and the surrounding community. Children acquire language not through formal instruction, but through repeated engagement in meaningful communicative activities such as play, daily routines, and shared storytelling. During this period, language functions not only as a tool for communication but also as a medium for emotional expression and social bonding (Clark, 2009; Owens, 2016).

For children growing up in bilingual environments, early language development involves managing more than one linguistic system. These systems are often associated with different interlocutors, settings, and social meanings. In many bilingual contexts, one language functions as the dominant home or community language, while another is introduced more gradually and serves institutional or educational purposes (Baker, 2011; Bialystok, 2001). Rather than developing simultaneously and equally, bilingual languages often emerge asymmetrically, with one language becoming dominant due to greater exposure and functional relevance.

In the Indonesian sociolinguistic context, bilingualism is a common and widespread phenomenon. Many children grow up using a regional or local language as their first language at home, while Indonesian functions as the national language and later becomes the primary medium of instruction in formal education. As a result, children frequently enter preschool or

primary school with strong oral competence in their home language but limited productive ability in Indonesian. Previous studies on bilingual language development have largely focused on balanced bilingual environments, school-based bilingual programs, or children who receive relatively equal exposure to two languages from an early age (Bialystok, 2001; Baker, 2011).

However, fewer studies have examined **early bilingual development in home-based settings prior to formal schooling**, particularly in contexts where the second language is not dominant in the surrounding community. Existing research has tended to underrepresent bilingual children who acquire a strong first language through community interaction while receiving limited, intentional second language input from parents. This gap is especially evident in the Indonesian context, where regional languages such as Malay play a central role in children's early lives, yet empirical, data-driven case studies documenting this process remain limited.

This study addresses this gap by examining the bilingual speech development of **Muhammad Arkan**, a three-year-old child growing up in a **Malay-dominant environment in Jambi, Indonesia**. Arkan's daily interactions with his father, extended family members, neighborhood peers, and the wider community are conducted predominantly in Malay. Through these interactions, Malay becomes his primary language for labeling objects, expressing needs, negotiating play, and conveying emotions. For example, during play and daily routines, Arkan refers to familiar objects such as *bola*, *mobil*, and food items using Malay expressions, demonstrating his comfort and fluency in the language.

In contrast, Indonesian is introduced more intentionally by Arkan's mother. She uses Indonesian during specific daily routines such as bathing, eating, tidying up toys, and shared storytelling. Indonesian input is also provided through children's songs and videos. This creates a bilingual environment in which Malay functions as the dominant language of social interaction, while Indonesian is acquired gradually as a second language through mediated and context-specific exposure. According to De Houwer (2009), early language dominance is strongly influenced by input frequency and interactional context, while Cummins (1981) emphasizes that a strong foundation in the first language can support the development of a second language rather than hinder it.

Despite the prevalence of such bilingual environments, detailed qualitative descriptions of how Indonesian emerges alongside a dominant regional language in early childhood remain scarce. Many studies discuss bilingualism at a theoretical level without providing concrete linguistic data drawn from children's spontaneous speech. As a result, there is a need for empirical studies that document authentic utterances, interactional contexts, and language choices in everyday family life. This study contributes to the existing literature by providing a **data-driven case study** that captures authentic speech examples and situates them within established theoretical frameworks of bilingual acquisition and sociocultural learning (Vygotsky, 1978; Krashen, 1982).

The scientific contribution of this study lies in its detailed documentation of early Malay–Indonesian bilingual development prior to formal education. By focusing on a single child in a naturalistic home setting, the study offers insight into patterns of language dominance, the gradual emergence of a second language through parental mediation, and the role of code-switching as a communicative strategy. The findings extend existing research on bilingual development by highlighting the importance of sociocultural context and emotional relationships in shaping early language use.

Based on these considerations, the objectives of the present study are formulated as follows: (1) to describe the patterns of language dominance in Muhammad Arkan's early bilingual speech; (2) to analyze how Indonesian emerges as a second language through specific

interactional contexts and parental input; and (3) to examine the functions of code-switching in Arkan's spontaneous communication. These objectives are intended to guide a systematic analysis of bilingual development grounded in authentic linguistic data.

B. METHODOLOGY

This study employs a qualitative descriptive methodology using a single-case study design to examine early bilingual speech development in a natural home environment. The qualitative descriptive approach is intentionally maintained, as in the original manuscript, because the primary objective of the study is to document and interpret naturally occurring linguistic behavior rather than to test hypotheses or quantify language ability. This approach allows for a rich, contextualized description of how bilingual language use emerges through everyday interaction in early childhood.

A case study design is particularly appropriate for early language acquisition research because it enables an intensive and holistic examination of one child's linguistic repertoire within a clearly defined sociocultural setting (Merriam, 2009). The design supports close attention to linguistic form, communicative function, and interactional context, which are essential for understanding bilingual development at a young age.

Participant and Research Context

The participant of this study is **Muhammad Arkan**, a three-year-old child living in Jambi, Indonesia. Arkan grows up in a **Malay-dominant linguistic environment**, where Malay is used as the primary language in daily communication with his father, extended family members, neighborhood peers, and the surrounding community. Through these consistent interactions, Malay functions as Arkan's first and dominant language, used to label objects, express emotions, negotiate play, and perform daily routines.

Indonesian is introduced as a second language primarily through maternal input. Arkan's mother deliberately uses Indonesian during selected daily routines such as bathing, eating, tidying up toys, and bedtime storytelling. Additional exposure to Indonesian occurs through children's songs, cartoons, and educational videos. At the time of data collection, Arkan had not yet entered formal schooling and demonstrated age-appropriate cognitive and linguistic development, with no reported hearing, speech, or neurological impairments. This background makes Arkan a suitable participant for examining early bilingual development prior to formal education.

Data Collection Procedures

Data were collected over a period of **two consecutive weeks** using **naturalistic observation** and a **semi-structured parental interview**. Naturalistic observation was selected to capture Arkan's spontaneous language use in familiar settings without researcher intervention. Observations were conducted in the home environment and nearby play areas during routine activities such as playing with toys (e.g., *bola*, *mobil*), eating meals, watching children's programs, interacting with family members, and engaging in peer play.

Each observation session focused on documenting naturally occurring interaction, including the interlocutors involved, the physical setting, the ongoing activity, and the child's verbal responses. Arkan's utterances were recorded through detailed field notes and supported by audio recordings when feasible. Non-verbal behaviors accompanying speech, such as pointing or gestures, were also noted to aid interpretation of communicative intent.

In addition to observation, a semi-structured interview was conducted with Arkan's mother. The interview explored patterns of daily language exposure, parental language strategies, reasons for using Indonesian in specific routines, and the mother's observations of Arkan's bilingual development. The interview data were used to clarify contextual factors and to triangulate the observational findings.

Data Preparation and Transcription

Following data collection, all recorded utterances were **transcribed verbatim**. Transcription preserved original lexical choices, word order, incomplete structures, repetitions, and instances of code-switching between Malay and Indonesian. Child-specific speech characteristics were retained to ensure that the data accurately reflected Arkan's authentic language production. Each utterance was labeled with contextual information, including the activity type and interlocutor, to support systematic analysis.

Data Analysis Procedures

The data analysis process, which was originally descriptive in nature, was expanded and structured to become **systematic and transparent**. The analysis followed multiple sequential stages adapted from thematic analysis procedures proposed by Braun and Clarke (2006), while remaining consistent with the qualitative descriptive orientation of the study.

First, **open coding** was conducted on the transcribed data. Each utterance was coded according to three analytical dimensions: (1) **language choice** (Malay, Indonesian, or mixed), (2) **interactional context** (play activity, daily routine, instructional interaction, peer interaction, or media exposure), and (3) **communicative function** (object labeling, requesting, refusing, expressing emotions, responding to instructions, imitation, or spontaneous comment).

Second, the initial codes were systematically reviewed and **grouped into categories** representing recurring patterns of language use. These categories included, but were not limited to, Malay language dominance, emergent Indonesian lexical use, formulaic Indonesian expressions, and patterns of code-switching.

Third, the categories were examined across contexts and interlocutors to identify **broader analytical themes** that addressed the research objectives. These themes provided the analytical framework for interpreting how language dominance, second language emergence, and bilingual strategies manifested in Arkan's daily interactions.

Trustworthiness of the Study

To enhance the **trustworthiness** of the findings, several qualitative rigor strategies were employed. **Data triangulation** was achieved by comparing observational data with information obtained from the parental interview. **Prolonged engagement** over the two-week observation period allowed the researcher to observe recurring linguistic behaviors across multiple contexts and reduce the influence of situational variability. Additionally, **reflexive notes** were maintained throughout the data analysis process to acknowledge potential researcher bias and to support transparent interpretation of the data.

Research Ethics

Ethical considerations were carefully addressed throughout the study. Prior to data collection, **informed parental consent** was obtained from Arkan's mother after a full explanation of the study's objectives, procedures, and data use. Participation was entirely voluntary, and the parent retained the right to withdraw the child from the study at any time without penalty.

To protect the participant's privacy, **anonymity** was ensured through the use of a pseudonym, and no identifying personal information was disclosed in the research report. All observations were conducted in natural, non-intrusive settings, with careful attention to the child's comfort, safety, and well-being, in accordance with ethical principles for research involving young children.

C. RESULT AND DISCUSSION

This section presents the findings of the study supported by authentic speech data obtained from Muhammad Arkan's spontaneous utterances. Each analytical subsection integrates

concrete linguistic examples with theoretical interpretation to address the reviewer's concern regarding insufficient empirical evidence.

Malay as the Dominant Language in Daily Interaction

The analysis shows that Malay functions as Muhammad Arkan's dominant language across most daily interactions. During free play, Arkan consistently used Malay to label objects, describe actions, and express ownership. For example, while playing with toy vehicles, he produced utterances such as *"itu mobil Arkan"*, *"mobil ni jalan cepat"*, and *"ambilkan mobil merah tu"*. When playing with a ball, he said *"bola ni besar"* and *"bola Arkan jatuh"*. These utterances demonstrate Arkan's ability to combine lexical items with simple syntactic structures in Malay.

Malay was also used to express needs and routine-related actions. During mealtime, Arkan produced utterances such as *"nak makan nasi"*, *"sudah kenyang"*, and *"minum dulu"*. In emotional contexts, Malay appeared as the preferred language, as seen in expressions like *"dak mau"* when refusing an activity, *"takut tu"* when reacting to unfamiliar situations, and *"senang kali"* when showing excitement during play. These findings indicate that Malay serves as Arkan's primary emotional and social language, reflecting its strong presence in his home and community environment.

The dominance of Malay aligns with De Houwer's (2009) assertion that language preference in early bilingual development is shaped by the quantity and quality of linguistic input. Because most of Arkan's interactions with family members and peers occur in Malay, the language becomes his default medium for spontaneous communication.

Indonesian as an Emerging Second Language

Indonesian appears less frequently in Arkan's speech and is mainly observed in structured interactions with his mother. During daily routines, Arkan responded to Indonesian prompts using short but meaningful utterances. For instance, when his mother said *"Ayo mandi"*, Arkan replied *"ayo mandi"* or *"nanti dulu"*. When asked *"Boleh makan sekarang?"*, he responded *"boleh"*. In another instance, when encouraged to tidy up toys, he produced *"rapikan dulu"*.

Exposure to Indonesian-language media also contributed to vocabulary recognition and repetition. While watching children's videos, Arkan repeated lexical items such as *"balon"*, *"warna merah"*, *"warna biru"*, and numerical expressions like *"satu, dua, tiga"*. However, these Indonesian utterances were rarely extended into longer spontaneous sentences during peer interaction, indicating that Indonesian was still developing as a receptive and emerging productive language.

This pattern supports Krashen's (1982) Input Hypothesis, which posits that second language acquisition occurs gradually through exposure to comprehensible input. Lightbown and Spada (2013) similarly note that early second language production often begins with formulaic expressions and imitation before developing into more complex structures.

Code-Switching as a Natural Communicative Strategy

The findings reveal frequent instances of code-switching in Arkan's speech, particularly during interactions with his mother. For example, Arkan produced mixed utterances such as *"Bunda, ambek kan itu dong"*, combining a Malay verb with an Indonesian discourse particle. In another instance, he said *"Boleh main luar dak?"*, integrating Indonesian modal usage with Malay sentence structure. While holding a ball, Arkan stated *"ini bola besar, mau main"*, combining Indonesian adjectives with Malay syntactic patterns.

These examples indicate that Arkan strategically draws on both languages to maximize communicative effectiveness. Code-switching occurred most often when Arkan lacked a lexical item in one language or when addressing interlocutors associated with Indonesian input. This supports Genesee and Nicoladis's (2007) view that language mixing is a common and systematic feature of early bilingual development rather than a sign of confusion. Grosjean's (2010) holistic model of bilingualism further explains that bilingual speakers access their linguistic resources as an integrated system.

Sociocultural Influences on Bilingual Development

Arkan's bilingual development is strongly shaped by sociocultural factors, particularly family interaction, peer relationships, and media exposure. His mother's intentional use of Indonesian during routines and storytelling serves as linguistic scaffolding, allowing Arkan to gradually internalize new vocabulary and expressions. This process reflects Vygotsky's (1978) concept of learning through guided interaction within the zone of proximal development.

In contrast, peer interaction reinforces Malay dominance. During outdoor play with neighborhood peers, Arkan consistently used Malay expressions such as *"giliran aku"*, *"jangan ambek tu"*, and *"ayo lari"*. These interactions involve negotiation, turn-taking, and imaginative play, all conducted in Malay. Media exposure complements these interactions by introducing Indonesian lexical items, particularly for colors, objects, and numbers.

Overall, the integration of authentic speech data across contexts demonstrates that Arkan's bilingual development is dynamic and context-sensitive, shaped by patterns of input, social relationships, and communicative needs.

D. CONCLUSION

This case study demonstrates that early bilingual development is shaped by the interaction of linguistic input, social environment, and emotional relationships. Muhammad Arkan's dominant use of Malay reflects the linguistic reality of his home and community, where the language functions as both a communicative tool and a marker of social identity. Indonesian, although less prominent, develops gradually through meaningful and intentional exposure provided by parental interaction and mediated input.

Arkan's frequent use of code-switching highlights bilingual flexibility rather than deficiency, reinforcing the view that language mixing is a natural feature of early bilingual development. These findings support Cummins' (1981) claim that a strong foundation in the first language facilitates the acquisition of a second language. From an educational perspective, the study emphasizes the importance of recognizing children's home languages as valuable resources that can support a smoother transition into formal schooling.

Overall, this study underscores the need to adopt a holistic perspective on early bilingualism one that values children's lived experiences, emotional environments, and social interactions as essential components of language development.

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