


Strengthening Differentiated Instruction Through AI in Merdeka Curriculum Implementation at SDN Kelayan Timur 2 Banjarmasin

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ABSTRACT

Penelitian ini bertujuan untuk menggambarkan secara mendalam berbagai kesulitan yang dialami oleh siswa Sekolah Dasar (SD) dalam menguasai struktur kalimat Bahasa Inggris dasar. Fokus utama penelitian ini diarahkan pada analisis mendalam terhadap kesulitan siswa pada penggunaan to be, verbs, adverb, nouns, subject pronoun, dan possessive adjective melalui metode wawancara kepada guru-guru Bahasa Inggris di tingkat sekolah dasar. Bahasa Inggris sebagai bahasa asing yang mulai diajarkan sejak dini diharapkan dapat membentuk landasan kompetensi berbahasa yang kuat bagi siswa. Namun dalam kenyataannya, banyak siswa mengalami berbagai hambatan dalam memahami serta menerapkan struktur dasar kalimat Bahasa Inggris secara tepat. Melalui pendekatan kualitatif deskriptif, data dikumpulkan dengan metode utama wawancara mendalam kepada guru-guru Bahasa Inggris yang mengajar di kelas V Sekolah Dasar. Wawancara dirancang untuk mengungkap pengalaman empiris guru dalam mengidentifikasi jenis kesulitan yang dialami siswa, frekuensi kesalahan yang terjadi, serta respons pedagogis yang mereka lakukan. Hasil wawancara menunjukkan bahwa sebagian besar siswa mengalami kebingungan dalam menentukan bentuk to be yang tepat sesuai subjek, sulit memahami perubahan bentuk kata kerja dalam berbagai tense, serta kesulitan membedakan antara subject pronoun dan possessive adjective. Kesalahan umum juga terjadi pada penempatan adverb serta kekeliruan dalam penggunaan bentuk plural nouns. Faktor-faktor yang mempengaruhi antara lain latar belakang siswa yang belum terbiasa dengan tata bahasa asing, kurangnya media pembelajaran yang kontekstual, serta pendekatan mengajar yang masih bersifat tradisional. Penelitian ini memberikan rekomendasi agar guru diberikan pelatihan tambahan dalam menyampaikan materi grammar secara komunikatif dan kontekstual, serta pentingnya pengembangan media pembelajaran yang lebih visual dan interaktif agar siswa dapat lebih mudah memahami konsep abstrak dalam struktur kalimat Bahasa Inggris.

This study aims to thoroughly describe the various difficulties experienced by elementary school students in mastering basic English sentence structure. The primary focus is an in-depth analysis of student challenges related to the use of to be, verbs, adverbs, nouns, subject pronouns, and possessive adjectives. Data were obtained using a descriptive qualitative approach, with the primary method being interviews with English teachers in elementary schools. English is introduced early in Indonesian education in hopes of building strong linguistic competence. However, many students struggle with applying fundamental grammar concepts. In-depth interviews were conducted with fifth-grade English teachers to uncover their experiences in recognizing student difficulties, the frequency of common errors, and their instructional responses. Findings show that many students have difficulty determining the appropriate form of to be for different subjects, understanding verb conjugations across tenses, and distinguishing between subject pronouns and possessive adjectives. Common errors were also noted in the placement of adverbs and plural noun usage. Influencing factors include a lack of prior exposure to foreign language

grammar, limited contextual teaching media, and traditional instructional methods. The study recommends that teachers receive additional training to present grammar in a more communicative and contextualized manner, and emphasizes the need for more visual and interactive learning media to support student comprehension.



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INTRODUCTION

Differentiated instruction is an essential pedagogical approach for addressing learner heterogeneity by adjusting learning processes, content, and environments based on student *readiness*, interests, and learning profiles (Tomlinson, 2017). Within Indonesia's educational transformation context, this approach serves as a strategic pillar for implementing the Merdeka Curriculum which prioritizes learner autonomy (Kemendikbudristek, 2022).

However, Widodo's (2023) study reveals significant implementation challenges, particularly regarding teacher capacity in designing diagnostic assessments and developing personalized teaching materials. At SDN Kelayan Timur 2 Banjarmasin, initial observations indicated that 72% of teachers experienced technical difficulties in adapting learning materials to differentiated student needs.

Artificial Intelligence (AI) offers a disruptive solution through adaptive algorithms and content recommendation systems that enable large-scale personalization (Holmes et al., 2021). Its potential includes developing *adaptive learning paths* and automating formative assessments. Nevertheless, AI adoption for differentiated instruction in Indonesia remains limited to theoretical studies with minimal empirical evidence regarding its integration into teacher professional development (Sugianto, 2022). This research gap underpins the community service program aimed at examining the effectiveness of AI-based training as a strategy for enhancing teacher competence in differentiated instruction implementation.

METHODE

Location and Duration

The activity was conducted at SDN Kelayan Timur 2 Banjarmasin (Jl. Kelayan Kecil Gg. Sri Begawan, Kelayan Timur, South Banjarmasin, South Kalimantan) over three days from December 18th-20th, 2024.

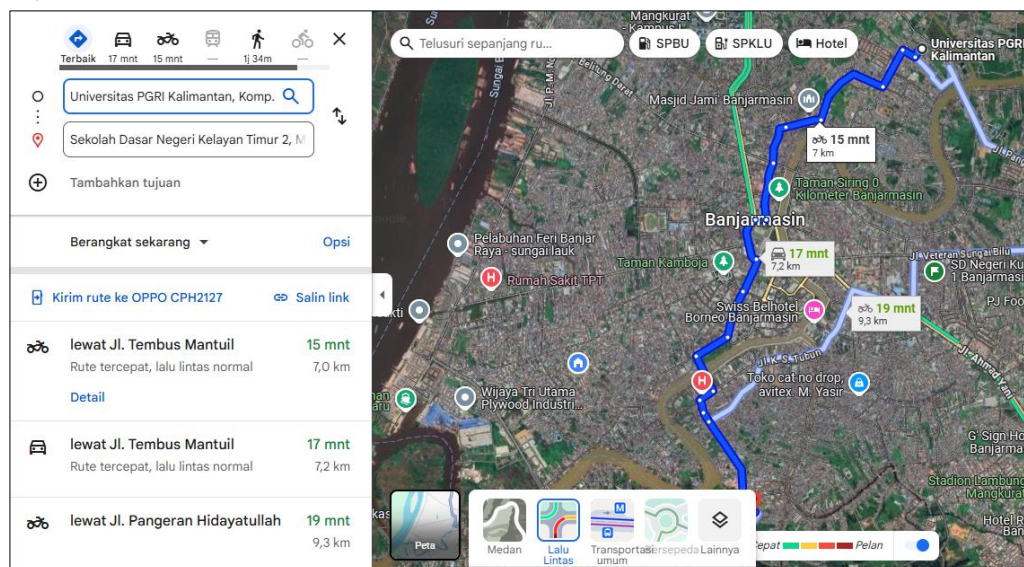


Figure 1. The Map of SDN Kelayan Timur 2 Banjarmasin from University of PGRI Kalimantan (UPK)

Implementation Stages

The implementation stages contain three steps, namely Preparation stages, implementation stage and evaluation stage.

In Preparation stage, the service Included diagnostic observation, needs assessment interviews with teachers, and development of AI-based training modules. The second stage is the *Implementation stage*: Employed a multimodal approach through: Interactive lectures (concepts of differentiation and AI integration), Scenario-based simulations and Guided practice on AI platforms. The last stage, *Evaluation stage*: Conducted through participant observation and unstructured interviews with 24 participating teachers.

Activity Design

Material distribution followed the structure in Table 1:

Date	Training Content	Implementation Method
18 Dec 2024	Differentiated Instruction Implementation	Interactive lecture & Guided discussion
19 Dec 2024	AI Media Integration in Teaching	Demonstration & Guided practice
20 Dec 2024	AI Application Simulation	Workshop & Performance evaluation

Table 1. Training Activity Schedule

RESULTS AND DISCUSSION HASIL

Thematic analysis of unstructured interviews revealed three main findings. First, 85% of participants reported increased confidence in operating AI platforms for developing instructional materials, as expressed by one teacher: "*Wayahini macam-macam AI, saraba kawa diulah, nyaman haja beolah macam-macam*" (There is various kinds of AI now, it can make anything and make anything easy-translated from local language). Second, technical competency gaps were identified among senior teachers (>50 years) in interface navigation and prompt optimization. Third, collaborative initiatives emerged among teachers to form AI content development working groups.

These findings align with Retnawati's (2023) research on educational technology adoption in Indonesia, highlighting the importance of tiered mentoring. Further discussion revealed that high participant enthusiasm (demonstrated through active engagement during 15 training hours) indicates readiness for innovation adoption. However, sustainable implementation requires a holistic support ecosystem including digital infrastructure availability and ongoing coaching mechanisms.



Gambar 2. Training activity in SDN Kelayan Timur 2 Banjarmasin

CONCLUSION

Based on activity implementation analysis, it is concluded that the multimodal training model effectively builds teachers' foundational competencies in utilizing AI for differentiated instruction. For program sustainability, it is recommended to: (1) Establish monthly practice-sharing forums (community of practice), (2) Allocate dedicated weekly time for AI material development in school schedules, and (3) Collaborate with district education offices for infrastructure support. These findings can be tested for generalization in similar elementary school contexts.

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