

CHAPTER I

INTRODUCTION

This chapter establishes the research foundation by presenting the background and identifying core problems. It details the research questions, study purposes, and overall significance. Furthermore, the conceptual framework and theoretical contributions are discussed to provide structural clarity. Finally, the research hypothesis is formulated to guide the investigation into its intended academic outcomes.

1. Background of the Research

Grammar plays a crucial role in communication and serves as a foundation for sentence construction, making it an essential component of English language learning. However, grammar is often perceived as difficult by students, particularly when instruction relies heavily on the Grammar Translation Method (GTM). The GTM commonly emphasizes memorization, translation, and lengthy explanations of grammatical rules. Such practices may make grammatical concepts difficult for students to process and may reduce their engagement in the learning process. In addition, students in the same classroom do not necessarily have the same level of grammar knowledge. Some students may understand grammatical concepts relatively quickly, while others require more time and support to understand and apply the same concepts. This variation indicates that grammar learning involves challenges related not only to the complexity of grammatical rules but also to differences among learners.

These challenges become more relevant in contemporary classrooms, where students are increasingly exposed to technology and digital forms of information. Most students encountered in today's secondary education belong to Generation Z, who are generally accustomed to accessing information through concise and gradually delivered digital content. Gherman et al. (2022) reported that microlearning, which presents learning content in small and focused units, can

support students' retention. This characteristic is relevant to the way students interact with information in technology-rich learning environments. At the same time, the diversity of students' abilities requires attention to their different learning readiness and needs. In the Indonesian educational context, differentiated instruction (DI) has gained increasing attention following the implementation of the Merdeka Curriculum, which emphasizes learning that considers students' diverse characteristics, abilities, and learning needs.

The relationship between instructional approaches and students' learning experiences has also been examined in previous studies. Microlearning has been associated with students' participation and learning outcomes. Balasundaram et al. (2024), for example, investigated microlearning in a university context and reported its relationship with students' learning outcomes and participant reactions. In the Indonesian context, Dewanti et al. (2023) examined English learning materials in three public schools in Jakarta and found that several characteristics of microlearning were present across subjects in the schools. These findings indicate that short, focused, and gradually delivered learning content has received attention in educational practice and research. Similarly, differentiated instruction has been examined in relation to students' engagement and academic achievement. Subandiyah et al. (2025), for instance, investigated differentiated instruction in a junior high school context and reported its relationship with student engagement and academic achievement.

The issue is particularly evident in the context of one private Madrasah Aliyah in West Java, which is the setting targeted for the present study. Based on initial classroom observations and interviews with English teachers, students demonstrated low engagement and motivation during grammar instruction using the GTM. Furthermore, formative assessment data indicated that many tenth-grade students continued to experience difficulties in applying basic grammatical rules in their writing assignments. The classroom also consisted of students with different levels of ability. Some students were able to grasp grammatical concepts relatively quickly, whereas others required additional explanation and practice. The English teacher also reported difficulties in managing these varying learning needs within

the same classroom. These conditions illustrate the complexity of grammar instruction in a heterogeneous secondary-school classroom.

The difficulties observed in grammar learning can also be viewed from the perspective of students' cognitive processing. Lengthy explanations and the presentation of substantial amounts of grammatical information at once may increase the amount of information that students need to process. In contrast, microlearning is characterized by the presentation of concise and focused learning units, while differentiated instruction emphasizes variations in students' readiness, interests, and learning profiles. These characteristics have been discussed separately in previous educational research. However, their relevance to grammar learning among secondary-school students requires further empirical examination.

Despite the growing body of literature on contemporary pedagogical approaches, empirical research specifically examining the integration of microlearning and differentiated instruction in grammar learning remains limited. Previous studies have predominantly investigated the two approaches separately. Balasundaram et al. (2024) focused on microlearning in relation to learning outcomes and participant reactions in a university context, whereas Subandiyah et al. (2025) examined differentiated instruction in relation to student engagement and academic achievement at the junior high school level. Dewanti et al. (2023) also examined microlearning characteristics within Indonesian schools, but not specifically their integration with differentiated instruction for grammar learning. Furthermore, much of the existing research has been conducted in higher education or in contexts other than tenth-grade grammar learning. Consequently, there remains a research gap concerning how microlearning and differentiated instruction can be integrated within secondary-school grammar instruction, particularly in the Indonesian Madrasah Aliyah context.

The identified problems, classroom conditions, and research gap provide the basis for examining Microlearning Based on Differentiated Instruction (MBDI) in grammar learning. MBDI combines the characteristics of microlearning, which organizes learning content into concise and focused units, with differentiated instruction, which considers students' varying levels of readiness and learning

needs. The present study consequently investigates the implementation of MBDI in enhancing tenth-grade students' grammar learning at a private Madrasah Aliyah in West Java.

2. Research Problems

The main issue raised in this study stems from the real challenges in teaching grammar in secondary schools. Students often find it difficult because GTM still relies on memorization and lengthy explanations, which ultimately lead to high cognitive load and hinder understanding. This issue served as a strong foundation, guiding the investigation to determine whether a more innovative approach was needed to overcome these obstacles.

The research question in this study focuses on the effectiveness of integrating microlearning, based on differentiated instruction, in improving students' grammar skills. This focus was chosen because teaching grammar requires practical solutions that adapt to the diversity of students' abilities in the classroom. The problem is clearly formulated for easy understanding, namely, exploring how concise material with differentiated instruction can simplify the complexity of grammar for students.

Furthermore, this problem is researchable because it is supported by adequate resources, time, and expertise through an experimental study design. Academically, this research is of great significance in the field of English language education because it attempts to fill a gap in the use of personalised digital instructional strategies. By addressing the critical issue of low student engagement in grammar learning, this study is expected to make a real contribution to the development of knowledge and learning practices in the field.

3. Research Questions

This study aims to examine the problem of English grammar learning, which is considered boring and demotivating for students. Therefore, this study formulates two interrelated research questions about applying microlearning in grammar learning. These three research questions are presented as follows:

- 1) How does the implementation of microlearning based on differentiated

instruction yield difference in students' grammar achievement compared to grammar translation method?

- 2) To what extent do students perceive the pedagogical integration of microlearning based on differentiated instruction in supporting their grammar achievement?

The first research question involved collecting quantitative pretest and post-test data from students in both the control and experimental groups. Paired t-test statistical analysis is used to compare the grammar scores of students in the experimental and control classes. Statistical significance is assessed to determine whether students in the experimental group improved their grammar skills more than those in the control group.

Students' perceptions of the pedagogical integration of MBDI in grammar learning will be measured using structured questionnaires. The questionnaire data will focus on students' perceived motivation, engagement, instructional clarity, and perceived support in grammar achievement resulting from the implementation of MBDI. The data will be analyzed quantitatively to determine the extent to which students perceive the effectiveness of this pedagogical approach in supporting their grammar achievement.

4. Purposes of the Study

This study aims to examine the effectiveness of MBDI in English grammar learning at the secondary school level. Considering that grammar learning is often perceived as boring and demotivating, this study focuses on evaluating learning outcomes and students' perceptions through quantitative measures. The purposes of the study are as follows:

- 4.1 To examine the effectiveness of microlearning based on differentiated instruction in improving students' grammar achievement compared to grammar translation method.
- 4.2 To describe the extent to which students perceive the pedagogical integration of microlearning based on differentiated instruction in supporting their grammar achievement.

5. Significance of the Research

This research is significant as it addresses persistent challenges faced by students in learning grammar in tenth grade, low student motivation, and the difficulties they encounter in understanding grammar material when taught using conventional methods that rely on memorization and lengthy explanations. By examining grammar achievement through objective measurement, this study provides empirical evidence on how alternative instructional approaches can enhance grammar learning effectiveness at the secondary school level.

From an academic perspective, this study contributes to the field of language pedagogy by providing quantitative evidence on the effectiveness of integrating microlearning with differentiated instruction in English grammar learning. While previous studies have often examined microlearning and differentiated instruction separately, this research offers empirical support for their combined pedagogical application in improving students' grammar achievement. The findings enrich the existing literature on instructional effectiveness, adaptive learning models, and cognitive load management within the context of English Language Teaching (ELT), particularly at the secondary school level.

From a practical perspective, the study's findings offer tangible implications for educational practice. For English teachers, the results provide evidence-based guidance on the use of microlearning, based on differentiated instruction, to enhance students' grammar achievement while accommodating diverse readiness levels. For students, the implementation of this approach supports more focused and manageable grammar learning, which may enhance learning efficiency and retention. In addition, school administrators and curriculum developers may use the findings as an empirical reference when designing flexible, student-centered grammar instruction that aligns with the learning characteristics of 21st-century learners.

6. Conceptual Framework

This study anchors itself in constructivist theory, which posits that learners

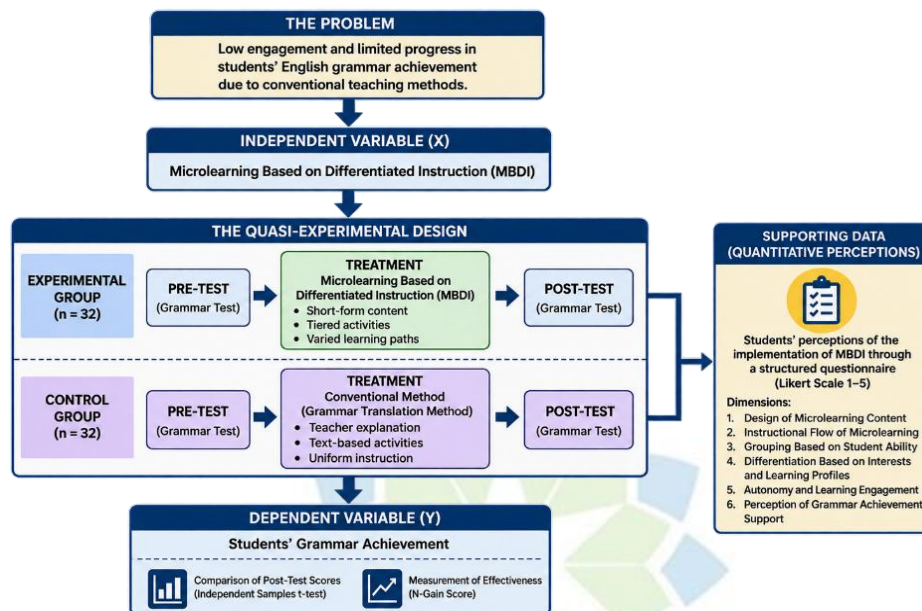
actively construct understanding and knowledge through experience and reflection (Piaget & Inhelder, 2008; Vygotsky, 1978). From this perspective, learning represents an active process where students build new knowledge upon previous experiences rather than merely receiving information. Constructivism advocates for a learning environment that recognizes individual uniqueness, encourages active engagement, and provides meaningful interaction with materials. This theoretical foundation aligns seamlessly with differentiated instruction and microlearning, as both approaches emphasize personalized, contextual, and active participation to enhance learning effectiveness.

Furthermore, within a constructivist framework, teachers function as facilitators who design learning experiences to foster understanding through exploration and collaboration (Fosnot, 2013). In line with this, (Tomlinson, 2014) asserts that effective instruction prioritizes diverse student needs by adapting content, processes, and products. Consequently, differentiated instruction in this research establishes a rigorous alignment between learning objectives, instructional activities, and quantitative assessments.

Upon categorizing students based on their initial abilities, the intervention utilizes a microlearning strategy. This approach delivers content in concise segments that facilitate brief interaction, with each task intentionally crafted to cultivate particular skills (Kapp & Defelice, 2019). By breaking down complex grammar information, microlearning reduces cognitive load and enables students to concentrate on specific linguistic targets. Moreover, the integration of technology within microlearning boosts student motivation. Empirical evidence from Rad (2023) confirms that students employing microlearning attain superior motivation and grammar mastery compared to those in traditional settings. Similarly, Maharani et al. (2024) demonstrates the effectiveness of microlearning in supporting broader English language skills.

Ultimately, the synergy between differentiated instruction and microlearning addresses students' grammar learning needs with greater precision. This conceptual relationship identifies learner requirements, defines clear objectives, and presents modular content to yield optimal learning outcomes. Therefore, this study

operationalizes a framework where adaptive, technology-based microlearning mitigates the diverse challenges in grammar acquisition. To illustrate the interaction between these instructional variables and their impact on grammar achievement,



this study employs the conceptual framework visualized in Figure 1.1 below.

7. Contributions of the Study

This study contributes to addressing the limited empirical research on the implementation of MBDI in English grammar instruction for tenth-grade students. By employing a quantitative experimental design, this research provides measurable evidence regarding the effectiveness of this integrated instructional approach in improving students' grammar achievement at the secondary school level.

From a theoretical perspective, this study strengthens and extends the

Figure 1. 1 Framework of the study

literature on modern educational theory, particularly in relation to Cognitive Load Theory and Differentiated Instruction. The findings offer empirical support for the proposition that presenting grammar content in concise, focused units through microlearning can reduce cognitive burden and facilitate more efficient processing

of complex grammatical structures. Furthermore, this study contributes to the development of Second Language Acquisition (SLA) theory by providing evidence that an adaptive instructional approach aligns more effectively with learners' developmental needs, particularly within the framework of the Zone of Proximal Development at the secondary school level.

From a conceptual perspective, this research contributes by proposing an empirically grounded instructional framework that integrates microlearning principles into a differentiated instruction model for grammar learning. This framework offers a conceptual synthesis in which grammar content is not only segmented into manageable learning units but also systematically aligned with students' readiness levels. As a result, the study provides a conceptual foundation for the development of more personalized, structured, and pedagogically relevant grammar instruction designs that are responsive to diverse learner characteristics.

8. Research Hypothesis

Based on the developed framework, this study examines the effect of MBDI as an independent variable on students' grammar achievement as a dependent variable. Theoretically, microlearning, which presents material in small, focused units, can reduce students' cognitive load, while differentiated instruction allows for the adjustment of learning based on students' readiness levels. Therefore, the combination of these two approaches is expected to significantly improve grammar learning outcomes compared to conventional learning.

Driven by this theoretical framework and prior studies, this research aims to fulfill two primary goals: assessing students' academic performance and investigating their views on the methodology. To address the first study inquiry concerning the disparity in educational results between the experimental and control groups, the subsequent statistical hypotheses are formulated:

- 8.1 H1: The implementation of microlearning based on differentiated instruction results in a statistically significant improvement in students' grammar mastery compared to the use of the grammar translation method.

8.2 H0: The implementation of microlearning based on differentiated instruction does not produce a significant difference in students' grammar mastery compared to the use of the grammar translation method.

Furthermore, to deliver a more thorough assessment of the treatment's efficacy, this research additionally examines the students' perceptions in the experimental group. Instead of evaluating a statistical hypothesis, this second element will be assessed through a Likert scale questionnaire and descriptively analyzed to ascertain if students hold positive opinions about the pedagogical integration of MBDI to support their grammatical achievement.

