# Designing Lexicogrammar Microlearning-Based Materials Infused With Listening Skills For 7th Graders

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***Abstract**.*

*This study focused on the designing of English lexicogrammar materials that incorporate microlearning for junior high school students, especially 7th graders. The study aimed to develop effective instructional materials that enhance students' understanding of lexico-grammatical concepts through microlearning. A design-based research methodology was employed in this study in three phases (Richey & Klein, 2014b), namely analysis, design, and development. Information related to existing materials was gathered; the product model was planned; and the prototype design was then developed. Data was existing learning materials collected from teachers after they were interviewed and filled out a questionnaire. This study also utilized qualitative content analysis to examine a set of existing learning materials consisting of textbooks, PDFs, and ppt slides. The findings showed that the existing materials are not microlearning-based. The design of learning materials in lexicogrammar integrated with the listening skill named medium of microlearning objects was in the form of two podcasts, one audiobook, and some interactive games in integration with listening skill.*

***Keywords**: lexicogrammar, microlearning-based materials, medium of microlearning object and 7th graders.*

## I. INTRODUCTION

Studies on material development were done with the purpose of making effective materials for a certain level of learners. An effective material refers to any resource or tool that supports and enhances the learning process(Alsowayegh et al., 2018), and helps learners achieve the desired learning outcomes(Zajda & Zajda, 2021). Effective materials engage and motivate learners, facilitate understanding and retention of information, and promote meaningful learning experiences (Listiani, 2023). In other words, effective materials raise the learners' interest, remind learners of earlier learning, tell learners what they will be learning next, explain new learning content to learners, set clear learning targets, provide them with strategies to use in learning, and provide opportunities for meaningful practice (Richards, 2001).Students in seventh grade of junior high school are young learners who have the chance to profit from learning the English language and get ready for the next level up. It highlighted that seventh-graders will become proficient in the English language by practicing the English elements from the English textbook (Oktaviani & Fauzan, 2017). The Merdeka curriculum, introduced by Nadim Makarim (Minister of Education and Culture) to evaluate the success of the Kurikulum 13, is utilized in the learning curriculum based on the methods of talent and interest (Aisyah et al., 2022). It is clear that this curriculum gives Indonesian students the opportunity to pursue their academic interests, notably in mastering the English language. Merdeka curriculum enhances students' character and competences as a result, which can be developed based on their talent and interest to facilitate their learning requirements, such as honing English language abilities (Damayanti, 2022).

The Merdeka curriculum prioritizes learner-centered education, using instructional materials to enhance the learning experience (Dumpang et al., 2021). These materials support teachers, add enjoyment, and maintain student engagement, reducing boredom. However, some educators opt out for various reasons,

like scarcity or the belief that certain subjects don't require them. Digital resources are promoted for English language learning, adapting to evolving student needs (Zhou, 2021). By providing bite-sized content, microlearning captures attention, aiding focus and preventing overwhelm (Perry, 2017). This approach aligns with materials developed in a microlearning framework (Allela, 2021). Microlearning, a trending educational strategy, delivers concise and easily digestible bursts of information, typically lasting a few minutes to about 15 minutes (Allela, 2021; Hanshaw & Hanson, 2019; Kapp & Defelice, 2019; Torgerson & Iannone, 2020). It simplifies complex concepts into manageable portions, enabling learners to focus on specific subjects without feeling overwhelmed. This approach offers numerous benefits, including accessibility, effectiveness, targeted learning, diversity, mobile-friendliness, reinforcement, retention, and personalization, including postgraduate language studies (Almazova et al., 2018) . Flipping classrooms to incorporate microlearning has shown promise in enhancing students' self-regulated learning (Hosseini et al., 2020). In essence, microlearning leverages modern online tools and concise, focused learning materials to achieve specific learning objectives.

Effective instructional material design requires a deliberate consideration of the skills to be imparted. Beyond proficiency in reading, it is essential to cultivate an understanding of lexicogrammatical and English grammar skills during language acquisition. Lexicogrammar, a fusion of lexis and grammar, represents the harmonious interplay between words and their contextual use in speech. This synthesis of lexis and grammar forms the bedrock of semantics and the expression of meaning, as discerned from word structure (Claria, 2021). The core objective of this study is to develop instructional materials that enhance students' comprehension of lexico-grammatical concepts, with a focus on microlearning.Microlearning, a contemporary educational approach, delivers brief, easily digestible bursts of information, typically spanning a few minutes to around 15 minutes (Allela, 2021; Hanshaw & Hanson, 2019; Kapp & Defelice, 2019; Torgerson & Iannone, 2020). This methodology simplifies complex concepts into manageable portions, allowing learners to concentrate on specific subjects without becoming overwhelmed. It offers a multitude of advantages, including accessibility, effectiveness, targeted learning, diversity, mobile-friendliness, reinforcement, retention, and personalization. Within the realm of language learning, microlearning has gained considerable traction as an efficient method, explored across various educational contexts, including postgraduate language studies.

Comprehending the intricate interplay between grammar and its role in conveying messages necessitates the mastery of lexicogrammatical skills. In a recent study, participants' competence in lexicogrammar was assessed while they engaged in both paper-based and computer-based writing, focusing on their grasp of different tenses and their application in various writing genres. Remarkably, the findings revealed no significant disparities between computer and paper users, especially in narrative genre sentence-level errors (Ziad AlKadi & Ahmed Madini, 2019). Lexicogrammar serves as the cornerstone for effective communication, empowering students to navigate diverse linguistic contexts and construct coherent sentences. This knowledge not only enhances overall language proficiency but also enriches vocabulary and guides students in structuring sentences logically, facilitating clear and concise communication. In the domains of writing and reading comprehension, lexicogrammatical competence plays a pivotal role, enabling students to efficiently decode written texts and express themselves with clarity and grammatical precision. Moreover, lexicogrammar's close association with pragmatics underscores its significance in understanding language choices within social and cultural settings, ultimately facilitating effective communication by grasping social customs, idiomatic expressions, and judicious language register usage (Liu & Jiang, 2009; Peppard, 2014). Therefore, this study aimed to develop effective instructional materials that enhance students' understanding of lexico-grammatical concepts through microlearning.

## II.    METHODS

The population of this study was English teachers of five junior high schools (state and private) in West Java. The samples of this study were ten English teachers of junior high schools who were asked to fill

in the questionnaire and answer interview questions in order to know learning materials (modules, PDF, and PPT slides) used in each school. The instruments of this study were questionnaire and interview that were designed to know whether or not microlearning had been used in the classroom. The data from instruments were analyzed using thematic analysis. The Design and Development Research (DDR) methodology was used in this study. DDR was described as the systematic study of design, development, and evaluation processes by Richey & Klein (Richey & Klein, 2014a) with the aim of creating new or improved models that direct the creation of instructional and non-instructional products and technology.

In addition, he mentioned two categories for achieving the objectives: research on tools and goods, and research on DDR. T (Richey & Klein, 2014b)he DDR approach was employed in this study with the intention of designing English lexicogrammatical learning materials for seventh graders that are microlearning-based. The DDR design was used for this study because it is the most typical process for creating things, especially educational resources. This research design has been developed by some scholars and the last version of DDR design was proposed that is preparation, iterative design, and iterative development (Sites & Green, 2014). Table 1 presents the research design of this study conducted in three phases completed with the instruments used in each phase.

**Table 1.** The research design of this study conducted in three phases

| Phases | Main research question | Research questions | Research method | Instruments |
|---|---|---|---|---|
| preparation | How is the description of microlearning based lexicogrammar learning materials for seventh graders? | To what extent is microlearning integrated into the texts of lexicogrammar materials for seventh graders? | Need analysis and document analysis | questionnaire, interview questions, Merdeka curriculum, teacher notes |
| Iterative design | | How is microlearning integrated into the texts of lexicogrammar learning materials for seventh graders? | Prototype design | Descriptors (CEFR and digital literacy), questionnaire results, interview results, and Merdeka curriculum |
| Iterative development | | | Prototype development | Descriptors of CEFR and Merdeka curriculum |

**Preparation phase**

In this study, the preparation phase was focused on needs analysis of creating LOM (learning object material) texts for improving junior high school students' lexicogrammatical abilities. In this phase, document analysis and needs analysis are the research techniques used. In the iterative design, the researcher decided the learning achievement to design the final product or prototype, in accordance with the needs analysis from phase 1. In the iterative development phase, the researcher developed prototypes resulting from phase 2. In the analysis phase, the researcher identified to what extent the existing lexicogrammar materials facilitate seventh graders. Therefore, library research was done to analyze the data consisting of instructional design including the analysis of the organization, structure, and flow of the materials. The data sources were the learning materials including textbooks, presentations, videos, and interactive modules

**Iterative design phase**

In the iterative design phase, the researcher investigated how English lexicogrammar materials can be integrated in microlearning. The data were textual content, visual content, multimedia and assessment materials in the existing lexicogrammar materials of 7th graders and the data sources were lesson plans and textbooks in lexicogrammar materials of 7th graders.

**Iterative development phase**

In the iterative development phase, the researcher developed the design in the previous phases into a preliminary design of the product. The data were curriculum content that consisted of the core concepts, topics, and subject matter that the learning materials aim to teach. The data sources were textbooks and

references including traditional textbooks, academic literature, and reference materials that provide foundational knowledge.

### III.    RESULTS AND DISCUSSION

This section describes the results of each phase presented in tables and elaborated in order.

#### a.    The result of preparation phase

To answer the first research question, namely the extent to which microlearning is integrated into the texts of lexicogrammar materials for seventh graders, the teaching materials were collected. According to the questionnaire, interview, and teacher notes, a total of 10 English teaching materials were obtained from 5 junior high schools (state and private). The materials were in the form of modules, PDF, and PPT slides. The teaching materials used in the five schools were not microlearning based. Based on interviews with junior high school English teachers (10 teachers) that have been conducted, most of the teachers have never taught English using the Merdeka curriculum. The teachers experienced difficulties in making teaching materials in accordance with the Merdeka curriculum. They need training related to how to make English teaching materials that can support learning outcomes in the Merdeka curriculum.

They need skills in compiling teaching materials based on a learning method that is in accordance with the characteristics of students in the 21st century as it is today. According to the teachers' observation, one of the characteristics of students, in an era where technology is advanced and sophisticated, is their lower concentration power than students in the era before technological advances. They can only focus and concentrate on a subject matter for a maximum of 7 minutes. Therefore, the teacher needs to make the material short, clear and concise so that the learning outcomes can be fulfilled. To get solid material in a short duration, the material needs to be based on micro learning (micro learning). The characteristics of microlearning are considered suitable for helping teachers achieve learning outcomes in the Merdeka curriculum (see Table 2).

**Table 2.** Adopted microlearning descriptors (Allela, 2021; Buchem & Hamelmann, 2010; De Gagne et al., 2019; Hug, 2005; Zhang, 2016)

| Microlearning aspects | Descriptors |
|---|---|
| Learning materials | ● The materials are separated into one theme (small unit)<br>● The materials are intended to last just with no more than 20 minutes<br>● The materials can be accessed anywhere and anytime<br>● The materials should have a clear focus and express a particular topic or an idea<br>● The materials are based on the curriculum<br>● The materials are divided into certain skill categories<br>● The materials make use of medium microlearning object<br>● The materials should be self-contained |
| Learning style | ● Learners participate in the learning process.<br>● Learners spend little time learning the materials. |

#### b.    The results of iterative design

The researcher investigated the incorporation of English lexicogrammar materials in microlearning during the iterative design phase. The textual content, graphic content, multimedia, and evaluation items in the study were created using data from lesson plans and textbooks in the lexicogrammar materials for seventh graders. The first step in designing microlearning-based teaching materials is to determine learning outcomes in the Merdeka curriculum and learning outcomes in the Common European Framework of Reference (CEFR) for level A1 or A2 which is the same level as grade 7 junior high school. The table below (Table 3) shows how the learning outcomes in the Merdeka and CEFR curricula are derived to determine the flow of learning objectives and the functions and features of the language taught on one particular topic, for example occupation or job. On this occasion, grammar material is combined with listening skills. The learning outcomes in the Merdeka curriculum are focused on listening skills while the learning outcomes in

the CEFR are focused on listening and grammar skills. The flow of learning objectives is focused on the topic to be studied. Language functions and features are also focused on grammar skills.

**Table 3.** Deconstruction of learning achievement from CEFR and Merdeka curriculum

| Learning achievement in Merdeka curriculum | Learning achievement in CEFR | Learning purpose path | Language features (Lfeat) and language function (LF) |
|---|---|---|---|
| The ability to grasp the meaning (implied and explicit) in an oral presentation and understand the main and supporting ideas in the information content and the context that underlies the presentation. | Can understand phrases and expressions related to areas of most immediate priority (e.g. very basic personal and family information, shopping, local geography, employment), provided people articulate clearly and slowly. Can control a narrow repertoire dealing with concrete, everyday needs. | Understand main ideas and relevant details of discussions or presentations on people's job | LF: introduce oneself and others<br><br>LFeat:<br>Verbs: be–affirmative, negative<br>Pronoun: singular and plural |

### c.      The results of iterative development

During the iterative development phase, the researcher created a basic design of the product using the design from the earlier phases as a starting point. The information was curriculum content, which included the main ideas, subjects, and themes that the instructional materials are designed to cover. Textbooks and references, such as classic textbooks, scholarly works, and reference materials that provide basic knowledge, served as the data sources. After determining the flow of learning objectives which are derivatives of learning outcomes in the Merdeka and CEFR curricula and determining language functions and features, then the researcher selects a suitable medium of microlearning object (MeMO) to achieve the desired learning outcomes. In addition, in making microlearning-based lexicogrammar materials that are integrated with listening skills, researchers also need to pay attention to the types of lexicogrammatical material and listening. Lexicogrammatical or grammar material can be in the form of coursebooks, ppt slides, flash cards, worksheets, audio and written texts, and videos (Harmer, 2007). In addition, it also revealed that there are 5 types of listening material, namely CD coursebooks, cassettes, tapes, recordings, and radio broadcasts (Harmer, 2007).The table below (Table 4) shows how the English sub-learning achievement (sub-*CP*) are decomposed into micro sub-learning achievement (sub-*CP* micro) and micro material as well as MeMO for grammar or lexicogrammatical skills. The material in this table focuses on grammar material, especially the use of verbs in the simple present tense.

Meanwhile, the material in the next table (Table 4.7) focuses on the grammar material used in the listening text with the topic of work for the opening and activating learning stages of schemata. For the opening, the material is focused on activities that can attract students' attention to start focusing on the topic to be studied. The activity is to collect students' opinions by providing prompting questions that lead to the topic to be studied. Because the opening learning stage aims to attract students' attention, video reality is the right MeMO. At the schemata activation stage, students are expected to know what will be learned and what can be done after studying the learning topic. At this stage, the teacher provides activities that aim to activate students' memory of the learning topic. MeMO considered the PPT slides and jamboard to be the right ones for this purpose with the question and answer process and vocabulary categorization activities. At the material presentation stage, video is the right MeMO because it can display material in visual and audio form. At the stage of deepening the material, the teacher uses PPT slides in giving instructions to students. While audiobooks are used as appropriate MeMOs because they can display material in writing so that material can be presented in visual and audio forms. Thus, grammatical material will be presented clearly from the aspect of writing and the order of each word in the sentence. Games are used to deepen the material considering that students like games so that learning can be done in a fun way. At the stage of assessing material understanding, students will be assessed in groups or in pairs or individually. Gform is used to

assess student understanding in groups or pairs, while quizizz is used to assess student understanding individually.

**Table 4.** Deconstruction of sub-learning achievement into medium of microlearning object (MeMO)

| Sub-learning achievement | Material | Lesson stage | Micro sub-learning achievement | Micro material (learning activities) | Medium of microlearning object (MeMO) |
|---|---|---|---|---|---|
| Understand the use of be verbs and action verbs in simple present tense | Simple present tense | Welcome to the lesson | Students are able to direct their attention to the class | Brainstorming (structured overview) | Video reality (1-2 minutes) |
| | | Awakening prior knowledge | Students are able to tell what to learn and to be able to do | Topic of the lesson and intended sub learning achievement: sharing information and categorizing (question and answer) | Ppt slide and jamboard (2-3 minutes) |
| | | Introducing grammar | Students are able to use be verbs and action verbs in simple present tense | The features of simple present tense (discovery learning) | Podcast (3-5 minutes) |
| | | Discovering grammar | Students are able to show the use of be verbs in sentence | The features of be verbs (discussion) | Podcast and online games (3-5 minutes) |
| | | Practicing grammar | Students are able to show the use of action verbs in sentence | The features of action verbs (discussion) | Audiobook and online games (5-7 minutes) |
| | | Review key points | Students are able to show the difference features of be verbs and action verbs | The different features of be verbs and action verbs (discussion) | Gform (2-3 minutes) |
| | | Assessment | Students are able to demonstrate their understanding on the differences between be verbs and action verbs | The distinctive features of the be verbs and action verbs (quiz) | Quizizz (3-5 minutes) |

**d. The use of audiobook and interactive games as medium of microlearning object in language learning**

The selection of audiobooks as listening and lexicogrammatical material was carried out based on the results of several previous studies. The first previous study (Stevens et al., 2017) showed results that repeated reading, multicomponent interventions, and audiobook reading aids resulted in gains in reading fluency and comprehension. The second previous research (Kartal & Simsek, 2017) showed that using audiobooks had a positive impact on listening skills, especially students' listening comprehension. Analysis of the survey data indicated that the audiobooks had contributed to participants' listening comprehension, pronunciation, and motivation. The third previous research (Rahman & Hajar, 2020)states that the extent of the difference between reading with audio books and reading aloud, for example, first, reading by audio books is not limited by space and time, it can be done on portable devices anywhere; second, reading becomes more enjoyable, as good stories are professionally narrated by famous actors, even the authors themselves, and provide students with accurate pronunciation of words through native-speaking narrators, due to their ease and simplicity. In addition, the combination of listening and reading has increased fluency. Based on the three previous studies, it can be said that audiobooks can improve students' fluency and understanding of English vocabulary in written and listening texts.

The selection of interactive games as listening and lexicogrammatical material was carried out based on the results of several previous studies. The first previous research (Calvo-Ferrer, 2017) investigated the impact of games on learning vocabulary. The results of his research showed that students who were taught vocabulary using games in a short time had better English comprehension skills than those who learned vocabulary using traditional methods. In addition, using games is more attractive to children and motivates them to improve their English vocabulary. A second previous study (Peterson, 2016) studied the impact of learning vocabulary during games in kindergartens in the Netherlands. The results of this previous study demonstrated the positive impact of computer games on these children's vocabulary acquisition. The third previous study (Jensen, 2017) showed that games have an important role in developing mastery of English vocabulary. Recent previous research (Yudintseva, 2015) shows that games can help EFL children improve their vocabulary in the context of the target language. All researchers came to the conclusion that vocabulary in the target language is developed by inviting children to play various games. Based on the previous studies above, it can be said that games are able to motivate students in learning vocabulary and have a positive impact on improving English vocabulary mastery.

## IV.     CONCLUSION

This study explored the integration of microlearning into the text of lexicogrammar materials for seventh graders. In order to answer the main research question, there are two research questions that can be answered by conducting three phases, namely preparation, iterative design, and iterative development. Based on the first research question, the result of the preparation phase showed that the existing materials of lexicogrammar in five junior high schools have not been microlearning based. According to the second research question, knowing the characteristics of micro-learning could utilize the students' short span of concentration, in iterative design, researchers took the initiative to create microlearning-based lexicogrammar materials for seventh graders. In iterative development, the medium of microlearning objects are created from the result of iterative design phase. The microlearning objects selected are audiobook and interactive games based on the results of some previous studies. Learning resources were presented in a concise and easily accessible format to provide opportunities for students to study content in a focused and short time, according to their individual learning rhythms.

## V.     ACKNOWLEDGMENT

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