

Analyzing Seventh Grader's English Speaking Materials Using Microlearning and Critical Thinking Frameworks

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ABSTRACT

Microlearning and critical thinking are essential for effective English speaking, yet their integration in existing materials for seventh graders remains inadequate. As a result, this study aimed to develop microlearning-based English speaking materials enriched with critical thinking for seventh graders. Using content analysis, this study analyzed these materials through modified frameworks of microlearning and critical thinking (Allela, 2021; Leong et al., 2021; De Gagne, 2019; Hug, 2005; Anderson & Krathwohl, 2001). English teachers were also interviewed to confirm material usage and assess the integration of microlearning and critical thinking. Content analysis of one national textbooks (Kurikulum Merdeka) and two teacher-created materials, alongside interviews with three teachers, revealed deficiencies in material design conciseness (LM_ML02), curriculum alignment (LM_ML05), and microlearning object incorporation (LM_ML06). Moreover, coverage of critical thinking skills such as analysis (CT4), evaluation (CT5), synthesis (CT6) was also limited. These findings highlighted the need for developing microlearning-based English speaking materials enriched with critical thinking for seventh graders. However, the focus on this grade level limits generalizability of the results. Therefore, further research across different academic levels and education context is recommended.

Keywords: microlearning, critical thinking, English speaking materials, content analysis

INTRODUCTION

In the rapidly evolving landscape of 21st-century education, microlearning has emerged as a prominent and effective strategy to meet the increasing demands for fast and extensive learning. According to (Jomahet al., 2016), microlearning stands out as a key approach for modern education, offering digital solutions that align with contemporary lifestyles and learning habits (Demmans Epp & Phirangee, 2019). The global interest in microlearning is evident, with Leong et al., (2021) identifying 476 relevant publications

between 2006 and 2022, highlighting its widespread adoption and the involvement of diverse authors, affiliates, and sponsors. The benefits of microlearning are manifold, including improved concept retention (Giurgiu, 2017; Shail, 2019), enhanced learner engagement (De Gagne et al., 2019; Liao & Zhu, 2012), increased learner motivation (Halbach & Solheim, 2018; Nikou & Economides, 2018; Shail, 2019), and the promotion of collaborative learning (Reinhardt & Elwood, 2019; Zhang & Ren, 2011; Chang & Dong Liu, 2015). Additionally, microlearning has been shown to improve learning ability and performance (Mohammed et al., 2018; Jomah et al., 2016; Fitria, 2022), making it a valuable tool in modern education.

Despite the proven advantages of microlearning, there remains a challenge in developing suitable learning materials, particularly in the context of English language learning. Budiana & Mumpuni (2019) emphasize the importance of creating learning materials that cater to the specific needs of learners, especially in developing essential skills such as listening, speaking, reading, and writing (Fitria, 2022; Jomah Et Al., 2016; Sirwan Mohammed et al., 2018). Observations by Skalka & Drlík (2018) and Tan (2017) indicate that students often struggle with expressing ideas both in writing and orally, suggesting a need for materials that provoke and train students to explore and articulate their thoughts confidently.

The integration of microlearning with modern technological tools has shown promise in addressing these challenges. For instance, studies by Huo & Shen (2015) and Sankaranarayanan et al. (2023) have demonstrated the effectiveness of combining mobile microlearning with English listening and speaking exercises. This approach aligns with the needs of 21st-century learners who are accustomed to accessing information quickly and efficiently (Allela, 2021). Moreover, Lv (2017) highlights the benefits of integrating learning materials for developing various skills, including language proficiency, autonomous learning, and practical abilities.

However, there is a noticeable gap in the literature regarding the infusion of critical thinking into microlearning-based English speaking materials. Critical thinking is essential in fostering higher-order thinking skills (HOTS), which are crucial for global economic growth and knowledge-based economies (Tan & Halili, 2015). Unfortunately, the implementation of HOTS in Indonesian education has faced significant challenges, with many educators lacking understanding and practical application of these skills (Fauzi, 2019; Nirmala et al., 2018; Warmadewi et al., 2019). As a result, traditional teacher-centered approaches continue to dominate, limiting students' cognitive development (Kusuma et al., 2017).

Given these insights, this study seeks to address the gap by analyzing existing English speaking materials for seventh graders through the lenses of microlearning and critical thinking frameworks. The research aims to determine the extent to which these materials incorporate microlearning and critical thinking elements, thereby contributing to the development of more effective educational resources. Thereby, based on the background explained above, the formulation of the research question is as follows:

- To what extent are microlearning and critical thinking infused in the

existing English speaking materials for seventh graders?

METHOD

This study utilized content analysis to examine the integration of microlearning and critical thinking frameworks within seventh-grader English speaking materials. As defined by Krippendorff (2018), this systematic approach allowed the researcher to identify recurring themes, messages, and patterns within the educational materials. Thereby, it was suitable for this study as uncovering both explicit content and underlying messages regarding microlearning and critical thinking infusion.

The analysis focused on one national textbook (Kurikulum Merdeka Belajar) and two teacher-created materials. The researcher initially analyzed current seventh-grade English speaking materials, conducting a thorough literature review on microlearning and critical thinking. To systematically assess these materials, a coding descriptor table (see Table 1 and 2) was developed. This table served as a framework, utilizing descriptors from microlearning sources (Allela, 2021; Leong et al., 2021; De Gagne, 2019; Hug, 2005; Buchem and Hamelmann, 2010) and critical thinking literature (Anderson and Krathwohl, 2001; Council of Europe, 2020).

Table 1: Microlearning Coding Descriptors

ML Aspect	Code	Descriptor
Learning Material	LM_ML_01	The materials are separated into one theme (small unit).
	LM_ML_02	The materials are intended to last just with no more than 20 minutes.
	LM_ML_03	The materials can be accessed anywhere and anytime.
	LM_ML_04	The materials should have a clear focus and express a particular topic or an idea.
	LM_ML_05	The materials are based on the curriculum.
	LM_ML_06	The materials make use of microlearning object material.
	LM_ML_07	The materials should be self-contained.

Table 2: Critical Thinking Skills Coding Descriptors

No.	CT Level	Code	Descriptors
1	Analyzing	CT4	<ul style="list-style-type: none"> - Break down simple spoken sentences to understand their basic structure. - Identify basic elements of spoken communication, such as greetings, questions, and responses. - Recognize the main idea and details in short, spoken dialogues.
2	Evaluating	CT5	<ul style="list-style-type: none"> - Assess the appropriateness of common expressions in given situations. - Evaluate the clarity of a simple conversation. - Provide basic feedback on peers' spoken language use.
3	Creating	CT6	<ul style="list-style-type: none"> - Generate simple spoken responses to common questions. - Create short dialogues or role-plays using learned vocabulary. - Produce basic spoken language content related to personal experiences or preferences.

To supplement the content analysis and gain insight into actual classroom practices, semi-structured interviews were conducted with three English teachers. These interviews treated as secondary data of the study. It explored teachers' reported usage of the materials, their perceived effectiveness in promoting spoken English skills, and the extent to which they integrate microlearning and critical thinking skills.

FINDINGS AND DISCUSSION

This section addresses the main question: "To what extent are microlearning and critical thinking infused in the existing English speaking materials for seventh graders?" To explore this, the researcher first reviewed literature on microlearning and critical thinking. Next, the content of existing seventh-grade English materials was analyzed using expert descriptors. This study analyzed three seventh-grade English speaking materials: one government textbook (five smaller units focusing on

speaking skills) and two teacher-developed modules (two different speaking topics). Finally, in-depth interviews with seventh-grade teachers from three schools validated the findings.

1. Analysis of Microlearning in Existing English Speaking Materials

Methodologies from Allela (2021), Leong et al. (2021), De Gagne et al. (2019), De Gagne and Hug (2005) were used to evaluate these materials. The criteria from these experts guided the analysis of a microlearning-based English materials, as shown in Table 3.

Table 3: Microlearning in Existing English Speaking Materials

No.	Type	Existing Speaking Materials No.	Descriptors of Microlearning						
			LM_ML01	LM_ML02	LM_ML03	LM_ML04	LM_ML05	LM_ML06	LM_ML07
1.	Textbook	1	√	√	√	√	√	√	√
2.	Module	2	√	-	√	√	-	√	√
		3	√	-	√	√	√	-	√

Table 3 displays the analysis of microlearning found in the textbook materials and module. In the textbook materials, there is comprehensive alignment with all microlearning descriptors (LM_ML01 to LM_ML07), demonstrating a thorough adherence to microlearning principles. According to Allela (2021), De Gagne et al. (2019), and Hug (2010), breaking down material into smaller components, as seen in LM_ML01, is crucial for aiding learner comprehension. This approach supports the idea that distinct topical elements, whether in a single sentence, text, or speech, help reduce confusion in microlearning (Buchem & Hamelmann, 2010).

In contrast, the modules show a more varied integration of microlearning characteristics. Module No. 2 includes descriptors such as a smaller theme (LM_ML01), accessibility (LM_ML03), clear learning outcomes (LM_ML04), the use of microlearning object material (LM_ML06), and self-containment (LM_ML07). However, it lacks intended brevity (LM_ML02) and a curriculum basis (LM_ML05). Fitria (2022), Allela (2021), Ford (2020), Hug (2010) suggested that learning materials should be designed for short durations to facilitate quick knowledge and skill acquisition aligned with the curriculum, a principle not fully reflected in these modules.

Additionally, Module No. 3 presents a mixed profile regarding microlearning integration. It includes a clear theme (LM_ML01), accessibility (LM_ML03), clear focus (LM_ML04), and self-containment (LM_ML07), but it misses intended brevity (LM_ML02) and the use of microlearning object material (LM_ML06). Hug (2010) and Allela (2021) emphasized that microlearning object materials, such as short text chunks, infographics, and advanced technologies, could enhance the learner experience, which is not fully achieved in this module.

In summary, the analysis of microlearning falls into two results. Firstly, the materials generally exhibit key microlearning features like single themes (LM_ML01), accessibility (LM_ML03), clear outcomes (LM_ML04), and self-containment (LM_ML07). Secondly, they often lack brevity (LM_ML02), curriculum alignment (LM_ML05), and use of microlearning objects (LM_ML06). Thus, it is evident that the existing speaking materials do not fully meet all the microlearning descriptors.

2. Analysis of Critical Thinking Skills in Existing English Speaking Materials

The analysis of critical thinking in existing materials follows Anderson and Krathwohl's (2001) framework, adapted to Council of Europe (2020) with A1 level standards for speaking skills, as shown in Table 4.

Table 4: Critical Thinking Skills in Existing English Speaking Materials

No.	Type	Existing Speaking Materials No.	Descriptors of Critical Thinking Skills		
			CT4	CT5	CT6
1.	Textbook	1	-	-	√
2.	Module	2	√	√	-
		3	-	√	-

Table 4 shows distinct patterns in the availability of speaking materials across different critical thinking levels in both the textbook materials and the modules. In the Textbook, an analysis of Critical Thinking Level 4 (CT4), which corresponds to the Analyzing level, reveals a lack of existing speaking materials. This indicates a shortage of resources for students to dissect simple spoken sentences and identify basic elements of spoken communication. Similarly, for Critical Thinking Level 5 (CT5), related to Evaluating, the Textbook lacks materials, showing a gap in teaching skills like assessing the appropriateness of expressions and evaluating the clarity of spoken instructions. However, the Textbook excels at Critical Thinking Level 6 (CT6), associated with Creating, providing materials that help students generate spoken responses, create short dialogues, and produce basic spoken content about personal experiences or preferences.

On the other hand, Module 2 describes a different pattern. It strongly supports CT4 (Analyzing) and CT5 (Evaluating) with materials that help break down simple spoken sentences, identify basic elements of spoken communication, assess the appropriateness of expressions, and evaluate the clarity of spoken instructions. However, it lacks materials for CT6 (Creating), which means students may struggle with generating spoken responses, creating dialogues, and producing spoken content about personal experiences or preferences.

Module 3, like the Textbook, has limitations in supporting CT4 (Analyzing) as it lacks existing speaking materials. However, it addresses CT5 (Evaluating) well, providing materials for assessing the appropriateness of expressions, evaluating the clarity of spoken instructions, and giving basic feedback on peers' language use. Similar to Module 2, it falls short in supporting CT6 (Creating), indicating a lack of resources for generating spoken responses,

creating dialogues, and producing spoken content related to personal experiences or preferences.

To sum up, this analysis highlights the strengths and weaknesses of the instructional resources (Textbook, Module 2, Module 3) in addressing specific critical thinking levels in spoken language - Analyzing (CT4), Evaluating (CT5), and Creating (CT6). It shows that the Textbook excels at CT6 but lacks materials for CT4 and CT5. Module 2 supports CT4 and CT5 well but falls short on CT6. Overall, all current English speaking materials lack comprehensive integration of critical thinking descriptors.

3. Interview Result

This section explores the results of interviews conducted to support the necessity analysis. The interviewees comprised three seventh-grade English teachers from three distinct schools. Table 5 concisely captures the outcomes of

these discussions.

Table 5: Summary of Interview Result

No	Theme	Description	Result
1	Micro-learning	Investigation of how far the teachers' knowledge about microlearning and see how existing English speaking materials used by the them	<ul style="list-style-type: none"> • Microlearning is defined as focused lessons through various formats, enhancing understanding in seventh-grade English speaking. • Materials heavily use microlearning with audios, interactive PDFs for focused segments. • Microlearning significantly boosts engagement and outcomes in seventh-grade English speaking through catering to shorter attention spans. • Technical challenges, like ensuring online access, are faced when implementing microlearning
2	Critical thinking skills	Information about the critical thinking skills-infused on existing English speaking materials provided and used by the teachers	<ul style="list-style-type: none"> • Critical thinking is not explicitly integrated into microlearning-focused speaking materials; the focus is on skill development. • Assessments include evaluating students' ability to articulate opinions, analyze information, and engage in discussions. • Strategies may include providing resources, one-on-one guidance, and structured exercises to progressively challenge critical thinking.
3	Curriculum	Information whether the existing English speaking materials that already used and aligned with <i>Kurikulum Merdeka</i> .	Materials align with Kurikulum Merdeka's objectives for seventh-grade English speaking, emphasizing language proficiency.

As revealed in Table 5, it summarizes insights from teacher interviews each identified as ET (English Teacher), organized into three themes: microlearning, critical thinking skills, and curriculum.

Firstly, ET1 describes microlearning as delivering small, focused lessons

through various multimedia formats like videos and forms to deepen understanding in seventh-grade English speaking.

Microlearning involves delivering small, focused lessons through various formats like videos and forms, enhancing the depth of understanding in such a topic. (ET1, 2024)

ET1 applied this strategy in their teaching materials using audio and interactive PDFs to facilitate learning in more concentrated segments. Meanwhile, ET2 placed more emphasis on critical thinking, and ET3, though not well-versed in microlearning, recognizes its potential for improving accessibility and engagement. This variety reflected the evolving instructional methods in seventh-grade English education.

Secondly, ET2 actively incorporated critical thinking skills into seventh-grade English speaking materials, focusing on thought-provoking discussions and analyzing spoken texts.

Critical thinking is actively integrated into speaking materials through thought-provoking discussion topics and analysis of spoken texts. (ET2, 2024)

ET3 emphasized creativity, encouraging exploration and expression within the curriculum. In contrast, ET1 prioritized microlearning over explicit critical thinking integration for skill development. These different approaches highlighted the varied emphasis on critical thinking among teachers.

Thirdly, curriculum alignment is a common goal among the teachers, with all affirming that their seventh-grade English materials align with *Kurikulum Merdeka's* objectives, focusing on language proficiency.

Yes, my materials align with *Kurikulum Merdeka's* objectives for English speaking, emphasizing language proficiency. (ET1, 2024)

However, there is a gap in awareness, as evidenced by ET3's admission of not being fully familiar with *Kurikulum Merdeka*, indicating a need for broader understanding and alignment with curriculum standards.

Finally, the interview findings depict a dynamic and evolving landscape in seventh-grade English speaking education. Similarly, as found in the analysis, the interviews indicate that microlearning significantly enhances engagement and outcomes in seventh-grade English speaking. However, existing speaking materials encounter technical challenges and lack explicit integration of critical thinking skills. Although they align with *Kurikulum Merdeka*, their primary focus is on language proficiency, with insufficient emphasis on critical thinking. Therefore, these deficiencies emphasize the importance of designing materials that effectively integrate microlearning and critical thinking skills.

CONCLUSION

The initial purpose was to analyze how well current English speaking materials for seventh graders incorporate microlearning and critical thinking. The content analysis identified several shortcomings: materials were not designed to be concise (LM_ML02), they were not aligned with the curriculum (LM_ML05), they lacked microlearning objects

(LM_ML06), and they had limited coverage of critical thinking descriptors (CT4, CT5, CT6). Similarly with the analysis, the interviews showed that microlearning significantly boosted engagement and outcomes in seventh-grade English speaking. However, current speaking materials faced technical challenges and lacks explicit integration of critical thinking skills. They aligned with Kurikulum Merdeka but primarily focus on language proficiency without sufficient emphasis on critical thinking. Therefore, these shortcomings underscored the need to design materials that effectively integrated microlearning and critical thinking skills.

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