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An English Reading Material Analysis Through Microlearning and Critical Thinking Skill Views

Deirra Ayu Kusmana[1)], Ratna Dewanti[2)], Siti Drivoka Sulistyaningrum [3)]
[1]*Jakarta State University*
email: deirraayukusmana@gmail.com
[2]*Jakarta State University*
email: rdewanti@unj.ac.id
[3]*Jakarta State University*
email: drivoka@unj.ac.id

Abstract:
The other advantages of microlearning included improving critical thinking, reducing cognitive load, concentrating on learning, and closing the theory-practice gap. This study looks into Symphony 1, an English course book, to assess how much reading involves microlearning and critical thinking skills. The cognitive domain of the Anderson and Krathwohl revised Bloom's Taxonomy, which has been modified with critical thinking skills, served as the instrument for this descriptive qualitative study. The Microlearning descriptor, which was used as the second instrument, was taken from several pertinent sources. The researcher then determined to what extent does Symphony 1 incorporated both microlearning and critical thinking skills. The finding suggests that Symphony 1 contains 5 data on microlearning and 60 data on critical thinking skills. In the meantime, the proportion of each technique varies for both features. It proved that Symphony 1 actually contained critical thinking skills and microlearning aspects. However, each chapter of the book needs to balance and emphasize how much of each indicator is used. The study suggests that textbook authors stress microlearning aspects and critical thinking skills more so as a way to enhance students' reading experiences.
Keywords: Microlearning, Critical Thinking Skill, Reading Material

1. INTRODUCTION

Since it was reported in 2009, microlearning has been attracting a lot of interest. Microlearning is one of the best and most well-liked methods for students in the twenty-first century. Short bursts of knowledge, or microlearning, are becoming more and more popular since they have been shown to improve learning outcomes and engagement (Arnab et al., 2021). The teaching materials developed today are competency-based and expected to encourage students to participate more actively in communication as well as think critically and work well together (Talenta & Pavita, 2022).

Additionally, Lee-Fiedler (2021) stated that improvements in critical thinking, a reduction in cognitive load, a focus on learning, and closing the theory-practice gap were all advantages of microlearning. Moreover, Arifin (2020) claimed

that students' use of critical reading procedures improved their ability to think critically. Similarly, in order to develop sensible reactions or answers, people might employ critical thinking skills to comprehend, interpret, and evaluate what they hear or read (Aghajani & Gholamrezapour, 2019). In brief, due to its many advantages, today's world of education desperately needs a mix of critical thinking skills and microlearning.

However, the main challenge faced by many researchers is the incompatibility among learning aspects. The target audience—generation Z includes tenth graders—and the material being taught in language learning is out of sync, particularly in terms of reading skills. Due to their extensive internet exposure, Gen Z prefers watching videos over reading printed materials like books and manuals (Jaleniauskiene & Juceviciene, 2015). They would rather get information from a website that is much more interesting and alive than from a newspaper, textbook, or manual, which were earlier methods of delivering lessons or messages using paperback (Sharil et al., 2017).

Comparatively, Sari & Sakhiyya (2020) examined an English course book to determine how much Higher and Lower Order level thinking is used in the reading assignments, which resulted in demonstrating that LOTS dominated the text, discouraging students from thinking critically. Therefore, the aim of this study is to portray the existing English reading materials in terms of microlearning and critical thinking skills. The result of this study can be used as development base to design more suitable English reading materials.

2. METHOD

The foundation for gathering and processing data in this study is qualitative approaches. According to Lune & Berg (2017), “quality refers to the what, how, when, where, and why of a thing—its essence and ambience”. Thus, qualitative research pertains to the meanings, conceptions, definitions, qualities, metaphors, symbols, and descriptions of objects. With illusive data on one side and strict requirements for analysis on the other, qualitative research is a difficult and lengthy process (Lune & Berg, 2017). Specifically, a content analysis is a thorough examination and interpretation of a body of writing in an effort to spot trends, themes, presumptions, and meanings (Berg & Latin, 2008; Leedy & Ormrod, 2005; Neuendorf, 2002, cited in Crescentini & Mainardi, 2009). Usually, content analysis is done on human communication mediums including written texts, images, moving pictures, audio, and video files.

According to Bogdan & Biklen (2007), sociology, criminology, psychology, education, business, journalism, art, and political science are just a few of the many fields that apply content analysis. Content analysis is primarily a coding operation and data interpretation procedure, regardless of the context (Bogdan &

Biklen, 2007). The following are the steps of content analysis according to Lune & berg (2017): 1) Data is collected and converted into text or otherwise structured so that it can be "read"; 2) Codes are analytically produced and/or inductively identified in data and attached to sets of notes or transcript pages; 3) Codes are converted into categorized labels or themes; 4) Materials are classified by these categories, identifying similar phrases, patterns, relationships, and similarities or differences; 5) Sorted materials are evaluated to identify relevant patterns and processes; 6) Identified patterns are analyzed in light of past research and concepts, and a small collection of generalizations is established. As a result, the information for this study was taken from the English textbook "Symphony 1".

The researcher then limits her investigation to just the English reading resources. Additionally, the researcher utilized critical thinking taxonomy for reading which adapted from Bloom's Taxonomy and generated two other types of descriptors, namely microlearning descriptors and critical thinking descriptors for reading skills, to assess this set of data.

To determine if microlearning principles are now present in the current English reading materials, the microlearning framework is used in this study. This framework is also utilized to construct reading materials in English that correspond to the ideas of microlearning and the capacity for critical thinking in the future. Consequently, through a process of expert judgment, the condensed microlearning framework is as follows:

Microlearning Aspects	Indicators	Code
Learning Materials	- The materials are broken down into a single topic (small unit)	ML 1
	- The materials are design for a short time (2-5 minutes, Allela, 2021; few seconds to 15 minutes, De Gagne 2019)	ML 2
	- The materials contents are provided at the moment of need	ML 3
	- The materials are based on the school's curriculum	ML 4
	- The materials are broken down into certain skills	ML 5
	- The materials make use of technology	ML 6
	- The materials are incorporated with varieties of media	ML 7
Learning Styles	- Students are involved in learning process	ML 8
	- Students spend little time to learn the materials	ML 9

Table 1. *Adopted Microlearning Descriptor from Allela* (*2021*), *Torgerson & Iannone* (*2020*), *De Gagne* (*2019*), *Li Zhang (2016), Hug* (*2009*)

As can be seen in the table above, there are nine codes that cover the domains of teaching materials and learning styles. The amount of microlearning that is included in the current English reading materials can be determined using the research tools provided by these codes. Meanwhile, regarding critical thinking

skill for reading, the researcher used different taxonomy and descriptor which can be seen in the following explanations.

Category	Keywords (Verbs)
Analyze (C4)	differentiating, discriminating, distinguishing, focusing, organizing, finding coherence, integrating, outlining, attributing, deconstructing
Evaluate (C5)	checking, coordinating, detecting, monitoring, testing, critiquing, judging
Create (C6)	generating, hypothesizing, planning, designing, producing, constructing

Table 2. *Critical Thinking Skills Indicator in Reading Skill Adapted from Anderson & Krathwohl (2001)*

An overview of critical thinking descriptors from various sources is provided in the table. The aforementioned table includes the eight codified indications. This makes it easier for scholars to analyze recent English reading materials.

3. FINDINGS AND DISCUSSION

The following chart contains the percentage of microlearning indicators found in English learning material namely Symphony 1.

Chapter	Data	Microlearning Category
4	Spend an hour in your school library or online and find as many descriptive texts as possible.	ML 6
Book Content in General	Based on the findings of the interview, the teacher claimed that since the COVID-19 outbreak, schools have adopted Microsoft Teams as a learning tool, starting with online meetings, assigning and collecting homework, and storing instructional materials.	ML 3
	The curriculum is using 2013 version as it is shown on the book cover.	ML 4
	The content mapping is divided into skills which are covered in all of the chapters.	ML 5
	Based on the findings of the interview, it is possible to guarantee that students will actively participate in their learning. It can be seen from the assignments instructions written on the textbook.	ML 8

Table 3. *An Overview of Microlearning in Symphony 1*

These results suggest that Symphony 1 contain the microlearning components listed in Table 3. In the course of this inquiry, it was discovered that the English textbooks contained a variety of microlearning indicators, such as: a) the contents of the material are provided at the moment of need or ML 3; b) the materials are based on the school's curriculum or ML 4; c) the materials are broken down into certain skills or ML 5; d) the materials make use of technology or ML 6; and e) students are involved in learning processes or ML 8. Some indicators, however, are absent from the reading materials, including the materials are broken down into a single topic (small unit) (ML 1) the materials are designed for a short time (ML 2), the materials are incorporated with varieties of media (ML 7), and students spend little time learning the materials (ML 9).

This analysis leads us to the conclusion that tenth graders could benefit from a number of microlearning components that are still missing from the current English coursebook. This statement confirms previous studies from Putri (2022). It is said that the current English coursebook still lacks a number of microlearning features. Moreover, similar results also come from Firmansyah (2022), Widayani (2022), as well as Nurtasha (2022).

The composition of each indicator must be incorporated evenly in all of the chapters and customized with the topic and skills. Moreover, the types of microlearning indicators also have to be varied in order to generate effective microlearning-based English reading material. Therefore, the researcher refers to the data from the need analysis in generating the scripts and LOM for the microlearning-based English reading materials that incorporate critical thinking skills. Moreover, the existing indicators of microlearning can be made more evenly distributed in each chapter and devoted to reading skills. Meanwhile, below is the finding related to critical thinking skills indicator found in English learning material's instructions as well as questions.

Chapter	Instruction	Question	CT Skill	Total
1	focusing, discriminating	judging	analyzing evaluating	3
2	organizing, judging, distinguishing	attributing, attributing, finding coherence, differentiating, checking	analyzing evaluating	8
3	distinguishing, distinguishing, distinguishing, generating	-	analyzing creating	4
4	planning, deconstructing, deconstructing, distinguishing, distinguishing, focusing, differentiating, organizing, organizing, finding coherence, judging, finding coherence, generating	attributing, judging, attributing, attributing, attributing, judging, judging	analyzing evaluating creating	20
5	organizing, differentiating, focusing	attributing, attributing, attributing	analyzing	6
6	judging, judging, finding coherence	-	analyzing evaluating	3
7	deconstructing, judging, judging, finding coherence, checking	-	analyzing evaluating	5
8	judging, judging, generating, finding coherence, distinguishing, deconstructing	judging, distinguishing	analyzing evaluating creating	8
9	generating	judging, judging	evaluating creating	3

Table 4. *An Overview of Critical Thinking Skills in Symphony 1*

Based on the revised bloom's taxonomy by Anderson & Krathwohl (2001), higher order of thinking starts on the level there and above, which means it begins with analysis, then evaluation, and ends with creating. According to Seif (2012), "HOTS and critical thinking have some connections". In order to respond to knowledge actively rather than just memorize it, both demand vital intellectual processes and mind cultivation. Responding to this concept, the analysis result of current reading materials can be further seen in the following explanation. The results, as shown in Table 3.2, indicate that the critical thinking skills have been entirely incorporated both in the instruction and question of existing English reading material. If one were to examine all of the textbook's chapters, the critical thinking codes would not be present in each chapter evenly.

To begin with, in reading material 1, C4 (analyzing) which covers the skills of focusing, discriminating, organizing, distinguishing, attributing, finding coherence, differentiating, and deconstructing happens to be the most frequent code which found in almost every chapter. However, it only not appeared in chapter 9. Furthermore, related to the composition of instruction and question, the number of critical thinking skills C4 was found mostly in a form of instruction (27 data). Meanwhile, questions infused with critical thinking skills are 19 data. According to Anderson & Krathwohl (2001), focusing, distinguishing, differentiating, and discriminating are the skills of distinguishing relevant or important from irrelevant or unimportant parts of the presented material. meanwhile, organizing, finding coherence, and outlining means that the students are expected to determine how elements fit or function within a structure. Still from Anderson & Krathwohl, attributing as well as deconstructing require students' ability to determine a point of view, bias, values, or interest underlying presented material.

Similar to the first code, C5 (evaluating) which covers the keywords of judging and checking in the reading materials, were found in most of the chapters, except for chapters 3, 5. Additionally, in terms of micro and macro skills of reading, for C5 critical thinking skills, which covered instruction as well as question compositions the data ratio was 9 and 8. Moreover, keyword checking, detecting, testing, and coordinating are the skills in which students can hone their ability in detecting inconsistencies within a process or product; detecting the effectiveness of a procedure as it is being implemented (Anderson & Krathwohl, 2001). Furthermore, keyword judging is related to the skill of detecting inconsistencies between a product and external criteria; detecting the appropriateness of a procedure for a given problem.

Lastly, for code C6 (creating), which can be seen in keywords generating and planning, were only found in chapters 3, 4, 8, and 9. Additionally, regarding the distribution of both instructions and questions, the data found for instruction was 5 but there was no data in the form of questions. Referring to Anderson &

Krathwohl (2001), keyword generating has a tendency to require students to come up with alternative hypotheses based on criteria. Meanwhile, keyword planning has the ability to direct students able to devise a procedure for accomplishing some tasks.

This result is somehow consistent and confirm previous study's research result which conducted by Sari & Sakhiyya (2020). They stated that the reading comprehension tasks in the textbook do not fairly distribute or address the higher-order cognitive skills. Additionally, the higher-order level's lowest point is "creating", and its highest point is "analyzing". However, in order to better address critical thinking skills, the frequency needs to be more evenly distributed throughout each chapter. In terms of the presence of the skill, Symphony 1 is deemed sufficient.

4. CONCLUSION

This study leads us to the conclusion that there are still certain microlearning components missing from Symphony 1 that would be beneficial for tenth grade students. Each indicator's content must be evenly distributed throughout all of the chapters and tailored to the subject and skills. To create efficient microlearning-based English reading content, the sorts of microlearning indicators must also be modified.

All in all, students must therefore assemble components into a new pattern or structure; combine components into a coherent or useful whole. The terminology used in the directions for Symphony 1 is consistent with this explanation. These indicators (C6) are situated in the third level at the revised version of Bloom's taxonomy, namely the HOTS levels.

The purpose of this research is to look into an English-learning materials using the views of microlearning aspects and critical thinking skills. The analysis's findings reveal that the current English reading material is still deficient in several ways. The content also doesn't completely incorporate descriptions for critical thinking skills and microlearning. Meanwhile, related to microlearning, based on this analysis, we can say that the current English coursebook still lacks a number of microlearning components that would be helpful for tenth grade students.

Furthermore, just 6 out of 9 characteristics—the materials contents are provided at the moment of need, the materials are based on the school's curriculum, the materials are broken down into certain skills, the materials make use of technology, the materials are incorporated with varieties of media, and students are involved in learning process—are covered by microlearning descriptions. Meanwhile, the materials are broken down into a single topic, the materials are design for a short time, and students spend little time to learn the materials were not found on the existing learning material.

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