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Evaluating EFL Textbooks for Vocational High Schools in Indonesia: A Corpus-Informed and Lexile-Based Model

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Abstract

Even though textbooks play an integral role in EFL teaching and learning processes, evaluation of English textbooks for vocational high schools in the Indonesian context and their relevancy to the targeted proficiency was still rare. This study identified text difficulty levels and English vocabulary profiles of a set of digital English coursebooks for vocational high schools in Indonesia. It also analyzed how text difficulty levels and vocabulary profiles correspond with the targeted proficiency level of vocational high school graduates. A corpus-informed and Lexile-based model was employed as the design of this research. Lexile framework was employed to measure text difficulty, while corpus information was utilized to determine the vocabulary profiles of the selected textbooks. Three tools were used to analyze the data quantitatively, namely Lexile Text Analyzer® Professional, LncsBox, and English Vocabulary Profile in Text Inspector. This study found that the approximate text difficulty of reading passages in the coursebooks for grades 10 and 12 is slightly higher than the expected language proficiency level for vocational high school graduates. On the other hand, the approximate text difficulty of reading passages in the coursebook for grade 11 is slightly lower. However, in terms of vocabulary profiles, the three books emphasize the target vocabulary at the expected level (B1), as suggested by the Directorate of Vocational High School Development. In addition to those findings, it is important that teachers consider other factors outside the scope of this research, such as learners'

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proficiency levels and interests or other qualitative data about the books, to determine whether the coursebooks are appropriate for their classes.

Keywords: English for vocational high school, English vocabulary profile, Lexile framework for reading, text difficulty, text complexity.

1. INTRODUCTION

It is widely accepted that instructional materials play an integral role in EFL teaching and learning processes. [Ulla and Perales \(2021\)](#) confirmed this by stating that the way lessons are taught is actually determined by textbooks and other instructional materials. They also noted that textbooks are used by learners to provide activities for practicing the target language. Moreover, [Mamac and Bangga \(2022\)](#) saw that well-developed textbooks potentially provide effective language models and input. Textbooks are one of the primary sources of language input for students besides their English teachers ([Syairofi et al., 2022](#)).

In Indonesia, textbooks are one of the main practical instruments for curriculum implementation. Textbooks have become the primary learning sources for achieving national learning goals, and textbooks for vocational high schools are no exception ([Menteri Pendidikan dan Kebudayaan Republik Indonesia, 2016](#)). As most EFL teachers in Indonesia are non-native English speakers, textbooks become an alternative source of precise language input. Indonesian teachers can use textbooks published by the Center for Curriculum and Books of the Ministry of Education and Culture since they are specifically designed to address the goals of Indonesia's national curricula. The textbooks are provided in both printed copy and digital format for most subjects taught at all school levels based on the implemented curricula. They can be used as guidance for learners and teachers in running their classes ([Menteri Pendidikan Nasional Republik Indonesia, 2008](#)). The Ministry of Education and Culture generally acquires the copyrights of such textbooks, so they have the authority to share the electronic textbooks (*Buku Sekolah Elektronik*) nationally, and thus, both schoolteachers and students can access the textbooks freely ([Hasnita et al., 2014](#); [Kementerian Pendidikan dan Kebudayaan, 2017](#)).

Since 2016, the Directorate of Vocational High School Development (*Direktorat Pembinaan SMK*) of the Republic of Indonesia has set a target for vocational high school graduates or final-year students to acquire language proficiency equal to the intermediate level of the international standardized Test of English for International Communication or TOEIC ([Direktorat Pembinaan Sekolah Menengah Kejuruan, 2017](#); [Khurniawan & Wahidiat, 2019](#)). The target was set to improve the graduates' competitiveness in the global job market ([Direktorat Pembinaan Sekolah Menengah Kejuruan, 2017](#)). Serious efforts were put into the enhancement of students' English proficiency. The provisions of the subsidized TOEIC test for vocational high school students and blended learning program in some pilot vocational high schools in 2016 were a few examples of the efforts which have been made ([Direktorat Pembinaan Sekolah Menengah Kejuruan, 2017](#)).

Although the Directorate of Vocational High School Development realized that instructional materials or textbooks were likely to affect students' language learning ([Direktorat Pembinaan Sekolah Menengah Kejuruan, 2017](#)), evaluation of English

textbooks for vocational high schools and their relevancy to the targeted proficiency was still rare. Some of the very limited previous studies on vocational high school textbooks in Indonesia include Rokhimah (2016), Dinata (2022), and Setiawan et al. (2024), most of which relied on evaluation checklists completed from the evaluators' perspectives. Due to the scarcity of such studies, especially the purely quantitative ones, this research seeks to examine a set of EFL textbooks which are published by the Center for Curriculum and Books of the Ministry of Education and Culture and how suitable they are to serve the targeted proficiency level of vocational high school graduates from a less-subjective, quantitative approach through Lexile Text Measure and English Vocabulary Profile as its frameworks of analysis.

More often, studies on textbook evaluation preferred using a qualitative approach (e.g., Anshar et al., 2014; Ramadhana et al., 2019; Sholihah, 2016; Winimurti & Nur, 2019). It is in line with Gholami et al. (2017), who listed the most common approaches and methods for assessing ELT textbooks, which include McGrath's impressionistic, checklist or in-depth methods; Cunningsworth's or Tomlinson's pre-use, in-use, and post-use textbook evaluation checklists; Bloom's taxonomy; and benchmarks-based approach. Through those approaches and methods, researchers evaluate textbooks qualitatively. Since a quantitative approach seems unpopular for evaluating ELT textbooks, the present study proposed a quantitative model that enabled the data to be reported as objectively as possible. Creswell (2014) and Mertler (2016) explained that a quantitative approach helps researchers minimize bias beyond the researcher's situation when drawing conclusions from the results of data analysis. Moreover, the use of quantitative approaches might give additional perspectives in the field of textbook evaluation, especially in the Indonesian context.

In the present study, a set of English coursebooks was analyzed. Those selected coursebooks are intended for senior and vocational high schools (Widiati et al., 2016). The publication years range from 2016 to 2018, and the first editions were published between 2013 and 2014. This indicates that the textbooks were published for the first time before the Directorate of Vocational High School Development set a targeted English proficiency level for vocational high school graduates. Although schools can decide which textbooks they will use (Menteri Pendidikan Nasional Republik Indonesia, 2008), the selected textbooks analyzed in this study were the only English textbooks for senior/vocational high schools published by the Ministry of Education and Culture. In addition to that fact, these books were selected because they were presumably more widely used by Indonesian vocational high school teachers compared to other similar books which are not published by the Ministry of Education and Culture. This is likely due to the scarcity of English coursebooks specifically developed for vocational high schools in the Indonesian context.

Based on the significance of the selected textbooks and their potential contribution to students' English learning, evaluating the content of this set of textbooks is necessary. More importantly, through its statements written on the early pages of each book, the Indonesian Ministry of Education and Culture invites any feedback and evaluation for improving these books (Widiati et al., 2016). For determining the suitability of textbooks and selecting material for their classes, teachers also need this kind of information which is based on empirical evidence about the books (Alsulami, 2021). In a similar manner, Yetti (2019) confirmed that teachers need such information to find suitable texts for their students since they frequently face challenges in finding learning materials with the right level of text difficulty. Thus,

this study analyzed the contents of the books in terms of text difficulty levels, vocabulary profile, and their conformity with the expected English proficiency level of vocational high school graduates. [Alsaif and Masrai \(2019\)](#) posited that students' language input, like vocabulary, comes mainly from textbooks or reading material used in the classroom. In line with that, [Zahrani et al. \(2020\)](#) found that the ability to understand vocabulary in TOEIC reading and listening questions prominently affects the vocational high school students' workflow in taking TOEIC.

All the above factors encouraged the researchers to explore the vocabulary and reading passages presented in the selected EFL textbooks to determine their conformity with the targeted English proficiency level of vocational high school graduates. For systematicity, the following research questions are formulated for this study.

1. What are the approximate difficulty levels of reading passages in the students' textbooks?
2. How do the approximate difficulty levels of reading passages in the students' textbooks correspond with the expected English proficiency level?
3. What are the English vocabulary profiles of the students' textbooks?
4. Do those English vocabulary profiles correspond with the expected proficiency level of vocational high school graduates?

2. LITERATURE REVIEW

2.1 Text Difficulty

Text difficulty refers to the readability of text that can be indicated by a number of variables ([Lupo et al., 2019](#)). Word frequency and sentence length are often used as quantitative variables in predicting text difficulty ([MetaMetrics, 2020](#)). Besides, qualitative variables are used for assessing text difficulty, such as topic familiarity ([Krashen, 2001](#)), as well as text cohesion and formality ([Lupo et al., 2019](#)).

Text difficulty is an influential factor for teachers when selecting reading materials ([Davidson, 2013](#)). If a text is read with sufficient speed, comprehension, and accuracy, it has an appropriate difficulty level. In other words, teachers shall select materials that are not beyond learners' levels ([Gebhard, 1989](#); [Arias, 2007](#)). Learner's proficiency level is also a concern in the process of material selection ([Arias, 2007](#)). If learners read passages beyond their levels, some frequent linguistic challenges they encounter are lexical, semantic, and syntactical reading problems ([Ahmed, 2021](#)).

Based on [Senninger's model \(2000\)](#), which was explained and translated into English by [Kouvela et al. \(2017\)](#), materials generally place an individual in three different zones. The first zone is called the comfort zone. In this zone, the given materials do not promote new learning opportunities for the individual because those are highly familiar to him/her. To get the chance to learn, an individual needs to experience materials that attract him to discover unfamiliar things and gradually overcome his limitations. Such a learning situation is named the learning zone, where an individual can broaden his or her comfort zone by learning from the new materials. An individual becomes anxious when the materials look too challenging to deal with, hence there is no chance for learning there. That situation generates stress that is difficult to handle, which is called the panic zone.

Omer and Al-Khaza'leh (2021) reminded us that teachers should decide to what extent a reading passage is appropriate for learners. Evaluating the linguistic features and other factors of a text that determine its readability is one of the processes which helps him/her decide which text or what part of it is appropriate to use in class. Similarly, teachers need to carefully select and/or develop materials which are well comprehensible to learners yet expand their knowledge (Gebhard, 1989; Arias, 2007). In other words, it is the teacher's responsibility to select an appropriate reading passage. She/he shall be aware of learners' current ability since readability is determined not merely by text complexity but also by the learners themselves. For example, teachers can consider learners' interests. Krashen (2001) stated that learners' interests will help teachers know whether a text or a book is appropriate for the learners, and not every text or book needs to be precisely at the edge of the learners' competence.

As mentioned in the first paragraph, text difficulty can be predicted using quantitative variables. One of the existing tools for quantitative text analysis is Lexile Analyzer, specifically Lexile Text Measure (LTM). It is a framework created by MetaMetrics (MetaMetrics, 2019b) which predicts text difficulty by making some calculations based on sentence length and characteristics of word frequency (Smith & Turner, 2016). Lexile Corpus is the basis and data source for determining word frequency (MetaMetrics, 2019a).

2.2 Lexile Text Measure (LTM)

Lexile Text Measure (LTM) is a quantitative tool for predicting text difficulty (MetaMetrics, 2020). It measures the difficulty of a text in a numeric score followed by the letter "L" (Lexile) (MetaMetrics, 2019a, 2019b). The scale of LTM is from BR (beginning reader) to above 1600L for advanced text (MetaMetrics, 2019a).

In measuring text difficulty, Lexile Analyzer combines average sentence length and average word frequency as its variables (MetaMetrics, 2019a). Sentence length refers to the number of words per sentence. Based on MetaMetrics (2019b), longer sentences tend to contain more clauses, and therefore, they require the reader's ability to comprehend the interrelationship between the clauses. On the other hand, word frequency is considered one of the criteria because it informs the estimation of the reader's word knowledge and the accuracy of word recognition. MetaMetrics (2019a) claims that both variables are the best predictors of text difficulty.

LTM can be used together with Lexile Reading Measure (MetaMetrics, 2019b). Lexile Reading Measure (LRM) assigns a reader's reading ability with the same scale as LTM. The adoption of LTM and LRM simultaneously will show a prediction of readers' ability to comprehend a reading passage at a particular Lexile level (MetaMetrics, 2020). MetaMetrics (2020) suggested that, ideally, a learner is given a reading passage whose LTM ranges from 100L below to 50L above his or her LRM. By giving a reading passage with the appropriate LTM, learners are more likely to be able to comprehend about 75 percent of the text content, and at the same time, it provides an appropriate amount of reading challenge for them (MetaMetrics, 2020). To illustrate this, the figure below links LTM and how different LRMs affect the predicted comprehension rate.

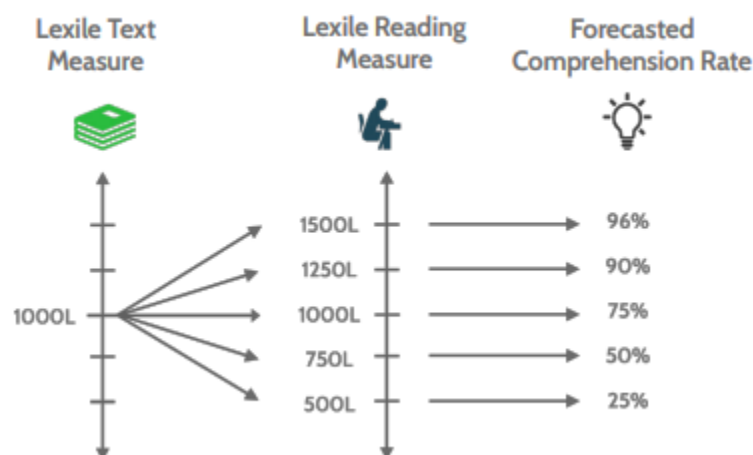


Figure 1. Lexile Text Measure, Lexile Reading Measure, and comprehension rate (MetaMetrics, 2020).

The figure above illustrates that if a text with 1000L is given to a reader whose LRM is the same, he is more likely to comprehend about 75 percent of the text. According to MetaMetrics (2020), this 75% comprehension rate is termed “targeted” reading – the point where a reader can understand enough of the text but still with an appropriate amount of reading challenge. Reading passages which are below the reader’s Lexile range may offer little comprehension challenge (MetaMetrics, 2018). However, it is also stated that materials which are above or below readers’ Lexile range may still be used for instructional purposes. The present study only focuses on the LTM and does not measure learners’ LRM. The parameter for linking the LTM of the analyzed books is the target proficiency level of vocational high school graduates set by the Directorate of Vocational High School Development.

For broader implementation of the Lexile measure, Smith and Turner (2016) studied how LRM can be aligned with the Common European Framework of Reference for Languages (CEFR)—an international guideline for describing foreign language learners’ proficiency. They mapped TOEIC test takers’ reading performance on the Lexile scale onto CEFR levels. The table below illustrates the mapping.

Table 1. TOEIC test takers’ performance by CEFR level (Smith & Turner, 2016).

CEFR Level	TOEIC Test Reading Scale Score
A1	510L to 620L
A2	625L to 910L
B1	915L to 1090L
B2	1095L to 1285L
C1	1290L to 1400L

To meet the demand of text difficulty and reading performance as suggested by MetaMetrics (2020), a learner with a specific CEFR level can be provided with reading text whose LTM ranges from 100L below to 50L above his or her LRM. The tables below show the ideal LTM range for each CEFR level as well as the mapping of TOEIC reading score to Lexile measurement and CEFR level.

Table 2. Ideal Lexile Text Measure by CEFR level (MetaMetrics, 2020; Smith & Turner, 2016).

CEFR Level	Lexile Reading Measure	Ideal LTM Range
A1	510L to 620L	410L to 670L
A2	625L to 910L	525L to 960L
B1	915L to 1090L	815L to 1140L
B2	1095L to 1285L	995L to 1335L
C1	1290L to 1400L	1190L to 1450L

Table 3. Mapping TOEIC reading score to Lexile measurement and CEFR level (Educational Testing Service, 2019; Smith & Turner, 2016).

CEFR Level	Minimum TOEIC Reading Score	Lexile Reading Measure	Ideal Lexile Text Measure Range
A1	60	510L to 620L	410L to 670L
A2	115	625L to 910L	525L to 960L
B1	275	915L to 1090L	815L to 1140L
B2	385	1095L to 1285L	995L to 1335L
C1	455	1290L to 1400L	1190L to 1450L

2.3 English Vocabulary Profile (EVP)

English Vocabulary Profile (EVP) is a framework created by Cambridge University Press (Capel, 2010). This framework explores learner vocabulary over corpus-informed research. It uses vocabulary produced by learners as its corpus (Capel, 2010). The aim of EVP is to propose graded vocabulary according to A1-C2 CEFR levels (Capel, 2010, 2012). Capel (2010) explained that grading focuses on words and individual meanings.

To analyze the EVP of a massive amount of vocabulary within the text, ELT practitioners can use Text Inspector – a web-based tool for language analysis (Text Inspector, 2022b). In general, graded vocabulary and/or phrases may provide information about what knowledge is to be expected at a certain proficiency level, as well as which words to teach and test (Alfter & Volodina, 2018). Specifically, the use of EVP helps material writers to scrutinize vocabulary for level appropriacy during text/task editing (Knight, 2015) and curriculum developers to picture the amount of learning needed to progress from one level to the next (Alfter & Volodina, 2018).

2.4 Target Proficiency Level of Indonesian Vocational High School Graduates

In 2016, the Directorate of Vocational High School Development set a minimum TOEIC listening and reading score for Indonesian final-year vocational high school students (Direktorat Pembinaan Sekolah Menengah Kejuruan, 2017). They targeted the final-year students to achieve a score of 405 (Direktorat Pembinaan Sekolah Menengah Kejuruan, 2017; Khurniawan & Wahidiat, 2019). Based on Educational Testing Service (2019), learners with a total TOEIC listening and reading score of 405 will likely be at the A2 to B1 CEFR level. A2-level learners are likely to achieve a minimum score of 225, while B1 learners are likely to get a minimum score of 550 on their TOEIC listening and reading test (Educational Testing Service, 2019; Tannenbaum & Wylie, 2013). The Directorate of Vocational High School Development, in this case, strived to set a target proficiency of B1-level for vocational

high school graduates (Direktorat Pembinaan Sekolah Menengah Kejuruan, 2017; Khurniawan & Wahidiat, 2019).

3. METHODS

This study employed a Lexile-based and corpus-informed model as its research design. The Lexile framework for reading is a model for measuring text difficulty and reading ability (MetaMetrics Inc., 2022). The same article explained that this framework relies on quantitative aspects of text. The Lexile framework for reading was chosen because it uses a single scale to predict both reading ability and text difficulty (Smith & Turner, 2016). This uniqueness gives educators better information when matching text with the readers because it estimates the reading comprehension level of the selected text (Smith & Turner, 2016). Those features help to analyze data for answering questions on how the difficulty levels of reading passages in the students' textbooks correspond with the expected English proficiency level – research questions 1 and 2. On the other hand, to answer research questions 3 and 4 – whether the EVP of the students' textbooks corresponds with the expected proficiency level of vocational high school graduates – this study employed a corpus-informed design. According to Johansson (2011), in corpus-informed research, the function of a corpus is to provide secondary data as supporting evidence. The present study indirectly used Cambridge Learning corpus as supporting data in the parameter to determine whether the vocabulary in the selected textbooks corresponds with the expected proficiency level of vocational high school graduates.

Since this study offers textbook evaluation through quantitative analyses to determine the difficulty level of the selected textbooks, no human participant was involved in this research. This study used three electronic English coursebooks for senior and vocational high schools as the research data. These books were published by the Indonesian Ministry of Education and Culture. They were intended for grades 10, 11, and 12. The electronic English coursebook for grade 10 was published in 2016. The electronic English coursebook for grade 11 was published in 2018 but was written by the same author. On the other hand, the electronic English coursebook for grade 12 was written by a different author and was published in 2017.

These books were selected because they were intended to be used nationally by vocational high school teachers in Indonesia and were published by the Ministry of Education and Culture of the Republic of Indonesia. Forty-seven reading passages were extracted and analyzed. Besides, this study analyzed 8,633 words generated from the three textbooks. Words from the book covers, tables of contents, glossaries, and references were excluded because this study only focused on evaluating textbook contents.

To answer the research questions, this study used three tools. The first tool is Lexile Text Analyzer® Professional. It was used to measure the difficulty levels of reading passages. Lexile assesses text difficulties using two text characteristics, i.e., sentence length and word frequency (MetaMetrics, 2019a). MetaMetrics (2019a) describes sentence length as the number of words per sentence, while word frequency refers to how frequently a word appears in the Lexile Corpus. These two predictors represent syntactic and semantic difficulties that a text presents to the readers (Lennon & Burdick, 2014). The estimated text difficulty score is always followed by the letter

L, which stands for Lexile (e.g., 600L). The second tool is LanksBox. LanksBox is a corpus analysis tool (Brezina et al., 2021). This research used LanksBox to generate wordlists from the selected textbooks. The wordlists were then analyzed using the third tool, namely English Vocabulary Profile (EVP). EVP is a tool that helps to identify the level of an individual word, phrase, idiom, or collocation found in the entered text according to the CEFR (Capel, 2012; Text Inspector, 2022a). EVP makes use of Cambridge Learner Corpus and some other sources as the data source for the leveling system (English Profile, 2015a). This tool can be accessed through a web-based language analysis tool named Text Inspector.

The sequence of data collection and analysis can be summarized as follows:

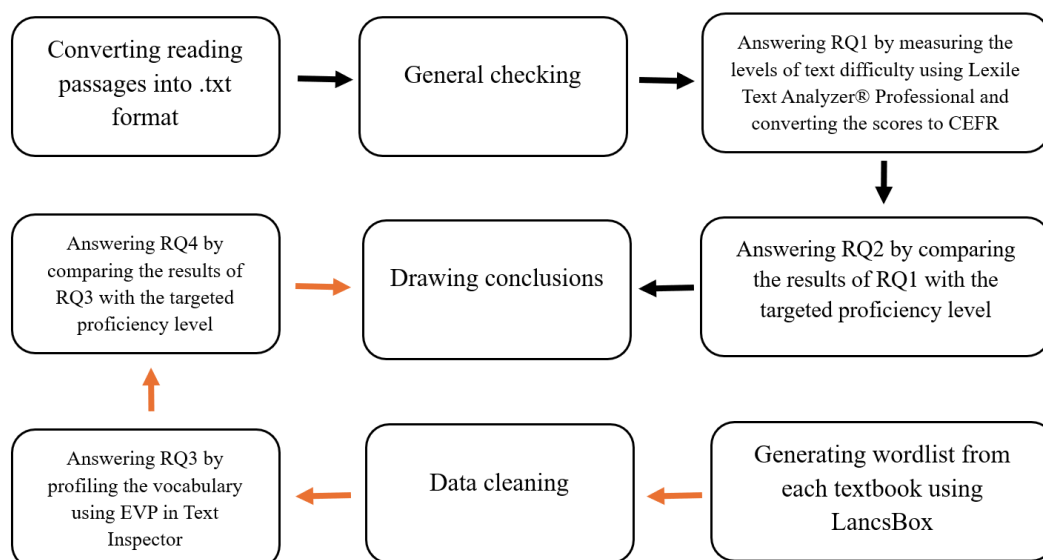


Figure 2. The sequence of data collection and analysis.

The data collection and analysis process for answering research questions 1 and 2 was started by extracting the reading passages and converting them into .txt documents. The process was continued by general checks to ensure no spelling errors or incomplete sentences were included. Each passage was then processed and assessed using Lexile Text Analyzer® Professional. The tool generated the Lexile score of each reading passage. All scores were then grouped based on the levels to which they belong. The results of this grouping were used to answer research question 1. To answer research question 2, these results were compared to the targeted proficiency level.

Next, the data collection and analysis process for answering research questions 3 and 4 was started by generating a word list from each of the three electronic English coursebooks. The present study used LanksBox to generate the word lists. Afterward, the listed words were checked to ensure that spelling errors, foreign words, and unrecognized characters were as minimal as possible. The word list from each textbook that had been checked was then analyzed using English Vocabulary Profile in Text Inspector to determine the level of a word according to the CEFR scale. The output of English vocabulary profile was illustrated into reportable findings to address research question 3. To answer research question 4, the findings were compared to the targeted proficiency level. Finally, conclusions were drawn from all the findings to give the whole picture of how text difficulty and vocabulary profile presented in

selected textbooks correspond with the targeted proficiency level of vocational high school graduates.

4. RESULTS AND DISCUSSION

4.1 The Approximate Difficulty Levels of Reading Passages in the Textbooks and How They Correspond with the Expected English Proficiency Level (Research Questions 1 & 2)

To answer the first and second research questions, 47 reading texts from the three textbooks were extracted and analyzed using Lexile Text Analyzer. From the analysis, the Lexile Text Measure (LTM) of each of those 47 reading passages was identified. The table below shows the approximate difficulty levels (LTM) of 15 reading passages from the electronic English coursebook for senior and vocational high school grade 10.

Table 4. The result of text complexity analysis of textbook for grade 10.

CEFR	Ideal Lexile Text Measure Range	Number of Reading Texts	Percentage
	100L below and 50L above the Lexile Reading Measure Range		
A1	<0L to 670L	0	0%
A2	525L to 960L	5	33%
B1	815L to 1140L	1	7%
B2	995L to 1335L	7	47%
C1	1190L to 1450L	2	13%
	Total	15	100%

In the abovementioned table, the electronic English coursebook for senior and vocational high school grade 10 is reported to contain only one reading text (7%) with an LTM of B1 level. On the other hand, the majority (7 passages or 47%) of the reading texts in that book are in the range of B2 level. Therefore, it can be concluded that the relative complexity of reading passages in the electronic English coursebook for senior and vocational high school grade 10 is slightly more complex than the expected language proficiency level for vocational high school graduates suggested by the Directorate of Vocational High School Development.

Table 5 shows the approximate difficulty levels (LTM) of 9 reading passages from the electronic English coursebook for senior and vocational high school grade 11.

Table 5. The result of text complexity analysis of textbook for grade 11.

CEFR	Ideal Lexile Text Measure Range	Number of Reading Texts	Percentage
	100L below and 50L above the Lexile Reading Measure Range		
A1	<0L to 670L	0	0%
A2	525L to 960L	4	44%
B1	815L to 1140L	1	11%
B2	995L to 1335L	3	33%
C1	1190L to 1450L	1	11%
	Total	9	100%

It can be seen in the table above that the coursebook for grade 11 contains only one reading text (11%) with an LTM of B1 level. Most reading passages (44%) in that book are in the range of A2 level. This means that the relative complexity of reading passages in the electronic English coursebook for senior and vocational high school grade 11 students is slightly easier than the expected language proficiency level for vocational high school graduates.

Finally, Table 6 below lists the approximate difficulty levels (LTM) of 12 reading passages from the electronic English coursebook for senior and vocational high school grade 12.

Table 6. The result of text complexity analysis of textbook for grade 12.

CEFR	Ideal Lexile Text Measure Range	Number of Reading Texts	Percentage
	100L below and 50L above the Lexile Reading Measure Range		
A1	<0L to 670L	0	0%
A2	525L to 960L	1	8%
B1	815L to 1140L	4	31%
B2	995L to 1335L	5	38%
C1	1190L to 1450L	3	23%
	Total	13	100%

Compared to the other two coursebooks for grades 10 and 11, this electronic English coursebook for senior and vocational high school grade 12 has a significantly higher percentage (31%) of reading passages with an LTM range equivalent to that of B1 level. This percentage ranks second to the B2-level passages with the largest percentage (38%). In conclusion, the majority (38%) of reading texts in the coursebook for grade 12 consists of B2-level passages, which are slightly more complex than the expected language proficiency level for vocational high school graduates. However, in the second place, a considerable number of passages (31%) belong to B1 category – the expected language proficiency level for vocational high school graduates suggested by the Directorate of Vocational High School Development.

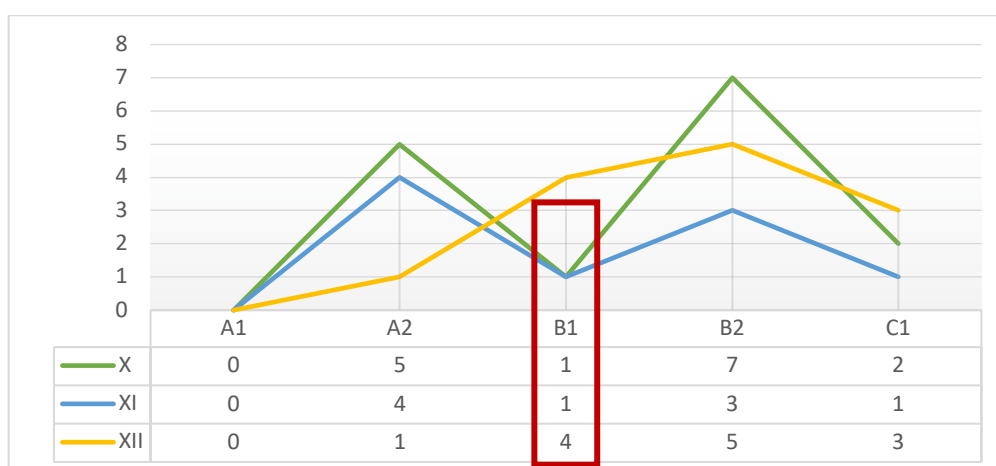


Figure 3. Number of reading passages at the suggested CEFR level.

The figure above summarizes the result of the text complexity analysis of the three books. It shows the numbers of reading passages in the three coursebooks based

on their complexity levels. The red rectangle highlights the numbers of reading passages at the B1 level and thus is equal to the expected proficiency of vocational high school graduates suggested by the Directorate of Vocational High School Development.

Besides the reading passages, the textbooks also contain texts in the form of written dialogues, a play script, and poetries; those texts were excluded from the analysis. The written dialogue and play script were not analyzed because they were designed mainly for conversation activities (speaking and listening) instead of reading. Meanwhile, poetries were eliminated because they were written in literary language composed of incomplete sentences. To get a useful estimated Lexile measure, a text shall be in the form of a complete or one-word sentence (MetaMetrics, 2019a).

MetaMetrics (2020) suggested that, ideally, a learner is given a reading passage whose LTM ranges from 100L below to 50L above his or her LRM. By giving a reading passage with an ideal LTM, learners are more likely to be able to comprehend about 75 percent of the text content, and at the same time, it provides an appropriate amount of reading challenge for learners. Gebhard (1989) and Arias (2007) emphasized that ESL/EFL teachers should select materials not beyond the learners' level. Ahmed (2021) mentioned some frequent linguistic challenges that poor readers encounter whenever they read passages beyond their level, such as lexical, semantic, and syntactical difficulties.

Even though two coursebooks analyzed in this study are slightly more difficult, whereas one coursebook is slightly easier than the expected language proficiency level for vocational high school graduates, the finding does not narrowly suggest that those coursebooks are inappropriate for vocational high school students. Several other factors also determine whether a coursebook is appropriate for a certain group of learners. For instance, learners' proficiency level is one of the significant factors which contributes to the selection of suitable materials (Arias, 2007). Based on Senninger's model (2000) which was explained and translated into English by Kouvella et al. (2017), generally materials will place an individual in a particular zone (i.e., comfort zone, learning zone, or panic zone) depending on his/her proficiency. In this model, determining whether or not learning materials appropriately place learners in their learning zone will depend so much on the proficiency level of each learner. As Omer & Al-Khaza'leh (2021) state, teachers shall decide to what extent a reading passage is appropriate for learners. This is in line with Gebhard (1989) and Arias (2007), who posited that teachers need to carefully select comprehensible learning materials that can expand learners' knowledge. Last but not least, other factors such as learners' interests and other characteristics of the materials are said to also contribute to the suitability of a reading passage for a group of learners. While Krashen (2001) believed that learners' interest plays a role in determining whether a reading text suits learners, Lupo et al. (2019) stated that text cohesion and formality also determine how well learners comprehend the text.

4.2 The English Vocabulary Profiles of the Students' Textbooks and Their Conformity with the Expected Proficiency Level of Vocational High School Graduates (Research Questions 3 & 4)

To answer the third and fourth research questions, 8,633 words from the electronic English coursebooks for grades 10, 11 and 12 of senior and vocational high

schools were analyzed. Since it focused more on the contents of the books, the analysis excluded words written on the book covers, their tables of contents, glossaries, and references.

The vocabulary was categorized into a six-level scale from A1 (Basic) to C2 (Proficient), i.e. A1, A2, B1, B2, C1, C2, and one other category, namely “unlisted”. If a word, phrase, or idiom is classified into the A1 category, it means that the word/phrase/idiom is typically known, learned, and used by learners at that CEFR level (Cambridge University Press, 2013). Apart from those levels (A1-C2), some words/phrases on the list were grouped as belonging to the “unlisted” category. Words in that category are either absent or possess a very low frequency in the corpora from which the English Vocabulary Profile (EVP) or the vocabulary levels were published (English Profile, 2015a). The percentages of vocabulary in each CEFR level in the three coursebooks are shown below.

Table 7. Percentages of vocabulary in each CEFR level.

	A1	A2	B1	B2	C1	C2	Unlisted
Grade 10	23.7%	20.3%	21.6%	14.1%	3.7%	2.1%	14.6%
Grade 11	23.4%	18.7%	21.9%	14.3%	4.0%	2.5%	15.2%
Grade 12	23.9%	18.4%	20.0%	15.5%	3.9%	2.9%	15.6%

Based on the data, all three coursebooks have the same order of vocabulary percentages categorized based on their CEFR levels. The percentages of vocabulary in the three coursebooks from the highest to the lowest are ordered as follows:

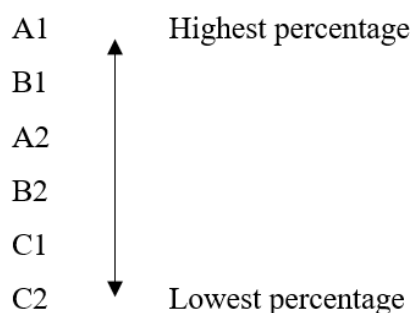


Figure 4. The order of vocabulary percentages in the three coursebooks from the highest to the lowest.

Figure 5 below visualizes the order of percentages of A1 to C2 vocabulary in the electronic English coursebooks for senior and vocational high school grades 10, 11, 12. The red rectangle highlights the percentages of vocabulary at B1 level, which is equal to the expected proficiency level of vocational high school graduates suggested by the Directorate of Vocational High School Development.

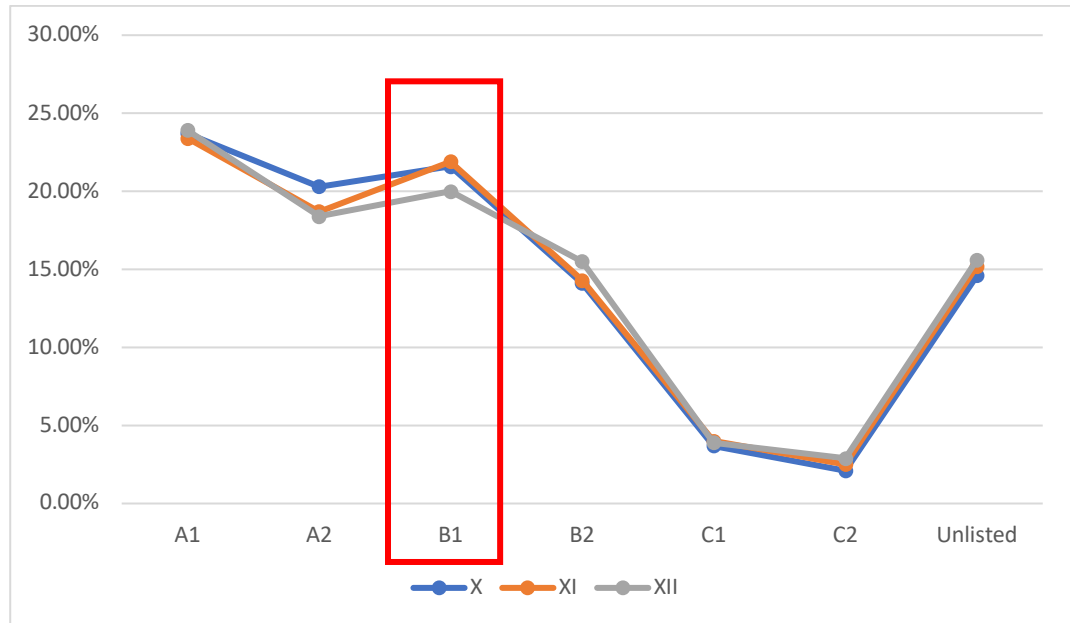


Figure 5. Percentages of A1 to C2 vocabulary in coursebooks for grades X, XI, and XII.

Based on all the data above, if the percentages of B1 vocabulary are excluded, there is a consistent decrease in percentage values from A1 vocabulary (left) to C2 vocabulary (right) in all three books. This finding is aligned with the CEFR descriptors, which state that A1 and A2 vocabulary consists of the highest frequency words commonly used in basic expressions, while C2 vocabulary comprises the lowest frequency words usually found in complex texts (Cambridge University Press, 2013).

However, if the B1 vocabulary is taken into account, the three textbooks indicate a slight increase in their B1 percentages from those of the preceding and more basic A2 vocabulary. This increase shows that a larger number of B1 words are used in all three textbooks compared to A2 words. This finding is an anomaly considering that, as explained by Capel (2012), more basic level words tend to have more percentages (appear more frequently) than the higher level (more advanced) words. It can be concluded that all three books might have focused on the vocabulary at the expected level (B1) suggested by the Directorate of Vocational High School Development because there is an increase in the percentages of the B1 vocabulary compared to those of the preceding and more basic vocabulary (A2).

This is a significantly different finding compared to those in research questions 1 and 2. In research questions 1 and 2, the analysis focused on reading passages as the data units. On the other hand, in research questions 3 and 4, the data units are in the form of word lists (each word is considered as one data unit). Moreover, the words analyzed in these research questions were gathered not only from the reading passages but also from other elements of the three coursebooks, such as written dialogues, instructions, language-focus sections (namely Warmer, Vocabulary Builder, Grammar, Building Blocks, Social Functions), exercises and assessments.

Around 15% of the total words are categorized as unlisted, which means that those words do not belong to any English Vocabulary Profile generated by Cambridge University Press. The example word is 'awakened'. Although this word exists in English dictionaries such as Oxford Dictionary, Longman Dictionary, and Cambridge

Dictionary, it is recorded as part of the literary register and has low frequency in the everyday register (Cambridge Dictionary, 2023; Longman Dictionary of Contemporary English Online, 2018). This is in accordance with what is stated by English Profile (2015a) that such a word is categorized as “unlisted” in EVP because it either does not appear or has very low frequency in the EVP corpus. The unlisted list also includes misspelled words, contracted words, names, and some words from the Indonesian register.

5. CONCLUSION

The texts analyzed in this study consist of three electronic English coursebooks for senior and vocational high school grades 10, 11, and 12. The results indicate that most reading passages in the coursebooks for grades 10 and 12 are more appropriate for B2 readers. On the other hand, the coursebook for grade 11 primarily consists of reading passages in the A2 category. It can be concluded that the relative complexity of reading passages in the course books for grades 10 and 12 is slightly more difficult than the expected language proficiency level for vocational high school graduates. In contrast, the reading passages in the course book for grade 11 are slightly easier. As mentioned earlier, the expected English proficiency level for vocational high school graduates set by the Directorate of Vocational High School Development is equal to the B1 level of CEFR.

This study also found that the percentages of the vocabulary presented in the three books are in the following order (from the largest to the smallest): A1 → B1 → A2 → B2 → C1 → C2. The three textbooks indicate an increase in their B1 percentages from those of the preceding and more basic A2 vocabulary. This finding is an anomaly considering that more basic level words appear more frequently than the higher level (more advanced) words. Therefore, it can be concluded that those three books might have emphasized the target vocabulary at the expected level (B1) as suggested by the Directorate of Vocational High School Development.

There are some implications derived from the findings. First, although the reading passages in the coursebooks for grades 10 and 12 are slightly more difficult, while those in the coursebook for grade 11 are slightly easier than the targeted language proficiency level, teachers still need to consider other factors such as learners’ proficiency levels and interests to determine whether the reading passages are appropriate for their groups of learners. Second, the findings of this study can be an input for material developers or curriculum developers in evaluating these coursebooks or developing a new set of coursebooks for vocational high school students. In terms of its design and framework, this study provides a new perspective for research practices on coursebook evaluation through the assessment of text difficulty levels and vocabulary profiles. Considering the scarcity of this kind of research, it might provide an alternative method for other researchers in the field of material development or coursebook evaluation to replicate.

It is also important to note that the Lexile Text Measure might have some limitations due to its inability to detect in-text definitions of words. To illustrate this, Mitchell (2018) explained that LTM data may be distorted by the repetition of words, especially those that are long. For instance, a text about “biodiversity” might produce a higher LTM score if that word containing six syllables is repeated many times.

Another limitation is that this study only focuses on the quantitative analysis in determining the text difficulty level of the selected reading passages. Most qualitative data and other information (e.g., nuances of word meaning, reading genres, learner's English proficiency, learner's interest, learner's language background, and text layout) do not belong to the scope of this study. The last limitation is that the estimated vocabulary profiles generated in this study used the lowest value of each vocabulary (English Profile, 2015b), so it is possible that those vocabulary profiles might be slightly lower than the actual levels.

Based on the results of the present study and its limitations, two related research topics can be considered for future studies. First, it might be valuable to analyze the appropriateness of vocational high school English coursebooks by considering learners' proficiency levels or interests as one of the parameters. Second, analyzing text difficulty of reading passages from the same coursebooks using different tools or methods (such as qualitative methods) might help produce more comprehensive information for the evaluation of the books.

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