

Assessing Secondary High School Student Needs for Descriptive Texts Concerning Climate Change

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Abstract

Addressing Indonesia's vulnerability to climate-related disasters, this study explores the development of English reading materials on climate change for secondary high school students. The goal is to tailor these materials to the student's specific needs, considering their English proficiency levels and the challenges they face in reading comprehension. Through a mixed-method approach involving questionnaires and semi-structured interviews, the study captures insights from students, English teachers, and stakeholders. The findings highlight the critical role of English in students' future careers. However, most students are beginners in English, and they experience significant difficulties in understanding reading materials. There is a clear need for descriptive texts that are accessible at their English level and integrate climate change topics relevant to their context. The study identifies a gap in current educational resources, emphasizing the necessity of incorporating climate change content in a manner that both informs and is comprehensible to students. In conclusion, this study advocates for the creation of supplementary descriptive texts about climate change, customized to align with the student's linguistic abilities and educational curriculum. This initiative aims not only to enhance students' English skills but also to increase their awareness and understanding of crucial environmental issues.

Keywords: Climate change, descriptive text, English reading material, needs analysis, secondary high school

INTRODUCTION

Climate change is a critical global issue, presenting significant challenges to communities around the world. It involves long-term changes in Earth's temperature and weather patterns caused by both human activities and natural factors (Oliver, 2023; Padrón et al., 2020; Tvaronavičienė, 2021). Indonesia, particularly prone to the impacts of natural disasters and climate change, faces an urgent need to address these issues. Djalante (2018) underscores the importance of in-depth research to better understand Indonesia's specific challenges and opportunities in the context of climate change, emphasizing the urgency for immediate action given the country's vulnerability.

UNESCO recognizes climate change as a major environmental issue and stresses the importance of integrating it into educational curricula globally. According to [UNESCO \(2021\)](#), education plays a crucial role in empowering countries to tackle the effects of climate change effectively. This involves developing skills and raising awareness among students. It is essential for government officials, including ministers and vice ministers of education, as well as stakeholders in the environmental sector, to engage in key initiatives. These initiatives aim at global ecosystem conservation and involve implementing educational reforms to incorporate climate change education, equipping future generations to deal with this pressing issue.

Besides, the Indonesian Minister of Education and Culture has acknowledged a notable gap in the integration of climate change and environmental topics within the national educational curriculum. Research by [Darmawan and Dagamac \(2021\)](#) highlights challenges in incorporating environmental education in secondary high schools in Palembang, Indonesia. These challenges include limited resources, lack of support from school administrators, and inadequate time allocated for environmental education. In line with this, the Indonesian government has taken steps to include climate change topics in the national education curriculum, specifically within the English subject ([Handayani et al., 2020](#); [Mahfud, 2019](#)).

The development of relevant reading materials in English classes is essential to improve students' understanding and awareness of climate change. Descriptive texts, as part of the Indonesian Independent Curriculum, serve as a key educational tool. These texts, focusing on climate change themes, can enhance students' awareness and help them identify and address contemporary environmental issues. It also encourages ethical conduct towards the environment, fostering qualities like responsibility, empathy, and ecological guardianship in students. This ethical dimension aims to instil in students a sense of duty to protect the environment and prevent its degradation or misuse.

The growing risks and impacts of climate change underscore the urgency of incorporating this topic into educational curricula. In the context of developing descriptive texts, which are integral reading materials in the current independent curriculum, this integration is especially important for raising awareness and understanding among students. UNESCO's Education for Sustainable Development (ESD) program, recognizing the significance of climate change, has included it as a central topic in the Global Action Program (GAP) on ESD since 2014 ([UNESCO, 2017](#)).

Despite the acknowledged need for descriptive texts on climate change in secondary high school curricula, there remains a gap in aligning these materials with the demands of the current curriculum. Most scholarly research to date, including works by [Tenridinanti et al. \(2021\)](#) and [Noto et al. \(2022\)](#), has focused on report and exposition texts based on previous curricula. There is a growing recognition of the need for more studies on designing syllabi and instructional materials that emphasize descriptive texts. Pioneering research in this area includes studies by [Azizah et al. \(2020\)](#), [Elviana et al. \(2020\)](#), [Pratiwi and Rezeki \(2019\)](#), and [Rhahima et al. \(2021\)](#), which delve into the development of descriptive text resources to enhance students' understanding of climate change within the framework of the current educational context.

Conducting a needs analysis is a fundamental step in the development of educational resources. This process involves gathering information to design effective

curricula and develop materials that meet specific educational requirements. According to numerous studies, a needs analysis is crucial for creating suitable course materials and activities, particularly in English for Specific Purposes (ESP) programs, where the focus is on teaching language skills tailored to specific fields (Irawan et al., 2018; Iswati, 2019; Misesani et al., 2020; Ria & Malik, 2020; Nurpahmi et al., 2020; Sari et al., 2022; Sundari et al., 2021). In light of this, the current research focuses on analyzing students' needs before developing English reading materials based on climate change, specifically descriptive texts.

Previous investigations, including consultations with English teachers at (Senior High School) SMA Negeri 11 Palembang, revealed a lack of descriptive text-based reading materials on climate change in English textbooks for tenth graders. Moreover, there appears to be a gap in research regarding a needs analysis for descriptive texts on climate change in other educational resources. The needs analysis in this study encompasses several components: Target Situation Analysis, Deficiency Analysis, Present Situation Analysis, and Strategy Analysis. The objective is to capture the perspectives of tenth-grade students, an English teacher, and a stakeholder from (Senior High School) SMA Negeri 11 Palembang, focusing on the necessity and relevance of climate change-based descriptive texts in their educational context.

METHOD

This study adopted a mixed methods approach, combining both quantitative and qualitative research methodologies. As Creswell and Creswell (2018) note, mixed methods research offers a comprehensive understanding of research problems. Such an approach is particularly advantageous in investigating the need for descriptive text on climate change in secondary high school education.

Quantitative data were collected through a questionnaire, which was then analyzed statistically. Qualitative data, on the other hand, were obtained from interviews and analyzed for in-depth understanding. Interviews were conducted with an English teacher and an assistant curriculum coordinator to gather comprehensive information and ensure data quality. The research took place at (Senior High School) SMA Negeri 11 Palembang. The study's participants included 493 tenth-grade students spread across 13 classes, 4 English teachers, and various stakeholders. A purposive sampling method was used to select participants who could provide a range of perspectives for a thorough needs analysis. Specifically, the sample consisted of one class of 38 students, one English teacher, and one assistant curriculum coordinator. The participants' characteristics were: 1) The students, all tenth graders, had varying English proficiency levels, representing a wide range of language skills within their grade; 2) The selected teacher had significant experience teaching English at the secondary level; 3) The assistant curriculum coordinator played a crucial role in curriculum planning and development at the school.

The participant selection from SMA Negeri 11 Palembang was carefully planned to ensure a rich and diverse perspective in analyzing the needs for climate change-based descriptive texts. This selection included one class of students, an English teacher, and an assistant curriculum coordinator. Such a mix was intended to provide a balanced understanding of the study's objectives, capturing both detailed and broad perspectives. Students of varying English proficiency levels were included to explore a wide range of

needs, challenges, and preferences in engaging with climate change-related texts. The experienced English teacher offered insights into language teaching methods, while the assistant curriculum coordinator contributed valuable perspectives on curriculum design and execution.

For data collection, the study utilized a combination of questionnaires and semi-structured interviews. The questionnaire, comprising thirty items, was distributed to the tenth-grade students and the English teacher. These questions were carefully crafted to align with the study's goals, focusing on understanding students' current needs, constraints, resources, and aspirations related to climate change texts. The questionnaire design followed the guidelines by Hutchinson and Waters (1987) for conducting student needs analysis, covering aspects like Target Situation Analysis, Deficiency Analysis, and Present Situation Analysis. Additionally, semi-structured interviews were conducted with the English teacher and the vice principal overseeing academic affairs and curriculum development. These interviews primarily explored topics related to English instruction in secondary schools, the availability of English reading materials, and the feasibility of integrating climate change topics into the development of descriptive texts for English reading materials.

FINDING AND DISCUSSION

Findings were obtained by examining students' needs on climate change-based descriptive texts regarding Target Situation Analysis, Deficiency Analysis, Present Situation Analysis, and Strategy Analysis.

Target Situation Analysis (TSA)

This part examines the students' necessities, general intents, and demands in English learning. The obtained data is displayed in Table 1.

Table 1. Students' views on TSA

No.	Questions/Statements	Students' View	Percentage
1.	The significance of learning English	To assist in communicating with other people	47.4%
2.	Students' expectation towards learning English	To communicate orally using English in the future workplace	55.3%
3.	The language used for students' career	To communicate orally with coworkers or tourists	55.3%
4.	The English level for students' career	Advance	52.6%

The data presented in Table 1 shows that 47.4% of students viewed the main purpose of learning English as facilitating effective communication with others. In addition, 55.3% of students expressed a desire to improve their English language skills specifically for oral communication in their future professional environments. Communication with coworkers or tourists received the highest score of 55.3% regarding the language proficiency demonstrated by students in their respective disciplines of study. In addition, it is noteworthy that 52.6% of students exhibited advanced English proficiency in their future professional endeavours.

The findings indicated widespread recognition among students of the importance of English proficiency for academic and career success. Students are motivated to improve

their oral communication skills and exhibit a high level of English competence in their respective academic disciplines. These insights serve as a call to action for educational institutions to prioritize the development of English language skills within their curricula and support systems. Findings align with what the Ministry of Education and Culture of Indonesia pointed out about the importance of English language proficiency in adequately preparing students for a broader range of employment opportunities (Masduqi & Prihananto, 2021; Siswanto & Mbato, 2020). The English language curriculum in Indonesian schools is specifically developed to provide students with the necessary oral communication skills for effective English conversation. Hence, to effectively partake in communication, students must possess an extensive foundation in English reading proficiency, as supported by (Anchondo, 2018; Карабутова et al., 2020). Engaging in reading activities facilitates the expansion of students' vocabularies, fostering their ability to generate coherent and grammatically correct sentences in communication. Reading not only exposes students to various topics, concepts, and points of view but also develops their capacity to engage in substantive dialogues. As one of the fundamental English curriculum components emphasizing reading skills, secondary high school students must thoroughly comprehend descriptive text.

Deficiency Analysis (DA)

This section examines the present desires and needs of the students, as well as the deficiencies or inadequacies of their desired circumstances. Table 2 displays the present desires and requirements of the students in relation to the subjects or materials for reading.

Table 2. Students' views on DA

No.	Questions/Statements	Students' View	Percentage
1.	Topic wanted by students in English learning	Daily life	52.6%
2.	Students' preferred input for reading materials	Authentic materials which can be easily accessible	39.5%
3.	Students' preferred type of questions for reading materials	Multiple choices	78.9%
4.	Integrating contemporaneous issue-related subjects into reading text	Important	68.4%
5.	Integrating climate Change-based English reading text	Important	78.9%

Based on the data presented in Table 2, the topic of daily life emerged as the preferred subject for students to study reading text, with a proportion of 52.6%. Furthermore, the students preferred authentic reading materials that were deemed easily accessible, as indicated by 39.5% of students. They also preferred multiple-choice questions for their reading drills (78.9%). Moreover, the findings revealed that most students (68.4%) acknowledged the necessity of integrating subject matter about existing material into reading materials. In addition, the reading choice topics that yielded the highest score (78.9%) related to the contemporary topic of climate change.

Regarding reading materials based on findings, the study revealed that daily life had a greater abundance of preferences and that the increase in these figures could be attributed to students displaying better levels of involvement and seeing greater significance in their reading lessons when the subject matter is connected to their daily

lives. Undoubtedly, the incorporation of authentic materials in the development of instructional resources is strongly recommended as evidence of the efficacy of utilizing authentic materials in the context of reading, such as enhancements in students' reading comprehension and communicative and cultural competencies, as well as their motivation to engage in reading (Agustina & Anum, 2021; Fitriana et al., 2019; Handayani & Dewi, 2022; Hidayati, 2019; Mara & Mohamad, 2021; Wulandari & Waloyo, 2018). The findings also indicated that students view climate change as an essential and relevant topic that should be included in the English readings. In this point, findings have the potential to provide essential elements for the development of materials recommended by UNESCO (2021). UNESCO emphasizes that climate change can be a fundamental skill set that encompasses the attitudes, skills, and knowledge that students should acquire.

As shown in Figure 1, the incorporation of climate change-related subjects into reading material was found to improve student learning. Regarding the comprehension of English text, 2.6% of students posited that climate change should be addressed in reading materials. Subsequently, 10.5% of students preferred viewing the training as a chance to acquire climate change-related skills. In addition, 13.2% of students indicated that the training program enhanced their understanding of climate change. In contrast, 18.45% of students claimed it could foster awareness of climate change. The reported increase in English proficiency among 23.7% of students can be attributed to an additional factor, particularly improving reading skills. The maximum score attained by students was 31.6%, and it was found that this achievement catalyzed motivation in the pursuit of English language acquisition. These findings imply that most students perceived climate change-based reading materials stimulated their motivation to learn English, which implies that climate change topics have to be exciting and relevant to students, aligning with their interests, which is also in line with the provision of suitable reading materials (Azizah et al., 2020). The reading materials encompass a variety of resources, such as textbooks and other educational materials tailored to meet students' specific needs and expectations.

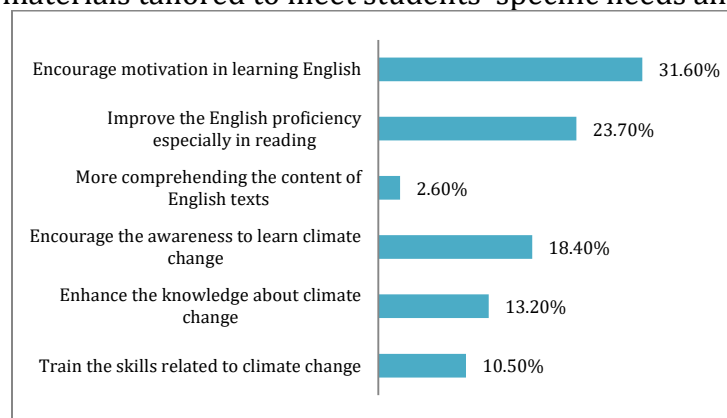


Figure 1. The student's views on the need to incorporate climate change into reading materials

In addition, Figure 2 depicts integrating climate change topics into English reading materials for students. A significant proportion of the student population (39.50%) demonstrated a need for learning regarding the association between climate change and the environment. 18.40% of students selected climate as the focal feature of climate change

that requires attention. Approximately 15.80% of students perceived extreme weather as an additional facet. 13.20% of the students selected Earth. Subsequently, 6.55% of students opted for temperature and greenhouse impact factors. These findings suggest that there is a need for incorporating climate change topics into English reading materials for students, with a focus on the association between climate change and the environment. Additionally, the results highlight the importance of addressing climate change from various perspectives, including climate, extreme weather, Earth, temperature, and greenhouse impact factors.

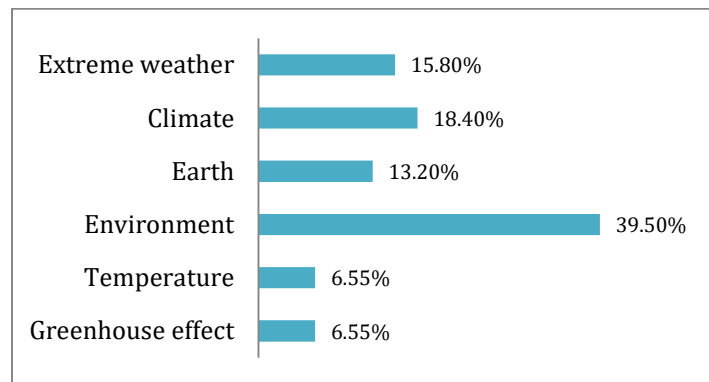


Figure 2. The essential components of climate change

Furthermore, the students encountered a range of challenges concerning their reading abilities. Figure 3 depicts the challenges faced. Most reported difficulties (60.50%) were associated with students' inability to comprehend the main idea. Students may struggle with identifying a text's main point or theme, making it difficult to understand the content as a whole. In addition, some students may need access to the necessary resources or support to develop reading comprehension skills, as evidenced by 15.80% of students having difficulty drawing cause-and-effect conclusions and 13.20% of the students needing help comprehending specific vocabulary terms. The least complex components for students (5.25%) were comprehending complex information and organizing events chronologically. Therefore, these findings suggest a need for targeted instruction and support to help students develop reading comprehension skills through climate change-based descriptive texts. The aspects of reading comprehension, such as main idea, inference, vocabulary, and detailed information in reading comprehension, were appropriate to propose for reading comprehension instruction (Cooper et al., 1988).

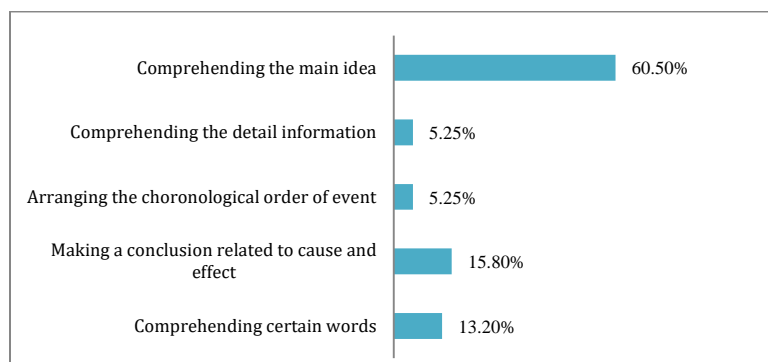


Figure 3. The student's views on the barriers faced when reading English

Present Situation Analysis

This section examines the current English proficiency levels of students, the curriculum content covered, and the extent of students' understanding of climate change. Table 3 presents data on students' perspectives regarding their English language proficiency.

Table 3. Students' English proficiency

No.	Questions/Statements	Students' View	Percentage
1.	Students present English-level	Beginner	81.6%
2.	Students present proficiency in comprehending the reading text	Good enough	44.7%

Based on the data, most students (81.6%) acknowledged that their English skill level was categorized as beginner. In addition, 44.7% of students perceived their reading comprehension as good. This finding suggests that some students may have developed strong reading comprehension skills despite their beginner-level English proficiency. These findings highlight the need for targeted instruction and support to help students develop their English language skills and reading comprehension abilities.

Table 4. The existing materials learned and presented

No.	Questions/Statements	Students' View	Percentage
1.	The difficulty of reading text in English coursework	Difficult	52.6%
2.	Reading text topics in English coursework	Interesting	89.5%
3.	The kind of text commonly found or learned in learning English	Descriptive Text	47.4%
4.	The frequency of English teacher-provided reading materials or texts and questions related to general knowledge of students' study program for reading	Seldom	60.5 %
5.	The frequency of English teacher-provided reading materials or texts and questions related to climate change	Seldom	47.4%

Furthermore, Table 4 exhibits the students' viewpoints regarding the current reading resources utilized or presented at school. The majority of students (52.6%) indicated that their reading comprehension of English textbooks needed improvement. However, most of the students (89.5%) expressed interest in the topics. The students reported that descriptive text (47.4%) was the most common form of text they encountered or learned in English. More than half of the students (60.5%) reported that their English teacher rarely presented reading materials and drills about the general knowledge component of their curriculum, and neither did climate change topics (47.4%). These findings revealed that the students had restricted access to reading resources about climate change. This insufficient accessibility to climate change-related reading resources, as indicated by [Akrofi et al. \(2019\)](#) and [Competente \(2019\)](#), can lead to deficiencies in students' knowledge and comprehension of climate change. Hence, there is a need to provide reading materials specifically focused on climate change. These findings are

corroborated by Darmawan and Dagamac (2021) and Djalante (2018), who suggest that developers of reading materials need to increase English reading texts that address comprehensive environmental issues for secondary high schools to gain students' climate awareness and literacy. Moreover, the incorporation of reading materials on climate change should be expanded as Tenridinanti et al. (2021), and Noto et al. (2022) demonstrated that providing climate change-based reading materials can improve students' learning outcomes by addressing the intricate nature of the concepts and catering to their specific needs.

Table 5. Students' views on DA

No.	Questions/Statements	Students' View	Percentage
1.	Students' knowledge about climate change	Good	39.5%
2.	Climate change's aspects that students know	Environment	39.5%
3.	Students' ways of knowing about climate change	Online media	43.2%
4.	Climate change's scope that students know	In the students' place, only	39.5 %
5.	Students' climate change knowledge level	General information	52.6%

The students' viewpoints on their present understanding of climate change are depicted in Table 5. The results indicated that 39.5% of students reported having a good understanding of climate change. Students were most knowledgeable (39.5%) about the environmental implications of climate change. Online media was the primary source of knowledge about climate change (34.2%). Only 39.5% of the students know solely about climate change at the local level. Subsequently, 52.6% of the students admitted that their understanding of climate change remained limited to basic, general knowledge.

Students' views on their knowledge of climate change revealed a number of actions they believed could be taken to protect and enhance the environment, so Figure 4 depicts the student-suggested activities, which aim to enhance their knowledge and comprehension of climate change (blue), implement strategies to mitigate climate change in daily routines (red), actively participate in preventing climate change (yellow), and advocate for climate change prevention beyond the local area or on an international scale (green). The data revealed that the majority of students (52, 6%) desired to learn more about and gain a better understanding of climate change. It was followed by a preference for adopting strategies to mitigate climate change in their daily lives (26.83%), actively participating in efforts to prevent climate change (18.4%), and advocating for climate change prevention beyond their local region or on an international scale (2.6%).

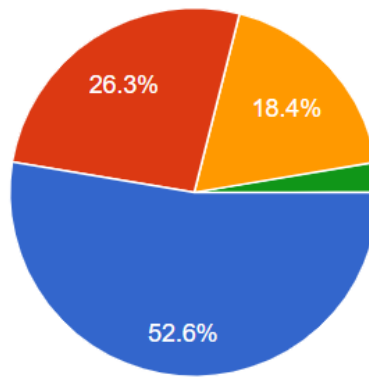


Figure 4. The students' activities in preserving climate change

Strategy Analysis

This section revealed the reading instruction preferences of the students. The majority of students (47.4%) preferred comprehension of the text through translation, as shown in Figure 5. Other methods of reading instruction involved group discussion of the text's content (18.4%), individual reading and answering of text-related questions (15.8%), reading aloud with accurate intonation and pronunciation (13.2%), and context-based analysis of new vocabulary (5.4%). As the findings of students' distinct preferences regarding reading instruction, educators should take these preferences into account and use a variety of strategies to cater to the needs of diverse learners. It aligns with what [Siregar et al. \(2020\)](#) highlighted, that translation connects the source language and the target language, enabling students to comprehend the text's meaning more efficiently.

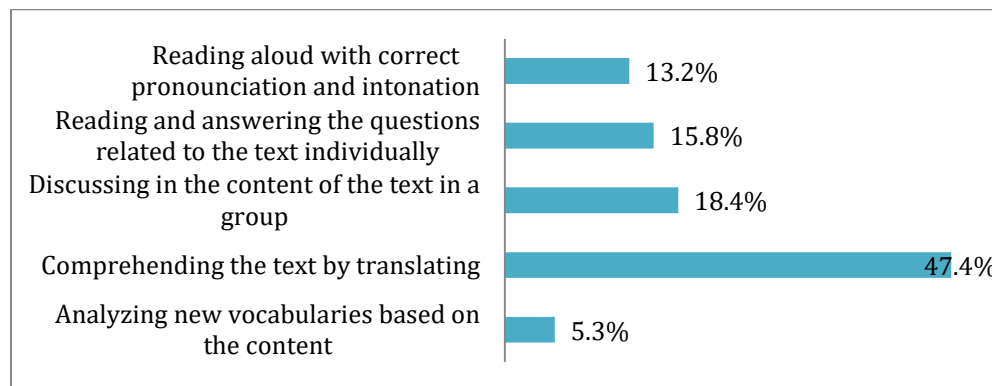


Figure 5. The reading material preferences of the students

The Students' Needs Viewed by the English Teacher

Based on the result of the interview with the English teacher, she argues that the present English learning objectives align with the established curriculum. She stated:

“The English instructional objectives of this school have been established based on the needs of the current curriculum. The school has facilitated English language instruction so that students can learn effectively; English-learning materials provided to students come from a government English book and the internet, including Google websites and YouTube video links.”

The English teacher argued that the students' English proficiency was low; some students' reading proficiency was adequate, while others were not. The English teacher highlighted the fact that the reading material offered in the course was hard for students to comprehend. Consequently, she inferred that the main difficulties encountered by students when reading, particularly descriptive texts, were associated with vocabulary and detailed information comprehension. As she stated:

"When reading a text, the lack of vocabulary among students is undeniably a barrier to acquiring English reading materials. Due to this, they were unable to comprehend the meaning of the descriptive text from what they read. Similarly, they still have no idea how to describe a person, a place, or something."

It is in line with the majority of English teachers who face these challenges (Chowdhury & Ara, 2021; Hezam et al., 2022; Septia et al., 2022). These reading barriers of students should be taken into consideration when developing suitable reading materials for them. However, there are few reading materials with reading comprehension about climate change that meet the requirements of students and correspond to their reading level. The teacher said:

"The current curriculum demands that students' requirements be met, so it is essential to provide materials that are relevant and familiar to students in their everyday lives. In light of this, climate change can be factored into the implementation of English literacy since it is a global phenomenon. The topic of arid weather may be used for descriptive text. However, the environment is rarely discussed."

According to her explanation, the topics regarding climate change that should be incorporated are climate, weather, and the environment. The comprehensive approach of schools in addressing climate change has emphasized these topics, which aligns with UNESCO's efforts to make education a central component of the international response to climate change (UNESCO, 2021).

The Students' Needs Viewed by the stakeholders

The following represents the assistant curriculum's perspective on the integration between English language learning objectives and the existing curriculum.

"During this academic year, the school employs two distinct curricula. Specifically, the independent curriculum is implemented for 10th and 11th-grade students, while the 2013 curriculum is utilized for 12th-grade students. The school is making concerted efforts to enhance the efficacy of English learning, particularly in the implementation of independent curricula, where endeavours are made to promote learning based on students' individual interests and capacities."

The assistant curriculum also added that the school has facilitated various learning resources for students. He said:

"The school currently has government-provided textbooks available for access in the library. Furthermore, the independent curriculum offers various features that can be effectively employed. One notable aspect is the incorporation of Internet sources, which enables students to access and explore a wide range of materials and information that are readily available. Furthermore, the school highly

encourages teachers to possess the capability to develop and provide their own instructional resources.”

Moreover, the perspectives on climate change, as presented in reading materials, are as follows. His declaration was:

“Climate change is currently a global concern. It can be referred to as air pollution, soil pollution, and environmental pollution. We observe that public awareness of climate change is still very low; therefore, students are required to comprehend it. In addition, every teacher is expected to create instructional materials that are tailored to the needs of the curriculum and students. Materials should be designed for student-centered learning. We encourage teachers to prepare teaching materials in the form of modules, textbooks, or other things that are fundamental topics in learning.”

He also supported incorporating this climate change issue into the curriculum while learning English. He expressed:

“Climate change issues can be addressed in English classes. It corresponds perfectly with the goals of an independent curriculum, particularly the theme of a sustainable lifestyle. The school has already completed three independent curriculum requirement themes. However, the sustainable lifestyle theme has not yet been implemented. It is necessary to implement the theme of sustainable lifestyle, and it will be implemented this semester.”

Thus, the stakeholders recognized the significance of education in addressing climate change by increasing awareness, cultivating comprehension, and promoting sustainable practices. Teachers play a crucial role in shaping students' perspectives on climate change. They are responsible for designing and developing educational materials that convey the scientific aspects of the issue effectively. To fulfil this role, teachers should identify pertinent learning objectives and align their instructional materials with these objectives. The stakeholder also suggested that the issue of climate change could be incorporated into English instruction as part of the implementation of a sustainable lifestyle in an independent curriculum that the school should consider.

It aligns with what [UNESCO \(2021\)](#) has identified climate change as one of the critical themes in Education for Sustainable Development (ESD). By incorporating climate change into the curriculum, students can acquire the knowledge, skills, and attitudes required to mitigate and adapt to its effects. The development materials can be used to comprehend the causes and effects of climate change, assess the efficacy of mitigation strategies, and investigate sustainable solutions.

CONCLUSION

The key findings of this research highlighted a significant need for climate change-based descriptive texts in secondary high school education. It was found that there is a particular demand for such materials in English textbooks for tenth-grade students. The needs analysis revealed that a substantial 78.9% of students expressed a desire for reading materials that include climate change topics. This sentiment was echoed by the perspectives of an English teacher and a stakeholder, both of whom agreed that climate

change issues could be effectively incorporated into English instruction, aligning with the current curriculum objectives in Indonesia.

These findings provide crucial insights into the specific needs, desires, and preferences related to English learning, particularly in the context of climate change education. They form a solid foundation for the development of English reading materials tailored to these needs. This research contributes significantly to the understanding of the requirements for climate change-based reading materials in Indonesia, supporting UNESCO's efforts to bridge gaps in English language curricula and promote interdisciplinary education that encompasses global issues. The study also suggests the need for further research in this area, particularly in the context of various countries. Future needs analyses should consider a larger sample size, multiple research instruments, and extended research duration to gain a more comprehensive understanding of the global requirements for incorporating climate change issues into English reading materials.

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