

## THE IMPORTANCE OF CLIMATE CHANGE EDUCATION FOR UNIVERSITY STUDENTS

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### ABSTRACT

In response to the global climate change issue, UNESCO declared the importance of education and training in addressing climate change by providing education services, including language education. This study looks into the significance of incorporating climate change into EFL classrooms at the university level. It employs a qualitative method design for which the data were gathered by doing interviews. Fifteen questions were given to seven English Education lecturers (three lecturers from Malaysia and four lecturers from Indonesia). The questions were about the importance and the lecturers' experiences in integrating climate change issues in EFL classes. According to the study's findings, lecturers in Malaysia and Indonesia believe that integrating climate change education into EFL classrooms is crucial. It promotes students' understanding of environmental issues and develops critical thinking. The lecturers additionally pointed out that discussing climate change in the EFL classroom enhances interdisciplinary learning and research opportunities. However, climate change materials are still limited in their integration into language learning activities in Malaysian and Indonesian universities due to a lack of institutional and curriculum monitoring. Only a few lecturers presented the climate change issue topic by looking at the opportunities to present it to the class. Furthermore, the instructors advised using interactive media and materials to help EFL students understand the issue of climate change. They also proposed a university and curriculum regulation for incorporating climate change topics into EFL classrooms. This study provides important insight for educational practitioners and decision-makers interested in promoting and designing curricula about integrating climate change issues in EFL classrooms.

**Keywords:** Climate change, English Education, EFL classroom, Lecturer.

## 1.0 INTRODUCTION

Education is an essential element for mounting an adequate global response to climate change. It implies that knowledge is essential for responding intelligently to environmental issues. Both mitigation and adaptation strategies are commonly used to address climate change, and both require knowledgeable and educated citizens. The relationship between education and climate change is discussed by experts in recent years (Læssøe & Mochizuki (2015). United Nations Educational, Scientific, and Cultural Organization (UNESCO) persists in promoting educational strategies to mitigate the effects of climate change. UNESCO has made education a more fundamental and visible component of the international response to climate change. Climate action must be pushed through education. It helps individuals comprehend and respond to the effects of the climate catastrophe by giving them with the knowledge, skills, values, and attitudes needed to be change agents. This issue demands education in order to promote climate change to the entire world.

Several studies have linked environmental education and environmental quality (e.g., Education and water quality (Ogueri, et, al, 2020); Education and air quality (Johnson, et, al, 2012), and Education and energy reduction (Martha et, al, 2017). However, the environmental education literature in language education is relatively sparse. The connections between the language education and climate change education over time have not been as well established.

Students may become more engaged in local environmental issues if language classes make them more relatable (Micalay-Hurtado & Poole, 2022). With all of the difficulties facing our globe, teaching students to be environmentally conscious has never been more vital or relevant. Language education is expected to become more popular and widely supported if it is demonstrated to be an effective technique of lowering emissions through changes in attitudes and behavior among language learners (Hauschild et al., 2012) .

According to Hauschild et al (2012), one of the obligations as educators is to assist students in becoming informed about as many issues that intrinsically affect their lives as possible. Teachers can achieve three goals by incorporating environmental education such as climate change issues into their language classes: (1) increasing students' curiosity about current issues that may have a direct impact on their lives; (2) teaching students how to make the world a healthier, more sustainable place; and (3) fostering meaningful communication and language acquisition (Hauschild et al., 2012). It is relevant to the idea by Patterson (2010), who claimed that environmental education can boost student performance in science, reading, and writing while also strengthening students' critical thinking skills, motivation, and attitudes toward learning. Although these data are from first language classes, they demonstrate that introducing environmental education into second or foreign language instruction can bring additional benefits to our students.

This study is interested in such an activity of climate change education and promotion among university students because of the need for such an activity. It was determined that climate change is still being evaluated. According to UNESCO (2022), sustainability education will provide all learners with vital competencies that include not just information and awareness, but also socio-emotional skills and behaviors such as critical thinking and collaboration. Learners will be able to appreciate the complexities of the climatic and environmental problems, how global sustainability challenges are interconnected, and how to assist in problem solutions in their unique circumstances. It teaches students about the

environmental consequences of their decisions and behaviors, as well as the knowledge and skills required to deal with tough environmental situations. It also educates students how to take action in the future to maintain the ecosystem's sustainability and well-being.

One approach for raising awareness about climate change concerns is to have climate discussions in higher education (Kolenaty et al., 2022). As a result, there are now several UNESCO programs available to promote climate change narratives in education. This program should raise public knowledge of the impact of climate change issues and the activities required to prevent them. People can be taught to change their attitudes and behaviors in order to make better judgments. Students can learn about the implications of global warming and how to adapt to them in school. It also encourages them to take action to address climate change concerns.

The evidence is showed by the research on teacher knowledge and comprehension of climate change are becoming more popular in both developed and developing nations, as climate change affects everyone everywhere (Herman et al., 2017). The study examined secondary science teachers' knowledge and teaching of climate change science in Florida and Puerto Rico, and the findings indicate that the majority of instructors had misconceptions regarding climate change. This conclusion in line with the study by Plutzer et al (2016), who used samples from the United States, Hegde et al., (2012) who used samples from India, Boon (2010) who used samples from Australia, and Bozdoğan (2011) who used samples from Turkey.

When it comes to the integration of climate change issues into ELT, Crookes (2021) asserts that in order for ELT to advance a critical language pedagogy that draws on the learners' real-life experiences as expressed in their themes, it is necessary to acknowledge the effects of climate change on students' lived experiences in English language classrooms.

Critical Language Awareness (CLA) advances social justice by elevating power issues to the forefront of language education and literacy development (Micalay-Hurtado & Poole, 2022). It illustrated why it is thought that a CLA approach to English language teaching (ELT) is problematic if it downplays the gravity of climate change and its disparate effects on pupils learning English today and in the future. It is time for ELT lecturer to consider how our practices and pedagogies contribute to the developing of attitudes, ideologies, identities, and behaviors that intensify environmental problems and fuel climate change, as well as how we may improve ecological health and sustainability.

The discussion also suggests that there is still a lack of data on potential ways to include the climate change issue into educational environments, particularly university-level and English language instruction. Therefore, the purpose of this study is to look into how is the importance of climate change knowledge about climate change in Indonesia and Malaysia to students at university level based on the lecturers' perspective.

## **2.0 LITERATURE REVIEW**

### **2.1 Climate Change**

Global climate change refers to long-term average changes over the entire globe. increasing temperatures and precipitation changes are among them, as are the effects of global warming, such as increasing sea levels, receding mountain glaciers, Greenland, Antarctica, and the Arctic melting faster than usual, and changes in flower and plant blooming dates.

Climate change is one of the most pressing issues confronting the globe today. Its effects on people, the environment, and the economy are felt all across the world. If we wish to avoid climate change, we must drastically reduce global greenhouse gas emissions. To turn this broad goal into specific measures, it is critical to understand the complicated system that connects emissions from many sources to national and regional impacts, global governance, and potential benefits (Hebbert & Jankovic, 2013; Chinowsky et al., 2011).

As a result, providing correct information on climate change will aid in taking appropriate action. On the contrary, our ability to make decisions is hampered by the limited quantity of information and time accessible to us, as well as our own cognitive limitations. As a result of this viewpoint, more research on climate change challenges, as well as the measures required, are required to assist people in saving the globe (Kolenatý et al., 2022).

## **2.2. Climate Change Education**

Climate education is a critical component of the worldwide response. It informs young people on the effects of global warming, promotes them to modify their attitudes and practices, and assists them in adapting to changing climate patterns. UNESCO seeks to make climate change education a more relevant and visible component of the international response to climate change through the Climate Change Education for Sustainable Development program.

Many experts believe that including climate change topics in school curricula will help young people cope with the realities of global warming (Amanchukwu et al., 2015; Henderson & Drewes, 2020). The effects of global climate change on people and resources are causing serious socioeconomic concerns. Individual decisions now will have an impact on the future direction and level of greenhouse gas emissions (Kolenatý et al., 2022). They will also influence how successfully and quickly people can adapt, as well as how vulnerable individuals and communities are to potential harm. To develop solutions, future generations must be taught on the causes and consequences of climate change, which is dependent on an informed public. The program's purpose is to raise young people's climate literacy by assisting them in understanding the current consequences of global warming (Wolff et al., 2022). It achieves this by increasing its member countries' capacity to provide high-quality climate change education and developing new teaching methods to include climate change education into schools through improved awareness and non-formal education (Nayan et al., 2020).

Climate change's impact on education is being investigated in Nigeria in terms of children's low academic success and its relationship to poverty. Students can compete on an equal level with students from other nations while also assisting in the management of climate change. Students can assist in educating individuals in their areas about climate change. The importance of curriculum reform in presenting climate change science to students who would then pass on what they have learned to others is emphasized in the article (Amanchukwu et al., 2015).

Climate change education is likewise regarded as critical in China. (Kuok Ho, 2022) investigated whether a newly planned Climate Change Education (CCE) course based on research suggestions and implemented using proven pedagogy was helpful in influencing the

beliefs and attitudes of first-year science students. According to the findings, the course considerably impacted students' beliefs of the causes of climate change and their vulnerability to its impacts, resulting in an unequal distribution of the repercussions. Although the principles of accountability, ethics, and vulnerability were communicated effectively through conversations, debates, and multimedia-assisted learning, the addition of student-led community projects will improve the course's personal importance.

Pan et al., (2023) also investigated the relationship between climate change concern and support for climate policy in China. Climate literacy has been found to be strongly related to education and media coverage, however there is little to no relationship between climate experience and climate literacy. This study raises some concerns about the impact of climate change anxiety on public engagement and climate communications. Transmission of reliable, scientific information from respected institutions appears to be a more.

### **2.3 The Impact of Climate Change Education to EFL learners**

Climate change has a number of ramifications for the present and future situation of teaching and learning. Natural calamities such as hurricanes, heat waves, flooding, blizzards, wildfires, sea level rise, and droughts threaten the capacity to provide children with the educational achievements they deserve. It is vital for the long-term viability of these cultural institutions to take action to adapt to impending climate-related concerns, as well as to counteract policies that create and prolong ecological challenges. Centers for teaching and learning can be seen as both victims and contributors to the solution to climate change.

Language education has a critical role to play in combating climate change in the ELT setting. It provides students with the skills they need to comprehend environmental challenges, share ideas, and collaborate on solutions. ELT can help students understand environmental concerns, share ideas, and collaborate on solutions, which is crucial in the fight against climate change. The research focuses on how teachers utilize creativity to make global challenges relevant and accessible in the local setting. As a result of this, more educators will be inspired to investigate how climate-related issues and content might be integrated into their own learning environments.

Climate change issue is also a good topic for learning about language, argumentation, and creative and persuasive writing. D Addressing climate change needs not just a movement in human views and attitudes about the need for change, but also a transformation in the energy, economic, agricultural, and transportation systems that rely on fossil fuels. Students must comprehend the complexity that drive these larger systems, as well as techniques and capacities for pushing for change, in order to effect change in these larger systems.

### **3.0 RESEARCH DESIGN**

The research design used was a qualitative study design. The reason of choosing this research methodology that it explores and provides deeper insights into real-world problems (Moser & Korstjens, 2017). Thus, by using qualitative method, this study provides in-depth insight about the importance of climate change education and how it should be taught in EFL context.

The participants of this study were chosen by using convenience sampling in which they were selected based on their availability and their agreement to be involved as the participants. However, some criteria were determined to ensure that the information collected from the participants meet the objectives of the study. Therefore, the lecturers were chosen due to the length of their ELT experiences and have been certified by the government. Thus, the participants were the lecturers who have knowledge about curriculum for university level and taught English skills at English education programs at universities more than 7 years. As the result, seven lecturers—five from Indonesia and three from Malaysia—were interviewed in December 2023. The demographic information about the lecturers was presented as follows.

Table 1. Demographic Information of the Participants

<b>Lecturers' Code</b>	<b>Citizen</b>	<b>Length of Teaching EFL</b>
M1	Malaysia	23 years
M2	Malaysia	18 years
M3	Malaysia	14 years
IN1	Indonesia	10 years
IN2	Indonesia	14 years
IN3	Indonesia	8 years
IN4	Indonesia	14 years

To collect the data, fifteen open-ended questions were given regarding the importance of climate change education for the students at university level and the lecturers' experiences in integrating climate change issue in EFL context. The data from the interview were then analyzed by using qualitative procedures analysis proposed by Miles et al. (2014) namely data condensation, data display and conclusion. The data were selected based on the information needed for this research, displayed in some essential points and then were concluded based on the findings.

## 4.0 ANALYSIS AND DISCUSSION

### 4.1 The Lecturers' Insight about the Importance of Climate Change Education for EFL Students

All of the lecturers from Malaysia and Indonesia agree that climate change issue is very crucial to be integrated in EFL classroom. One of the lecturers from Malaysia, M2 stated that presenting climate change material to EFL classroom is crucial to build the climate change awareness and it helped students to understand about the danger of the climate change issue for them and their environments. It is in line with the M1's insight that providing climate change issue in classroom builds the students' awareness about the environment. Meanwhile, M2 explained that presenting climate change topic in EFL classroom promotes interdisciplinary learning in which the students who come from various background learn about their environment sustainability. She said:

“Providing climate change issue in EFL classroom promotes interdisciplinary learning and research opportunities. Universities offer a unique environment where students from diverse academic backgrounds come together. Teaching climate change at this level allows for interdisciplinary learning, fostering collaboration between students from various fields such as science, engineering, economics, social sciences, and humanities.”

It means that the lecturer had a notion that learning climate change discussion in classroom is possible and it supports students to add their knowledge various fields. Furthermore, she also agreed that providing climate change material in EFL context encourage research opportunities. She said:

“Providing climate change material in EFL also promotes research opportunities in which universities become hubs for research and innovation. Climate change awareness at the university level encourages students to engage in research projects that contribute to the understanding of climate, science, mitigation strategies, and adaptation measures.”

Meanwhile, M3 said that her university did not provide the curricula about integrating climate change issue. However, she claimed that addressing climate change issue in EFL classroom is very important to help student understand about their environmental issue such as climate change and pollution. In doing this, she suggested using journal and news items. She said: “It is important to address global issues such as climate change, pollution and others to students through suitable related article journals, news items.”

Lecturer from Indonesia gave similar statements about the importance of integrating climate change issue to EFL classroom. Even though none of their universities provided curricula about integrating climate change education to EFL class, all of the lecturers claimed that integrating climate change issue to EFL classroom is very crucial. IN1 claimed that providing climate change in EFL classroom is important for several reasons such as global relevance, scientific literacy, environmental stewardship, cross-disciplinary learning, critical thinking skills, preparation for future, environmental responsibility and citizen engagement. This idea is similar to the idea by IN2 who claimed that that climate change issue should be provided in EFL classroom. She said, “I think it's important for students to have education on how to save earth and provide information about the danger of climate change for people in the world... it educates students about the danger of climate change problem.” It is also in line with the idea by IN4 who claimed that integrating climate change issue to EFL class in very important because the students are the agents of change.

#### **4.2 The Lecturers' Experience of Integrating Climate Change Issue to EFL Classroom**

The lecturers from Malaysia and Indonesia have different experience about integrating climate change issue in EFL classroom. Lecturers from Malaysia admitted that their universities provided instruction of using material which concern about climate change issue in teaching. M1 explain that her university was an environment-based university so that the university must integrate the climate change issue to their teaching material. She said, “As this university is an environmental-based, there are a lot of related subject provided.”

Meanwhile, lecturer M2 said that in providing climate change issue in EFL class, she instructed students with various activities to help students to understand the climate change concept. She said:

“I engage students with hands-on activities that illustrate climate change concepts. This could include experiments, data analysis, or simulations that demonstrate the scientific principles behind climate change.”

Meanwhile, the lecturers from Indonesia admitted that there was no any instruction or curricula provided to integrate climate change issue in EFL teaching activities. IN1 and IN3 claimed that they had never integrated climate change issue to EFL classroom because there was no instruction from the university and it was no stipulated in the curricula.

However, some of the lecturers integrate climate change issue when it is appropriate the context. IN2 said, “I only did oral speech when it is appropriate with the topics or themes discussed.” It is in line with the idea by IN4 who claimed that she integrate climate change issue topic by providing material related to climate change issue in EFL classroom.

#### **4.3 Lecturers' Suggestion about Methods and Media in Teaching Climate Change in EFL Classroom**



The lecturers suggested using various media in integrating climate change issue. The majority of the lecturers suggested using audio-visual media. M1 suggested using videos from social media such as tiktok or instagram. Meanwhile, M2 suggested presenting climate change issue by using multimedia presentations, incorporating visuals, graphs, and videos to illustrate key concepts. She also encourages class discussion and hands-on activities and experiments. In similar tone, M3 claimed that teaching CCE in EFL classroom can engaged by using social media and news media.

In similar ideas, IN3 suggested using podcast as the media to present climate change learning in the class. IN1 suggested providing interactive workshops and guest speakers from experts, scientists, or environmental activists to speak to the class, documentary screening, and project-based learning. It is also similar to the ideas by IN2 who suggested using audio-visual-based material related to some bad habits that can cause disaster around the environment.

Meanwhile, the lecturers also suggested involving authorities to support climate change education in EFL context. IN2 claimed that integrating climate change issue to EFL class needs and must be strengthened by educational institutions about how to improve their awareness of climate change issues. Thus, the students know what should be done to prevent the earth from climate change. It is in line with the IN4 ideas that climate change topic should be included in universities curriculum.

Table 2. Lecturers’ suggestion about media in providing Climate Change Education (CCE)

Lecturer	Experience in Integrating CCE in ELT	University Instruction/Curricula	Suggested media for CCE
M1	Yes	Yes	Tiktok
M2	Yes	Yes	multimedia presentations, incorporating visuals, graphs, and videos
M3	No	No	Social media and news media
IN1	No	No	Interactive workshop, guest speaker, documentary screening, project based learning.
IN2	No	No	Audio-visual based material
IN3	No	No	Podcast
IN4	No	No	Medias from internet (videos, podcast, articles, etc).

#### 4.4 Discussion

According to the findings in the preceding section, climate change education for English language learners in Malaysia and Indonesia is still in its early stages of implementation. Only three of the lecturers addressed the issue of climate change in the EFL classroom. According to the interview results, Malaysian lecturers are more worried about using climate change-related material in EFL classrooms. Because of the support from both the curriculum and the institution regulation, they included climate change into the teaching. The rest of the participants, on the other hand, stated that climate change was rarely discussed in EFL classrooms. They admitted that there were no university curricula or regulations governing the integration of climate change issues into EFL classrooms.

All of the lecturer agreed that climate change is very crucial to be integrated in EFL classroom. The lecturer admitted that integrating climate change issue in classroom build students' awareness toward their environmental issue and promotes their critical thinking. The lecturers also claimed that presenting climate change topic in EFL classroom promotes interdisciplinary learning and promotes research opportunities. It will be a new matter to be investigated about their environment sustainability and its relation to the EFL context.

This study's findings are contrast to the result of some studies from other countries. Kuok Ho (2022) and Pan et al., (2023) for example, asserted that climate change education is likewise regarded as critical in China. He assessed whether a new Climate Change Education (CCE) course based on research suggestions and implemented using established pedagogy was helpful in transforming the beliefs and attitudes of first-year science students. It was observed that students in China already had positive attitudes on climate change that had been reinforced. It is in line the ideas by Pouya and Niyaz (2022) who asserted that climate change-related factors influenced climate change-related intents and behaviours.

The finding of this research indicates that integrating climate change issues in EFL classroom can be promoted by involving students in discussion, providing interactive media and videos. It is similar to the finding by Kuok Ho (2022) that multimedia-assisted learning, debates, and conversations were helpful in transmitting the concepts of responsibility, ethics, and vulnerability in climate change education context.

This current study contrasts with the warning issued by the United Nations Framework Convention on Climate Change, the Paris Agreement, and the Action for Climate Empowerment (ACE) agenda, all of which call on governments to educate, empower, and engage all stakeholders and significant groups in climate change policies and activities (UNESCO, 2022).

This finding suggests that integrating climate change education at a higher level, particularly at the language education level, is still an issue that needs to be addressed in Indonesia and Malaysia. Climate change education remains critically important. It is in line with the ideas by Crookes (2021) who created one technique namely Climate Change Awareness (CLA) course which is defined as "a perspective on teaching second, additional, heritage, or other languages that is based on values of social justice."



According to the findings of this study, the climate change education at the university level in university level needs to be strengthened in order to increase students' belief and motivation to take action in tackling climate change concerns. Critical Language Awareness (CLA) seeks social justice by putting power issues to the forefront of literacy development and language education (Micalay-Hurtado & Poole, 2022). It is supported by a climate change research by Gunamantha and Dantes (2019) and De Meyer et al., (2021) that if public understanding of this issue is built on a narrative construct, then policy and regulatory strategies that rely on an authority located in public opinion could be seriously misinformed.

## 5.0 CONCLUSION

According to the findings of the study, lecturers in Malaysia and Indonesia believe that incorporating climate change teaching is critical in EFL classrooms. The lecturer admitted that integrating climate change issue in classroom build students' awareness toward their environmental issue and promotes their critical thinking. The lecturers also claimed that presenting climate change topic in EFL classroom promotes interdisciplinary learning and promotes research opportunities.

However, due to a lack of institutional and curriculum supervision, climate change topics are still limited in their integration into language learning activities in Malaysia and Indonesian universities. Only a few lecturers present climate change topics to the class when such topics are appropriate to present.

Furthermore, the instructors proposed employing interactive media and materials to explain the theme of climate change to the EFL students. They also proposed a regulation from universities and curricula for the integration of climate change issues in EFL classrooms.

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## PROCEEDINGS



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