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Integrating Climate Change into English Language Teaching: A Survey of Indonesian Teachers' Preparedness and Perspectives.

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Abstract

Climate change is one of the most critical issues we are currently facing. Considering the devastating impact of climate change on many people in the world, an interdisciplinary approach to climate change mitigation is highly essential. Teachers have a crucial responsibility in transferring knowledge, persuading students, and setting an example for critical thinking and environmental advocacy in order to prepare students for the challenges posed by climate change. The issue of climate change is one of the topics and goals of EFL teachers in preparing students to face climate change. The research aims to explore teachers' knowledge, beliefs, attitudes and preparedness in integrating climate change issues in ELT. This study employed a survey method, which involved 214 Indonesian EFL teachers from various levels of education, from elementary to high school. Data were analyzed through questionnaire consisting of four parts: teachers' knowledge, beliefs, attitudes, and preparedness in integrating climate change issues in ELT. The results show that there is a correlation between knowledge, beliefs and attitudes toward preparedness in incorporating climate change education in EFL learning. Moreover, most teachers expressed their willingness to teach climate change issues in ELT despite the score of their knowledge, beliefs, and attitudes regarding climate change. These results shed light on teachers' understanding of climate change, beliefs about, and attitudes toward climate change issues. Implications of the study include the possibility of incorporating climate change education in EFL learning and EFL sustainable teacher education.

Keywords: Climate change education, ELT, sustainable education, preparedness and perspectives.

INTRODUCTION

Since the late 1800s, the world has faced climate change, a critical and widespread issue. This global crisis stems from significant variations in meteorological elements like temperature and rainfall over time (Malhi et al., 2021). Climate change, as defined by

Shivanna (2022), involves long-term shifts in regional and global temperature and weather patterns. The Earth's climate has always varied, but the current rate of change is rapid and unprecedented, raising serious concerns. Human activities, primarily through the emission of greenhouse gases from burning fossil fuels, have been identified as the primary drivers of this change (Calvin et al., 2023; Ahove & Bankole, 2018). These activities increase atmospheric concentrations of greenhouse gases, creating a potent heat-trapping effect (Darkwah et al., 2018). The repercussions include extreme weather events, widespread flooding, and rising sea levels, all posing significant threats to food production and human life globally.

Climate change presents a complex and dire challenge. Without adequate regulation, climate-related natural disasters are likely to intensify. The severe impacts of these disasters underscore the urgent need for global cooperation in mitigation and preparedness strategies. Addressing climate change requires multifaceted solutions involving technology, regulatory approaches, and, crucially, education (Beach & Smith, 2020). As a country highly vulnerable to climate change impacts due to its geographical location in a volatile region, the Indonesian government began integrating Climate Change Adaptation (CCA) and Disaster Risk Reduction (DRR) into the school curriculum in 2010, including subjects like geography. This initiative has spurred a growing eagerness among teachers to discuss climate change and seek solutions with the next generation as a preparedness scheme (Sofiyan et al., 2019).

The concept of preparedness is crucial and highly relevant in real-life scenarios, particularly in the context of education. Preparedness involves the ability to anticipate and respond effectively to various events. This aligns with the United Nations' sustainable development goals, which advocate for lifelong learning opportunities and equitable, quality education (UNESCO, 2020). However, research on teacher preparedness for integrating climate change into English Language Teaching (ELT) remains limited. A study by Meilinda et al. (2017) involving pre-service and in-service teachers revealed that many educators feel unprepared to teach climate change. This lack of readiness is partly attributed to a belief that education cannot significantly alter attitudes and behaviors regarding climate change. Interestingly, teachers tend to place more trust in media for climate change education, though some are open to the gradual integration of climate change topics into the curriculum.

Further research indicates that a teacher's preparedness to teach about climate change is closely linked to their level of knowledge. Studies by Sezen-Barrie et al. (2017) and Winter et al. (2022) suggest that misconceptions about climate change among teachers hinder their readiness to incorporate it into their teaching. To effectively educate students about climate change, teachers must have a comprehensive understanding of its causes, impacts, and potential solutions. Despite this, as McNeal et al. (2014) highlight, many educators lack a clear understanding of these aspects. Jorgenson et al. (2019) and Rousell & Cutter-Mackenzie-Knowles (2019) also note that teachers' efforts in addressing climate change are often limited. A survey by Seroussi et al. (2019) further supports this, indicating prevalent misconceptions and knowledge gaps among teachers regarding climate change, which affects their decision-making and overall readiness.

An essential aspect of climate change education is the role of teachers' beliefs. These beliefs significantly influence their effectiveness in the classroom. Lawson et al. (2018)

describe the 'teacher belief system' as a network of beliefs that shape the behaviors of both teachers and students. However, research indicates that teaching methods, especially on complex topics like climate change, may not always align with teachers' personal beliefs about their practices. Meehan et al. (2018) observed that teachers might disregard evidence or avoid teaching subjects that conflict with their beliefs. This reluctance can stem from a perception that addressing climate change could undermine their efficacy and credibility in the classroom, leading to a hesitancy to teach the topic (Clark et al., 2020; McNeal et al., 2017). In contrast, a study by Seow & Ho (2016) in Singapore found support for teaching climate change outside the traditional classroom setting, noting that it can enhance students' critical thinking skills. These findings align with Monroe et al. (2013) but contrast with Seroussi et al. (2019) in Israel, where teachers showed less support for climate change education.

Teacher attitudes toward climate change also play a critical role in their readiness to integrate it into the EFL classroom. This includes the measures teachers take in their personal and professional lives to mitigate climate change (Drewes et al., 2017; Hiğde et al., 2017). Despite the acknowledgment of climate change as a challenging topic, inconsistencies often exist between teachers' knowledge, beliefs, and teaching practices (Borgerding & Dagistan, 2018). However, professional development programs can enhance teachers' understanding of climate change education (Li et al., 2019). Hess and Maki (2019) also found that exposure to climate change issues can influence teachers' beliefs. These findings underscore the interconnectedness of knowledge, belief, and attitude, which are crucial components of an effective climate change educator.

Despite the growing body of research on knowledge, belief, and attitudes toward climate change, there is a notable gap regarding EFL teachers' perspectives on this issue. Panos and Damico (2021) highlighted that less than 1% of literacy conference presentations and journal articles address climate change. Most existing research on climate change in ELT focuses on its integration into pre-service teacher education (Liu, 2019; Liu & Li, 2019; Silvhiany et al., 2023). Given the scarcity of research from the perspective of English language teaching, our study aims to explore the relationship between EFL teachers' knowledge, beliefs, and attitudes toward climate change and their preparedness to incorporate these issues into EFL learning.

METHOD

This study employed a quantitative approach to assess the knowledge, beliefs, attitudes, and preparedness of Indonesian EFL teachers in integrating climate change into ELT. We applied correlation and regression analyses to explore the relationships among these variables. Correlation analysis examined the associations between variables, while regression analysis, as per Skiera et al. (2021), determined the strength of links between dependent and independent variables. In addition, researchers used random sampling (Sugiyono, 2017) to select participants from a population of EFL teachers across various educational levels in Southern Sumatra. The survey was completed by 214 EFL teachers, providing the data for our study.

Table 1. Demographic information for the study group

Variables	Groups	No. of teachers	Percentage (%)
Gender	Male	52	24.3%

	Female	162	75.7%
Level of school	Elementary	50	23.4%
	Middle/Junior High School	92	43%
	High School	72	33.6%
Type of School	Public	133	62.1%
	Private	52	24.3%
	Religious-based school	29	13.6%
School Location	Urban	105	49.1%
	Suburban	43	20.1%
	Rural	61	28.5%
	Remote	5	2.3%
Residence	Coastal area	19	8.9%
	Wetland	31	14.5%
	Peatland	35	16.4%
	Mountainous	33	15.4%
	River basin area	96	44.9%
Teaching Experience	<3 years	45	21%
	3-5 years	30	14%
	6-10 years	37	17.3%
	>10 years	102	47.7%
Educational Background	Diploma (3-year college)	8	3.7%
	Bachelor	151	70.6%
	Master's	54	25.2%
	Doctorate	1	0.5%
Total Sample		214	100%

The questionnaire utilized a four-point Likert scale, ranging from strongly disagree (SD) to strongly agree (SA), to assess responses. The scoring was as follows: '1' for strongly disagree (SD), '2' for disagree (D), '3' for agree (A), and '4' for strongly agree (SA). This scale included 40 items across four dimensions: knowledge, belief, attitude, and preparedness in integrating climate change into ELT, along with two questions about the impact of climate change to gather relevant issues. The instrument's reliability, as indicated by Cronbach's Alpha, was 0.778 for knowledge, 0.531 for belief, 0.774 for attitude, and 0.712 for preparedness. Hinton et al. (2004) state that an instrument is acceptable if the Cronbach Alpha value is 0.50 or higher. Furthermore, the validity test confirmed that all instruments were valid, with each statement's value exceeding 0.05. These results suggest that the scale is appropriate for assessing EFL teachers' integration of climate change into ELT classrooms.

FINDING AND DISCUSSION

In this study, descriptive statistics, percentage analysis, and item-based assessments were used to analyze teachers' responses on knowledge, beliefs, attitudes, and preparedness in integrating climate change into ELT. To explore the relationships between these variables, we employed correlation tests, and regression tests were used to assess the strength of these correlations. The statistical significance threshold was set at 0.05. The findings on EFL teachers' knowledge, beliefs, attitudes, and preparedness regarding climate change integration in ELT were detailed through item-based assessments. The results are

presented across four tables: Table 2 for knowledge, Table 3 for beliefs, Table 4 for attitude, and Table 5 for preparedness. Each table provides an analysis of the respective aspect in the context of integrating climate change issues in ELT.

Table 2. Percentage of EFL teachers' knowledge of climate change issue.

No.	Statements	Strongly Disagree	Disagree	Agree	Strongly Agree
1.	The global temperature is rising at a rate not seen in the past 10,000 years	2.8%	7.1%	59%	31.1%
2.	Human activity, especially greenhouse gas emissions, is considered the dominant cause of temperature increases	0.5%	5.6%	49.8%	44.1%
3.	There are more extreme weather events because of climate change	0.5%	1.9%	40.3%	57.3%
4.	A cause of the rising sea level is the melting of glaciers and snow	0.5%	7.5%	47.9%	44.1%
5.	The ice mass of the Arctic is expected to increase in the next 100 years	5.6%	21.1%	47.9%	25.4%
6.	Fossil fuels are by far the most significant contributor to the greenhouse gas emissions that cause climate change	2.3%	13.6%	54.9%	29.1%
7.	Many infectious diseases, including water-borne ones, are susceptible to climate conditions	0.9%	8.5%	60.1%	30.5%
8.	Climate change mitigation is about reducing greenhouse gas emissions from human activities	0.5%	6.1%	59%	34.4%
9.	Peatland is important for carbon stock	0.9%	11.7%	51.9%	35.5%
10.	Coastal ecosystems are critical in mitigating climate change, as mangroves hold as much carbon as the annual emissions of 90,000 cars	0%	7%	63.8%	29.1%

Table 2 highlights the responses of EFL teachers to various statements about climate change, showing a general agreement on its impacts and causes. The data reveals that 57.3% of teachers strongly agree that extreme weather is a result of climate change, while 59% agree that global temperatures are rising. Additionally, 49.8% agree that human activity is a primary cause of increasing temperatures. A similar percentage, 47.9%, believes that climate change is causing sea levels to rise and that the ice mass in the Arctic is increasing. Furthermore, 54.9% identify fossil fuels as significant contributors to greenhouse gases. The table also shows that 60.1% of teachers acknowledge the emergence of diseases due to climate change, and 59% recognize the significance of mitigating greenhouse gases from human activities. Lastly, 51.9% understand the importance of peatlands and coastal ecosystems in the context of climate change.

Table 3. Percentage of EFL teachers' belief towards climate change issue.

No.	Statements	Strongly Disagree	Disagree	Agree	Strongly Agree
1.	Climate change is a threat to human beings	0.5%	2.8%	46.3%	50.5%

2.	Current climate change is mainly caused by human activities that release greenhouse gases into the atmosphere	0%	2.3%	53.7%	43.9%
3.	We cannot do anything to stop global climate change	38%	47.4%	12.2%	2.3%
4.	I think most of the concerns about environmental problems have been exaggerated	17.3%	33.6%	43.5%	5.6%
5.	Things I do have no effect on the quality of the environment	17.5%	59.9%	18.9%	3.8%
6.	Humans have the right to modify the natural environment to suit their needs	9.9%	17.4%	55.9%	16.9%
7.	Eating less meat products will help reduce climate change	10.7%	48.6%	33.2%	7.5%
8.	Protecting nature today ensures a more sustainable future	1.4%	1.9%	39.9%	56.8%
9.	Our country (Indonesia) is doing an excellent job of dealing with climate change	7%	34.6%	49.5%	8.9%
10.	Climate change will harm me a great deal	1.9%	9.9%	62%	26.3%

Table 3 presents the majority viewpoints of EFL teachers on various belief-related statements about climate change. It shows that 50.5% of teachers strongly agree that climate change is a threat to humans, and 56.8% believe that protecting nature today ensures a more sustainable future. A majority, 53.7%, agree that current climate change is primarily due to human activities. However, 43.5% think environmental concerns are often exaggerated, and 55.9% assert that humans have the right to modify the environment. About 49.5% believe Indonesia is effectively addressing climate change, and 62% feel that climate change will significantly harm us. Contrastingly, a notable percentage of teachers disagree with certain statements: 47.4% disagree that nothing can be done to stop global climate change, 59.9% reject the idea that human actions have no impact on environmental quality, and 48.6% disagree that eating less meat will help reduce climate change.

Table 4. Percentage of EFL teachers' attitude towards climate change issue.

No.	**Statements**	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
1.	I helped decrease climate change by avoiding food waste	0.9%	23.4%	42.1%	33.6%
2.	I used reusable shopping bags instead of plastic bag	3.7%	22.9%	42.5.%	30.8%
3.	It made me sad that forest was cleared for plantation, such as palm plantation	8.9%	17.3%	42.1%	31.8%
4.	I recycle plastic bottles, soda cans, packaged cardboard, and other recyclable materials	10.3%	36.9%	36.4%	16.4%
5.	I turned off the lights I am not using	0.9%	2.8%	15%	81.3%
6.	Knowing about environmental problems and issues is essential to me	0%	5.1%	38.3%	56.5%
7.	At present, I am energetically pursuing ways to solve environmental problems	0.9%	25.7%	42.1%	31.3%
8.	Environmental problems are so complex that	32.4%	38%	23.9%	5.6%

	we will never be able to solve them				
9.	I know there are a number of things that I can do in order to improve the climate change problem	1.4%	14%	57.5%	27.1%
10.	I prefer politicians who are concerned about the environment	11.2%	23.8%	37.4%	27.6%

Table 4 details EFL teachers' attitudes towards various environmental actions and beliefs. A significant 81.3% of teachers strongly agree that they turn off lights when not in use, while 56.5% consider environmental problems to be of high importance. In terms of agreement, 42.1% believe they help reduce climate change by avoiding food waste, and an equal percentage feel saddened by forests being cleared for plantations. Also, 42.5% use reusable shopping bags, and 42.1% are actively seeking ways to address environmental problems. Furthermore, 57.5% feel knowledgeable about improving climate change issues, and 37.4% show a preference for environmentally conscious politicians. On the other hand, the data indicates some disagreement: 36.9% of teachers do not regularly engage in recycling activities like plastic bottles, soda cans, and cardboard, and 38% express skepticism about solving environmental problems.

Table 5. Percentage of EFL teachers' preparedness in integrating climate change issues in ELT.

No.	Statements	Strongly Disagree	Disagree	Agree	Strongly Agree
1.	Educating students about the causes and consequences of climate change in English class is possible to do	0.5%	0.5%	43.9%	55.1%
2.	Environmental and climate change issues should be addressed in English as a foreign language (EFL) classroom	3.3%	3.8%	54%	39%
3.	I am confident that I can prepare accurate teaching modules about our environment for the students that I teach	2.4%	0.9%	69.3%	27.4%
4.	I cannot include education for our environment in my teaching because specially-trained teachers should teach it	29%	47.2%	16.4%	7.5%
5.	Teaching students about climate change in English class can inspire them to take action for a sustainable future	0.9%	0.5%	46.7%	51.9%
6.	I do not believe that there is enough time in the curriculum to fit in education for the environment in English	23.9%	46%	23.5%	6.6%
7.	I can easily find material to integrate climate change issues into the teaching of English	5.2%	7.5%	69%	18.3%
8.	I searched for information about climate change issues to be included in my teaching	2.3%	1.4%	72%	24.3%
9.	As an English teacher, I have had the opportunity to discuss issues related to the environment and climate change in my professional development program, such as	2.8%	8%	66.2%	23%

	training.				
10.	Climate literacy can be developed in the English language classroom	0.9%	1.4%	60.7%	36.9%

Table 5 presents the views of EFL teachers on their preparedness to integrate climate change education into English classes. A majority, 55.1%, strongly agree that educating students about the causes and consequences of climate change in English class is feasible, while 51.9% believe that discussing climate change can inspire sustainable action. Additionally, 54% agree that environmental and climate issues should be addressed in EFL classrooms. Notably, 69.3% are confident in preparing accurate environmental teaching modules, and 46.7% find it easy to locate materials for integrating climate change into English teaching. Furthermore, 72% actively seek information on climate issues for their teaching, 66.2% have discussed environmental topics in professional development programs, and 60.7% believe that climate literacy can be developed in English language classrooms.

Contrarily, 47.2% disagree with the notion that only specially trained teachers can include environmental education in their teaching, suggesting that general teachers can also effectively teach this subject. Also, 46% do not believe that curriculum limitations prevent the inclusion of environmental education in English classes, indicating that there is sufficient time for such content.

Table 6. Impact of climate change

Questions	**Aspects**	**No. of teachers**	**Percentage (%)**
Which do you consider to be the most severe effect of climate change?	Drought	119	55.6
	Earthquake	14	6.5
	Fire	37	17.3
	Flood	14	6.5
	Rising Sea Level	30	14
What is the most critical environmental problem in your area?	People cannot get clean water.	52	24.3
	Our air quality is terrible because of the forest fire.	140	65.4
	People lose their homes because of rising sea level	3	1.4
	Flood causes property damage	12	5.6
	Erosion causes road damage and harms people	7	3.3

Alongside the Likert Scale survey, two additional questions focused on the most pressing impacts of climate change. According to the results presented in Table 6, a significant 55.6% of teachers identified drought as the most severe effect of climate change. Additionally, 65.4% cited poor air quality due to fires as the primary environmental concern in their region. This is particularly relevant for respondents from the southern part of Sumatra Island, known for its susceptibility to wildfires during extended dry seasons. The survey also included a direct question about teachers' willingness to incorporate climate change education into English lessons. An overwhelming majority of respondents

(96.3%) expressed their readiness to integrate climate change topics into their English teaching.

Table 7. Correlation between knowledge, belief, attitude and preparedness

Correlations

		Knowledge	Belief	Attitude	Preparedness
Knowledge	Pearson Correlation	1	.253**	.306**	.424**
	Sig. (2-tailed)		.000	.000	.000
	N	214	214	214	214
Belief	Pearson Correlation	.253**	1	.272**	.199**
	Sig. (2-tailed)	.000		.000	.003
	N	214	214	214	214
Attitude	Pearson Correlation	.306**	.272**	1	.393**
	Sig. (2-tailed)	.000	.000		.000
	N	214	214	214	214
Preparedness	Pearson Correlation	.424**	.199**	.393**	1
	Sig. (2-tailed)	.000	.003	.000	
	N	214	214	214	214

**. Correlation is significant at the 0.01 level (2-tailed).

Table 7 presents the correlations between knowledge, belief, attitude, and preparedness of EFL teachers in incorporating climate change into English language teaching. Using Pearson's correlation coefficient, a statistical tool that measures the extent of a linear relationship between variables, the study analyzed responses from 214 EFL teachers. The findings revealed a pattern of positive correlations across these dimensions. A modest positive correlation between teachers' knowledge about climate change and their beliefs, represented by a coefficient of .253, suggests that stronger beliefs in the importance and impact of climate change generally accompany increased knowledge. Similarly, the knowledge of teachers also positively correlates with their attitudes, as indicated by a slightly higher coefficient of .306. This implies that teachers who are better informed about climate change tend to have more favorable attitudes toward addressing it in their teaching.

Moreover, the strongest correlation observed in the study was between knowledge and preparedness, with a coefficient of .424. This significant relationship indicates that teachers with a comprehensive understanding of climate change feel more equipped and ready to integrate these concepts into their teaching. Additionally, the study found a positive correlation between belief and attitude, at .272, suggesting that stronger beliefs about climate change positively influence teachers' attitudes toward teaching it. The correlation between belief and preparedness, though weaker at .199, still points to a positive association, indicating that a teacher's beliefs about climate change have some impact on their sense of preparedness to teach the subject.

Finally, the correlation between attitude and preparedness stands at .393, reinforcing the idea that teachers with positive attitudes towards climate change are generally more prepared to incorporate it into their classroom teaching. In summary, these findings from the correlation analysis reveal a transparent interconnection between knowledge, belief, attitude, and preparedness in the realm of climate change education

within the ELT context. They suggest that enhancing one aspect, such as knowledge or belief, could positively influence the others, potentially leading to more effective climate change education among EFL teachers.

Table 8. Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.508a	.258	.247	3.000	.258	24.297	3	210	.000

a. Predictors: (Constant), attitude, belief, knowledge

In summary, this regression model demonstrates a statistically significant relationship between knowledge, belief, attitude, and preparedness. The moderate R-value indicates a reasonable level of correlation between the variables, suggesting the model's effectiveness in predicting the preparedness of EFL teachers to integrate climate change into their teaching.

Table 9. Correlation Coefficient

Pearson Correlation Value	Correlation Level
0.00 – 0.199	Very Low
0.20 – 0.399	Low
0.40 – 0.599	Moderate
0.60 – 0.799	Strong
0.80 – 1.00	Very Strong

From the analysis presented in Tables 8 and 9, the correlation coefficient (R-value) of 0.508 indicates a moderate yet significant correlation between knowledge (X1), belief (X2), and attitude (X3) as they relate to preparedness (Y) in the context of integrating climate change into ELT. This suggests that the knowledge, beliefs, and attitudes of EFL teachers towards climate change are significantly interlinked with their preparedness to teach this subject. The moderate correlation coefficient implies that these factors have a notable, albeit not extremely strong, influence on each other.

The research further reveals that a vast majority (96.3%) of surveyed teachers expressed a keen interest in developing climate change-related teaching content. This underscores the recognition among EFL teachers of the critical importance of climate change education, extending beyond the realm of enhancing English proficiency to encompass broader life skills. Consequently, there is a clear need for educators to refine their knowledge, fortify their beliefs, and cultivate positive attitudes toward climate change. By doing so, they can deliver content that not only educates but also raises students' environmental awareness. Through these efforts, students are expected to be better equipped to confront the challenges posed by climate change in the future, potentially contributing to the development of practical solutions to mitigate its impacts. This highlights the pivotal role of EFL teachers in preparing students not just linguistically but also in fostering a deeper understanding and proactive stance on environmental issues.

DISCUSSION

This research investigates the knowledge, beliefs, attitudes, and preparedness of Indonesian EFL teachers regarding the integration of climate change issues in their

teaching. It reveals a positive reception towards climate change education among teachers in Indonesia. Out of the surveyed teachers, 206 expressed a willingness to incorporate climate change topics into their ELT classes. However, the study also identified a gap, as some teachers currently lack sufficient knowledge, beliefs, and attitudes necessary for effectively teaching these issues. This gap highlights the dynamic nature of knowledge, beliefs, and attitudes, which can evolve with the correct information and practice.

The research underscores the influence of teachers' knowledge, beliefs, and attitudes on their readiness to teach climate change issues. This finding emphasizes the need for the government and educational institutions to focus not only on enhancing teaching skills but also on fostering environmental awareness and responsibility among teachers. This aligns with the recommendations from previous studies (Li et al., 2019; Monroe et al., 2017; Mutmainnah et al., 2022; Silvhiany, 2022), which stress the importance of professional development for teachers to integrate climate change education across various disciplines.

Furthermore, this research contributes to a critical understanding of the need for more extensive studies in this field, exploring the preparedness of EFL teachers and the influence of their knowledge, beliefs, and attitudes from diverse cultural perspectives worldwide. Although there is a growing body of research in climate change education, studies focusing specifically on the knowledge, beliefs, attitudes, and readiness of EFL teachers to integrate climate change into ELT classes are still limited and fail to provide comprehensive insights into the societal and educational impacts (Goulah, 2015). Therefore, more research in this area is essential to deepen understanding and improve educational strategies globally.

The research findings underscore the significant role and opportunity of EFL teachers in imparting climate change education within the classroom setting. This aligns with Moshou and Drinia (2023), who advocate for a collective responsibility in addressing climate change, a task that extends to teachers and students across various subjects. The study further highlights the close relationship between knowledge, belief, and attitude in the context of climate change education. These findings resonate with earlier research, suggesting that teachers and schools can proactively introduce climate change education, aiming for sustainable lifestyles. This can be achieved flexibly by incorporating relevant literature into classroom discussions (Drewes et al., 2017). Based on these findings, several recommendations are proposed for enhancing climate change education. In societal terms, it is crucial to integrate technology and curriculum in ways that foster continuous learning and support for climate change topics. The active involvement of the government and the entire school community, including principals, teachers, staff, and students, is essential in promoting effective climate change education programs.

CONCLUSION

The study of Indonesian EFL teachers' knowledge, beliefs, attitudes, and preparedness in integrating climate change issues in ELT has provided a clear picture of EFL teachers' preparedness to implement climate change issues in ELT through a little thorough preparation in terms of knowledge, beliefs and attitudes. This study focuses on the knowledge, beliefs, attitudes, and preparedness of Indonesian EFL teachers representing all groups of teachers in Indonesia. The research results found that the EFL

teachers' knowledge, beliefs, attitudes, and preparedness influence each other. Apart from that, knowledge, belief, and attitude show a significant influence on EFL teachers' readiness to integrate climate change issues in ELT classes and vice versa. The most significant contribution of this research is that the majority of EFL teachers have a great desire to teach climate change issues to students. Finally, this research provides a clear perspective for EFL teachers in preparing to integrate climate change issues into ELT classes.

EFL teachers in Indonesia have different levels of knowledge, beliefs, and attitudes, and this must be followed up as an effort to increase awareness of climate change. These findings highlight the relationship between the three and teacher preparedness in integrating climate change education, especially in ELT classes. Further research and professional development efforts are needed to address the concerns raised and support teachers in better preparing themselves to integrate climate change education effectively in ELT classrooms. Although this research provides insight into the views of EFL teachers, it is essential to recognize that not all teachers show balanced results between their preparedness and the knowledge they possess, as well as the beliefs and attitudes they demonstrate. In addition, the survey design may not be very comprehensive in capturing various language teachers' perspectives on climate change. Therefore, it is highly recommended for future researchers to conduct further studies that offer a better and more specific understanding of climate change in the ELT classroom.

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