



ENVIRONMENTAL AWARENESS AND ENGLISH TEACHERS' PROFESSIONAL IDENTITY: A MIXED-METHOD STUDY

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Abstract: Contemporary environmental challenges are increasingly demanding responses from the education sector. Teachers, as key educational agents, play an important role in fostering environmental awareness, and their professional identity may be influenced by how they perceive and respond to environmental issues. However, there is limited research that connects environmental awareness and teacher identity construction. Therefore, this research aims to examine how teachers' environmental awareness influences their professional identity and their integration of environmental values in teaching. 80 English teachers participated in the questionnaire phase, and five teachers were selected for semi-structured interviews through purposive sampling. Descriptive statistics were used to analyze the quantitative data, while thematic analysis was applied to the qualitative data. The findings revealed that teachers' environmental awareness influenced their moral self-positioning, pedagogical decision-making, and professional identity beyond language instruction. In addition, teachers integrated environmental values through implicit practices, such as modeling pro-environmental behaviors and daily classroom habituation, and through explicit practices, including the integration of environmental texts and experiences into learning materials and the use of teaching methods such as outdoor learning and environmental visualization. In conclusion, this study suggests that environmental awareness plays a significant role in shaping English teachers' professional identity as educators.

Keywords: *English language teachers; eco-pedagogy; environmental awareness; sustainable education; teachers' professional identity.*

INTRODUCTION

In the era of accelerating environmental degradation, the world is currently facing unprecedented environmental challenges. The development of industry, technology, and war nowadays has caused harmful human behavior that damages environmental balances (Hryhorczuk et al., 2024; Sonko et al., 2025; Ullah et al., 2023). Natural challenges such as natural catastrophes and pollution, are becoming more common and posing a real threat to all levels of ecology, such as individuals, populations, and ecosystems (Jha & Dev, 2024; Khan et al., 2023).

Several previous studies showed that environmental challenges not only harm nature but also have serious impacts on many areas of human life. In the economic sector, environmental degradation disrupts industries and reduces the

income of society (Jha & Dev, 2024; Padhiary & Kumar, 2024; Raihan, 2023). In health or well-being, pollution and climate-related risks have affected people's health (Campbell-Lendrum et al., 2023; Jha & Dev, 2024; Olorunsogo et al., 2024). In the socio-cultural sector, environmental changes force communities to also change their patterns of living (Ezeudu & Chukwudubem, 2023; Najia et al., 2024; Raihan, 2023). Last, even the education sector is affected, schools are required to adapt curricula and teaching practices to address sustainability issues (Balino et al., 2025; Hofflinger et al., 2025; Kiyosov et al., 2023; Marín et al., 2024). These show that environmental issues are not isolated problems but complex and serious challenges that influence multiple dimensions of society. However, despite the urgency and seriousness, public awareness of their own

environment remains low, reflected by their current action and behavior. In response, the Berlin Declaration on ESD (2021) called for making education for Sustainable Development an essential part of all education systems by 2025.

The education sector, whether formal or informal, holds a crucial role in cultivating environmental awareness because it shapes individuals, influences their actions and attitudes, and equips them with essential skills or knowledge about the environment (Perea et al., 2025). Through teaching and learning processes, education not only provides information but also strengthens students' environmental awareness. Arsyad et al. (2024) further argue that education can build emotional connections between students and their surroundings, fostering greater responsibility and empathy toward environmental issues. Numerous studies have shown that environmental awareness can be developed at every level of schooling (Hastürk et al., 2023; Khodjaev et al., 2024; Yang et al., 2024; Zogaj et al., 2024). Collectively, these findings indicate that education has a significant impact on shaping environmental awareness. This central role of education underscores the importance of teachers as key agents in promoting environmental awareness and sustainability. Therefore, it is essential to consider how teachers' beliefs shape their response to the environmental challenge and provide an adequate background to show the gap in the research.

Teachers' beliefs are broadly known as teacher identity. Teacher identity is understood as a dynamic context-dependent construct shaped by teachers' experiences, beliefs, and sociocultural context (Akkerman & Meijer, 2011; Beauchamp & Thomas, 2009), a view that has been further developed in recent studies emphasizing identity negotiation in response to contemporary education challenges. Supporting this notion, Yazan (2023) stated that teacher identity refers to how teachers see themselves as teachers, which is continuously shaped by their participation, communication, and position in their social life. In the English education context, identity is a dimension of the inner life of teachers and learners, one that is shaped by individual and social factors, but also by the meaning and values English has for them (Richards, 2023). And this process happened continuously as a dynamic process and was constructed through previous experiences, interactions, and demands (Rushton et al., 2023). During the process, environmental awareness could play an essential role in how teachers view

their roles and responsibilities. In this research context, teacher identity is examined in relation to teachers' environmental awareness and how such awareness contributes to the construct of English teachers' identity.

In this modern era, English language teachers have a big chance to contribute. Compared to other subjects, English teachers have greater access to the environmental content from across the nations. Butkevich (2024) stated that teaching foreign languages has a great opportunity for students to increase their environmental awareness. In other research, it can be shown that Environmental exposures are introduced in English Language Teaching textbooks or materials (Afrin & Saha, 2023; Kazazoglu, 2025). It showed that English teachers have more extensive access to environmental awareness. Raphael & Nandanan (2024) also argued that it is important for English teachers to incorporate environmental consciousness into English language education. English language teaching can promote students' environmental awareness as well as develop language skills. Therefore, the role of an English teacher is undeniably crucial. Their identity and environmental awareness are the key to better teaching. In conclusion, English language teachers are considered ideal participants for this research, particularly in exploring how environmental awareness and eco-pedagogical concerns influence teacher identity construction.

Recent studies have shown that teachers and pre-service teachers generally have a moderate level of ecological awareness, underscoring the role of education in promoting environmental consciousness (Bayraktar, 2020; Dipalaya et al., 2024). Within the ELT context, sustainability-oriented practices such as Green ELT, CLIL, and project-based learning have been shown to support both language development and learners' environmental awareness, despite all the challenges such as limited resources, teacher readiness, and curriculum alignment (Mercer et al., 2023; Raphael & Nandanan, 2024; Wahyuni & Fatdha, 2026). Taken together, these studies suggest that environmental awareness is present among teachers and influences pedagogical practices. However, the previous research primarily conceptualizes awareness only as a measurable attribute or instructional consideration, offering limited insight into how teachers interpret environmental issues as part of their professional identity. Consequently, the relationship between environmental awareness and the construction of

English language teachers' professional identity remains underexplored.

Most previous research has primarily focused on measuring ecological awareness in the education sector (Bayraktar, 2020; Dipalaya et al., 2024; Raphael & Nandan, 2024), with limited attention to how such awareness is interpreted and internalized as part of teachers' professional identity. Consequently, little is known about how teachers make sense of environmental issues and how these sense-making processes shape their professional identity construction. Addressing this empirical and population-specific gap, the present study investigates how environmental awareness shapes the professional identity of English language teachers. It is because English teachers are a particularly relevant population due to their potential role in engaging with diverse texts, discourses, and global issues, including environmental sustainability.

From those gaps, this research aims to examine how environmental awareness shapes the identity of English teachers and to explore how they integrate eco-pedagogy into their teaching practices. Therefore, two research questions were raised: 1) What are the impacts of teachers' environmental awareness on their professional identity construction as educators? 2) How do teachers integrate eco-pedagogy into their teaching practices? Through this study, the researchers tried to connect the ecological dimension to the teacher identity construction, which had previously been rarely researched. The connection of these two aspects could be beneficial for teachers or lecturers, especially to provide insight related to their professional development. It might also help them to spark insights related to the integration of sustainability into classroom practices. Furthermore, this research might be useful for policymakers or curriculum designers to develop a sustainable education based on environmental awareness and eco-pedagogy.

METHOD

To conduct this research, the researchers used a mixed-method approach, which combines quantitative and qualitative data to get a deeper understanding of the research problem (Creswell & Creswell, 2022). Using both methods could strengthen the findings because quantitative data shows general trends, while qualitative data provides deeper explanations (Takona, 2024). This approach was chosen by the researcher because it allows complex issues to be studied more deeply.

Furthermore, the researchers used an explanatory-sequential design. This design starts with collecting and analyzing quantitative data, and then continues with qualitative data to explain the quantitative results (Creswell & Creswell, 2022). The quantitative phase examined general patterns of teachers' ecological awareness while the qualitative phase explored how this awareness shaped their teacher identity and teaching practices. In contrast to a concurrent mixed-method design, which collects quantitative and qualitative data simultaneously, the explanatory sequential design allows qualitative findings to be guided by prior results, which is qualitative results. This sequencing strengthens the analytical focus and ensures that identity construction is examined in relation to empirically identified patterns of environmental awareness. This design is commonly used when researchers want to connect measurable factors, such as awareness or attitudes, with deeper aspects like identity or belief, which can be explored through qualitative methods (Haynes-Brown, 2023).

The research participants were 80 English language teachers in Yogyakarta and Central Java. They participated in the quantitative phase of the study, which was distributed through the WhatsApp application. For this phase, convenience sampling was employed to obtain initial data efficiently from accessible participants within the target population (Creswell & Clark, 2018). The chosen participants have to fulfill some characteristics. First, English language teachers who are currently teaching or have taught in formal schools. Second, English language teachers who are willing to participate in this research.

Following the quantitative phase, five participants were selected for the qualitative, semi-structured interview. The selection was based on the participants response on the questionnaire results, particularly on the scenario-based question. The researchers considered teachers who 1) provided elaborated explanations rather than very brief or formulaic answers, 2) demonstrated reflective engagement by linking the environmental scenarios to their personal or classroom experiences, and 3) expressed varied perspectives on how environmental awareness relates to teaching and professional responsibility. These three criteria were used to ensure that selected participants could offer rich and diverse insights that are relevant to the research questions. Therefore, the sampling used is purposive sampling, where the researchers could select participants based on the researchers' needs, to

ensure that the sample appropriately answers the research question, and increase the relevance of the research (Robinson, 2023).

Related to the ethical consideration of this research, informed consent was obtained from the questionnaire. Furthermore, verbal consent was obtained and audio-recorded prior to conducting the interviews. To ensure the privacy of the participants, the researchers also used numerical pseudonyms. Participation in this study was voluntary, meaning they could withdraw from the research at any stage without any punishment or consequences. The procedures of this research really value the privacy and ethics of each participant.

The mixed method allowed the researchers to combine both quantitative and qualitative data in one study. It helped to explore different perspectives and gain a better understanding of the topic (Creswell & Clark, 2018). The quantitative data were collected using a questionnaire adapted from the “Ecological Footprint Awareness Scale” by Coşkun & Sarikaya (2014). The scale was selected due to its conceptual alignment with the core dimension of ecological awareness relevant to this study. Furthermore, ecological awareness, as a construct, is relatively stable and does not really rapidly change over time, which makes the content of the scale still relevant. It aimed to measure teachers' level of environmental awareness across personal, pedagogical, and identity-related themes. To enhance contextual relevance, the instrument was adapted and complemented with scenario-based items that reflect contemporary environmental issues in educational settings.

The questionnaire was given to 80 novice English teachers in Central Java and Yogyakarta. It included items about food, shelter, and community, water, energy use, and waste management. The researchers modified several parts of the questionnaire to fit the needs of this study. The questionnaire consisted of 21 closed-ended questions using a Likert scale and 2 open-ended questions using a scenario-based approach. To make it more comfortable and flexible, the questionnaire was shared online via WhatsApp through Google Form using *Bahasa Indonesia* so participants could access and complete it easily.

The reliability and validity of the questionnaire were examined through content validation, expert review, and a pilot test using Cronbach's Alpha with 25 English Master's students. The Cronbach's Alpha values are shown in the table below:

Table 1. *Reliability of questionnaire scales (Cronbach's Alpha)*

Scale	Number of Items	Cronbach's Alpha
Personal Environmental Awareness	7	0.60
Environmental Awareness in Teaching	8	0.86
Environmental Awareness and Teacher Identity	6	0.65

0.60 for theme one (environmental awareness – personal actions), 0.86 for theme two (environmental awareness – teaching practice), and 0.65 for theme three (environmental awareness – teacher identity). While earlier guidelines suggested that values above 0.60 may be acceptable for exploratory research (Nunnally, 1978), more recent scholarship recommends higher thresholds ($\alpha \geq 0.70$) for established scales (Izah et al., 2023). Given the exploratory nature of this study and the adaptation of the instrument to a new context, these values were considered sufficient for descriptive purposes rather than inferential claims. In addition to the reliability test, several participants provided feedback on item clarity and wording. Minor revisions were made based on this feedback to improve the instrument before the main data collection.

To explore teachers' identity in constructing and integrating the eco-pedagogy approach in their teaching, the scenario-based approach can be a good and effective way. The researcher put two scenario questions in the questionnaire as open-ended questions using *Bahasa Indonesia*. Scenario-based learning involves using realistic situations to assess and enhance capabilities in professional learning contexts (Holdsworth et al, 2025). The researcher presented real-world environmental dilemmas to teachers and observed how they respond and justify their choices. The first scenario described a routine environmental program that conflicted with instructional time, while the second scenario involved a school competition that encouraged environmentally questionable practices for aesthetic purposes. The use of scenario-based questions was to capture teachers' reasoning, values, and decision-making processes, which might not be fully revealed through closed-ended items. The full scenarios are provided in Appendix A.

For the qualitative data collection, the researchers used semi-structured interviews. This type of interview promotes flexible conversation that enables researchers to explore the topic deeper

while maintaining planned methods for data collection (Belina, 2023). There were 6 participants who were chosen for the interview. It was chosen by purposive sampling from the questionnaire. The interview consisted of 10 open-ended questions as the main question. To ensure the validity of the interview questions, the interview protocol was reviewed by an expert in English language education and qualitative research (the second author). Expert review is

considered a legitimate method for establishing content validity in social science research (Creswell & Creswell, 2022). The review was primarily focused on the alignment of the interview questions with the research objectives. However, the expert also gave feedback on the clarity and relevance. Revisions were made based on the feedback provided. Below are the sample questions of the interview:

Table 2. *Sample semi-structured interview questions*

Variable	Sample Interview Question	Related Research Questions
Identity development	<i>Apakah Anda pernah merasa identitas profesional Anda bertumbuh atau berubah karena keterlibatan Anda dalam isu lingkungan? Bisa diceritakan?</i> Have you ever felt that your professional identity has grown or changed because of your involvement in environmental issues? Can you share your story?	RQ 1 & RQ 2
Material integration	<i>Apakah Anda pernah mengintegrasikan topik-topik lingkungan dalam materi Bahasa Inggris yang Anda ajarkan? Bagaimana contohnya?</i> Have you ever integrated environmental topics into the English material you teach? What are some examples?	RQ 2
Strategy utilization	<i>Apa strategi atau pendekatan yang Anda gunakan untuk membuat siswa lebih sadar akan isu lingkungan melalui pelajaran Bahasa Inggris?</i> What strategies or approaches do you use to make students more aware of environmental issues through English lessons?	RQ 2

Table 1 gives a sample of questions designed to explore the topic deeply. Furthermore, the researchers were also asking several different follow-up questions because the design of a semi-structured interview is flexible and allowed probing to capture participants' reflections in depth. Each interview lasted approximately 30-45 minutes and was conducted offline in *Bahasa Indonesia*.

In the explanatory sequential-mixed method design, the data analysis process started from the quantitative phase. According to Creswell & Clark (2018), Quantitative data should be analysed using descriptive statistical procedures to summarize trends, distributions, and participants' levels of the variables under investigation. In this research, responses from the ecological awareness questionnaire were analysed through descriptive statistics (mean, percentage, and standard deviation) to determine the general patterns of teachers' ecological awareness.

Furthermore, the two scenario-based questions on the questionnaire were analyzed using a simple qualitative content analysis. Teachers' written responses were categorized on their dominant stance toward the dilemma: 1) prioritizing environmental considerations, 2) prioritizing curricular or institutional demands, or 3) negotiating both or a middle-ground position. All responses were analysed by the first author but were also discussed through peer debriefing with the second author to enhance the validity. Therefore, because no second independent coder was employed, the inter-coder reliability was not calculated.

After the quantitative part, the qualitative analysis was conducted. The qualitative part, which is richer in descriptive, helped to enrich and expand the numerical findings. First, the researchers transcribe the audio file with the help of *turboscribe.ai*. After that, the researchers sent the transcription files to the participants as part of

the member checking process to establish the validity of the qualitative research study (Creswell & Creswell, 2022; McKim, 2023). Next, open coding was conducted with the help of the QDA Miner Lite tool. The researchers tried to identify meaningful parts or units that might be useful and relevant to the research questions. The initial codes were compared across participants and grouped into broader categories based on recurring similarities or patterns. In the last step, the grouped themes were further synthesised into overarching themes that represented shared experiences across the dataset. This process was adopted from the analytic procedures outlined by Creswell & Creswell (2022). Similar with scenario based, even though formal inter-coder reliability was not calculated, preliminary codes or themes were discussed with the second author to refine interpretations and enhance analytic credibility.

Last but not least, the analyzed data, both quantitative and qualitative, were combined to answer the research questions. This integration is very crucial for the depth of the result. According to Creswell & Creswell (2022), a mixed-method strategy must integrate and merge the findings from both sides of the data. Integration occurred at the interpretation stage by linking the

questionnaire results, which identified general patterns of teachers' ecological awareness, with themes derived from the interviews that explained how such awareness shaped teachers' moral positioning and pedagogical decisions. Specifically, the quantitative findings informed the focus of the qualitative analysis, while the qualitative themes were used to elaborate and contextualize the numerical trends. Through this process, the integration generated meta-inferences that demonstrated how ecological awareness contributes to English teachers' professional identity construction from both statistical patterns and lived experiences (Creswell & Clark, 2018).

RESULTS AND DISCUSSION

The impacts of teachers' environmental awareness on their professional identity construction as educators

This section presents the quantitative findings taken from the questionnaire with 80 respondents. It examined teachers' environmental awareness in three dimensions: 1) Personal environmental actions, 2) Environmental awareness in teaching practices, and 3) Environmental awareness related to teacher identity. Below is the table of the findings:

Table 3. *Descriptive statistics of teachers' environmental awareness across three dimensions*

Variable	Mean	SD	Min	Max
Personal Environmental Awareness	4.03	0.579	1.42	5
Environmental Awareness in Teaching	3.96	0.561	1.38	5
Environmental Awareness and Teacher Identity	3.41	0.406	2.33	4.33

Table 1 shows descriptive statistics of teachers' environmental awareness in three dimensions. To interpret the mean scores, the results were categorized into three levels: low, moderate, and high. The classification was based on the interval width formula, calculated by dividing the range of the Likert scale by the number of categories. The formula and calculation provided below:

Interval Calculation:

$$\text{Interval Width} = \frac{\text{Maximum Score} - \text{Minimum Score}}{\text{Number of Categories}}$$

$$\text{Interval Width} = \frac{5 - 1}{3}$$

$$\text{Interval Width} = \frac{4}{3}$$

$$\text{Interval Width} = 1.33$$

Figure 1. *Formula and calculation of interval width (made by ChatGPT)*

The formula and calculation became the cornerstone of the categorization. With a five-point Likert scale, the interval width was 1.33. Therefore, mean scores ranging from 1.00 to 2.33 are considered as low, 2.34 to 3.66 are considered as moderate, and 3.67 to 5.00 are considered as high.

The result shows that teachers reported having a high level of environmental awareness in their personal actions (M = 4.03, SD = 0.579) and in teaching practices (M = 3.96, SD = 0.561). However, the mean score for environmental awareness related to teacher identity was comparatively lower than the previous two points before (M = 3.41, SD = 0.406), which is considered moderate.

Furthermore, the researchers also provided two open-ended questions in the questionnaire, which are scenario-based questions. Those two scenario-based questions were used to explore how teachers

positioned their identities when facing ecological dilemmas in school settings. The responses revealed that environmental awareness influenced teachers' professional identity, particularly through the process of negotiating and positioning.

In the first scenario, respondents were given a dilemma between environmental programs and instructional time. In the first case, most participants did not choose an extreme position between prioritizing environmental programs or rejecting them for instructional efficiency. Out of 80 respondents, 66 teachers chose a middle-ground approach by attempting to balance environmental commitment with teaching or instructional responsibilities. Meanwhile, a smaller number of participants prioritized environmental values of instructional concerns ($n = 6$), while others prioritized instructional effectiveness over environmental programs ($n = 8$). This indicates that they positioned themselves as teachers and negotiators who balance their responsibility as teachers with environmental commitment.

In the second scenario, a conflict between environmental values and competitive school practices was given to respondents. In this case, all participants responded to the second scenario by rejecting the use of single-use decorations that could harm the environment. Although their approaches varied, the teachers consistently prioritized environmental values over competitive appearance. Some participants proposed using recycled or reusable materials, while others reframed the competition as an opportunity to educate students about sustainability. These responses indicate a shared ethical stance among teachers, positioning environmental responsibility as a core component of their professional role.

Environmental awareness impacts teachers' moral self-positioning as educators

Moral self-positioning refers to how teachers perceive and define themselves as educators based on their personal values and ethical commitments towards environmental responsibility. This theme emerged from the questionnaire, particularly in theme A, which is personal actions. The high mean score ($M = 4.03$) indicates that teachers demonstrated a high level of environmental awareness in their personal actions. The categorization was based on the interval classification of the Likert scale, where scores between 3.67 and 5.00 indicate a high level. It is also supported by the relatively low standard deviation, which shows that most teachers held similar views on environmental awareness in their

personal actions. It can be seen that environmental awareness strongly exists in teachers' daily life and behavior, not only in the school or instructional content. Most of the interviewees strengthen this topic; one of the participants shared her insight about her personal actions:

“My habits at home, such as turning off the tap after taking a shower, unplugging electrical devices when not in use, and managing waste properly, are somehow very useful. I bring these habits also to my workplace, which is my school.” (Participant 3, semi-structured interview)

In this sense, environmental awareness functions as a foundation for teachers to position themselves professionally. Martin & Carter (2018) found that teachers' initial self-positioning sometimes clashed with ecological or global values; however, environmental awareness enabled them to readjust their positioning as teachers. Similarly, Felix et al. (2022) reported that environmental awareness leads teachers to position themselves within the concept named “the humanitarian: we,” where they express a moral duty to ensure future generations. It is related to the concept that teacher identity is closely related with their beliefs and values. According to Yazan (2022), teacher identity is constructed through teachers' personal histories, beliefs, and the meaning they assign to their professional roles. Based on the findings, teachers' strong environmental awareness appeared to shape how they see themselves not only as English teachers who are responsible for teaching the material, but also as English teachers who also carry moral responsibility to their students and the environment. This moral-self positioning reflects the early stages of professional identity construction, where personal values serve as a foundation for broader professional roles.

However, these findings contrast with several previous research that highlight the limitations of translating environmental awareness into concrete pedagogical action. Some research shows that environmental awareness does not automatically lead to changes in behavior or professional practice, especially when teachers face structural and psychological constraints. For instance, Dogru & Çelik (2019) found no significant relationship between environmental awareness and environmental behavior among science teacher candidates. Similarly, Hunter & Jordan (2020) found that teachers' moral positioning and actions are often constrained by low environmental self-

efficacy, which is influenced by the overwhelming scale of environmental issues, others' unsupportive behaviors, and limited system-level support. Emotional tension and identity conflict may further complicate this process, as teachers struggle to foreground sustainability within their professional roles (Rushton, 2021).

In conclusion, environmental awareness indeed plays an important role in shaping teachers' moral self-positioning and professional identity. However, its influence on actual practice is not always consistent, as various contextual and personal factors may limit how these values are enacted. Furthermore, in this study, the translation of environmental awareness into action appears to be supported by contextual factors such as Indonesian school culture, which emphasizes moral education, and teachers' autonomy in shaping classroom practices.

Environmental awareness impacts the negotiation of professional identity in pedagogical decision-making

Another strong theme that appeared from the questionnaire and scenario-based questions was about how environmental awareness impacts their decision-making. This theme highlighted how their environmental awareness is associated with the way they negotiate their professional identity when facing pedagogical dilemmas. The findings from the questionnaire indicated that teachers have a relatively high level of environmental awareness in their teaching practice (second theme in the questionnaire), with the mean score of $M = 3.96$ and a low standard deviation ($SD = 0.56$). From these findings, it can be seen that teachers considered environmental awareness when making instructional decisions in the classroom.

The scenario-based responses strengthen the quantitative findings. Particularly, the first case is about environmental programs against instructional effectiveness. In the first scenario regarding the Green Friday program, most of the participants did not position themselves in an extreme stance. Out of 80 participants, 66 teachers adopted a negotiating position, which indicates their efforts to balance environmental programs with English lessons or instruction. Even though the program might disrupt the English lesson, they still choose to negotiate it. One participant shared her thoughts in the decision-making process by integrating the program:

"I will continue to support this activity because learning works best when it follows students'

natural pace. English can already be challenging, so a relaxed and enjoyable environment helps students learn better. During Green Friday, English activities such as vocabulary, simple discussions, or environmental topics can be included in fun and meaningful ways. After all, language is not only for exams, but also a part of everyday life." (Respondent 80, scenario-based response)

Another participant added:

"Both of these are important. If I have the capability to manage, I will readjust the time so both goals of the program can be met." (Respondent 46, scenario-based response)

Only a small number of participants chose to prioritize environmental programs (6 teachers) or English learning only (8 teachers) without attempting to combine the two. This distribution showed that environmental awareness did not lead teachers to abandon their instructional or teaching responsibilities. It made them negotiate their professional identity as English teachers who are both pedagogically responsible and environmentally conscious. Some of the previous research also found that teachers' awareness affects their pedagogical decision-making (Ambusaidi & Al-Maqbali, 2022; Khazen et al, 2025; Schulman & Demantowsky, 2024). The finding aligns with Zen et al, (2024), who stated that teachers' environmental awareness is expressed as a distinct professional identity orientation that influences decision-making in classroom practices, even in curriculum choices. Schulman & Demantowsky (2024) proposed that teachers' understanding of geography or environment will significantly impact their teacher identity, which in turn influences their approach to teaching and students' learning outcomes.

Khazen et al. (2025) further explain that sustainability initiatives significantly enhance teachers' ethical decision-making, shifting them from self-centred reasoning toward more principle-based judgment. Moral reasoning, justice, and equity strongly inform the teacher identity perspective, which suggests that environmental awareness not only influences classroom practices, but also becomes part of how teachers understand who they are and what they stand (Perea et al, 2025). It is suggested that professional identity was also constructed through continuous decision-making. These findings also showed that professional identity is dynamic, flexible, and

enacted through practice rather than fixed roles (Beauchamp & Thomas, 2009; Richards, 2023; Yazan, 2022). Moreover, environmental awareness alone may be insufficient to guide pedagogical decisions (Adams, 2013). In contrast to these studies, the present findings suggest that teachers actively negotiate such constraints by integrating environmental values into their professional identity and pedagogical decision-making, reinforcing the view that teacher identity is continuously shaped through negotiation between personal values and contextual demands Chang & Kidman (2024).

Environmental awareness impacts professional identity beyond language instruction

This theme highlighted how teachers' environmental awareness is associated with their professional identity beyond their role as English language teachers. The findings from the questionnaire, especially theme C (Environmental awareness and teacher identity), indicated that teachers tended to perceive environmental responsibility as an integral part of their professional role. Although the mean score for this theme (M = 3.41, SD = 0.41) was lower than the scores for personal actions and teaching practices, it still reflects a moderate and relatively consistent orientation among participants. One participant added:

“Doesn't have to be in the class or teaching and learning program, it already affects my behavior.” (Participant 3, semi-structured interviews)

Another teacher added the example of how environmental awareness affects her identity beyond the teaching and learning process:

“Because I am part of the environmental organization in my school, we have weekly activities and gatherings. It is not about material at all, just focusing on the nourishment of our surroundings” (Participant 4, semi-structured interviews)

These findings indicate that environmental awareness contributes to a redefinition of teachers' professional roles. It is not always about the teaching and learning process alone, but also about ethical responsibilities and social engagement. These findings are supported by Turculet & Popa (2025), who stated that sustainability in education goes beyond the content or material. This aligns with Yazan (2022), who proposed that teacher identity involves teachers' moral positioning and sense of responsibility within a broader social and institutional context. This qualitative evidence complements the questionnaire findings, which showed a moderate but consistent agreement that environmental responsibility forms part of teachers' professional identity.

Integration of quantitative and qualitative findings

Since this research used an explanatory sequential mixed-method design, the researchers used the qualitative findings to further interpret and explain the quantitative results. The joint display below presents the alignment between questionnaire results and interview themes, highlighting how teachers' reported levels of environmental awareness relate to their professional identity across different dimensions:

Table 4. *The joint display of quantitative and qualitative findings*

Quantitative Theme	Descriptive Results	Qualitative Theme	Explanatory interpretation
Personal Actions (Theme A)	High level of environmental awareness (M = 4.03; SD = 0.57), indicating consistent environmentally responsible personal behaviors among teachers	Moral self-positioning as educators	The high quantitative score aligns with interview data showing that teachers perceive environmental responsibility as part of their moral self-image. Qualitative accounts help explain how personal ecological values are internalized and reflected in teachers' professional self-positioning.
Teaching Practices (Theme B)	Relatively high awareness in instructional contexts (M = 3.96; SD = 0.56). While in the scenario-based response, 66/88	Negotiation of professional identity in pedagogical decision-making	The quantitative result aligns with the interview data, which showed that their environmental awareness affects their pedagogical decisions. The high awareness in the instructional context makes them aware and tries to negotiate

	teachers adopt a balanced approach rather than an extreme position.		the institutional demands and environmental considerations.
Environmental Awareness and Teacher Identity (Theme C)	Moderate mean score (M = 3.41; SD = 0.41), lower than personal actions and teaching practices.	Professional identity beyond instruction	The moderate mean score reflects that while teachers associate environmental responsibility with their professional identity, it is often expressed implicitly through everyday behavior and school engagement rather than explicitly framed as a central professional role.

The table demonstrates how the questionnaire findings provide an overall pattern of teachers' environmental awareness, while the interview data offer a contextual explanation of why these patterns emerged. The qualitative findings, specifically, help to explain differences in the strength of each dimension. This integrative analysis strengthens the interpretation of the findings by showing how numerical trends and lived experiences are united to strengthen the

understanding of teachers' eco-pedagogical identity construction.

Integration of environmental values (eco-pedagogy) into English language teaching and learning practices

The second section presents the qualitative findings taken from the semi-structured interview with 5 participants. It explored how teachers integrate Eco-pedagogical practices in their teaching. Below is the figure of the findings found during the coding process:

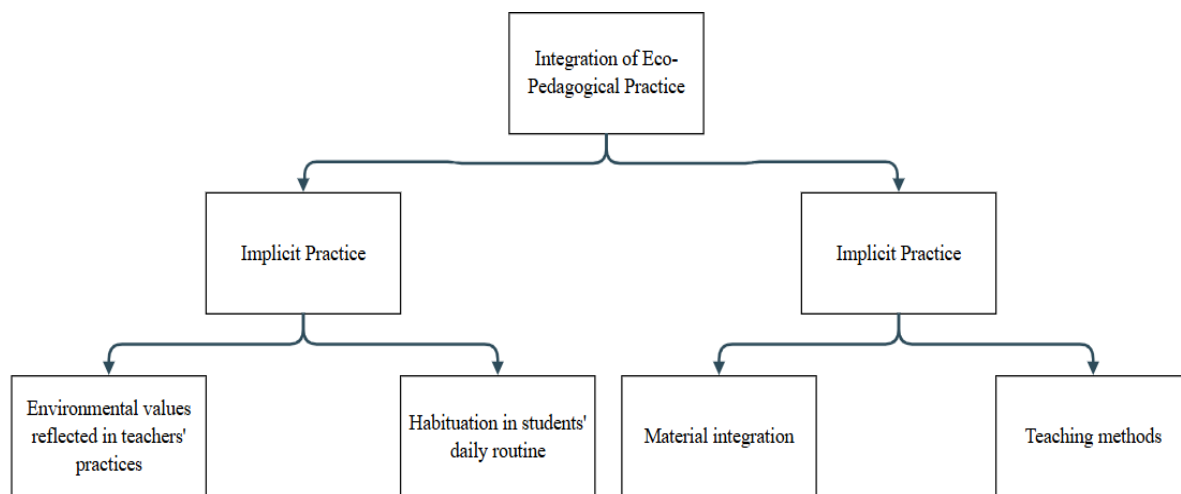


Figure 2. *Thematic model of eco-pedagogical practices (made by moqups)*

Figure 2 presents the thematic models of eco-pedagogical practices identified from the interview script. There are two major categories that emerged which are implicit and explicit eco-pedagogical practices. Implicit practices involved value transmission through teachers' actions and

habituation in students' daily routines, while explicit practices were reflected in material integration and teaching methods. The table below consists of the representation of samples in each theme, which is later discussed in the discussion section:

Table 5. *Example quotes of qualitative findings*

Theme	Dimension	Example quotes
Environmental values reflected in teachers' practices	Implicit practices	"Teachers also need to demonstrate environmental awareness through their actions..." (P2)
Habituation in students' daily routines	Implicit practices	"I help my students develop small habits such as disposing waste..." (P5)

Learning material	Explicit practices	“During the analytical exposition text, I added a factual environmental topic...” (P3)
Teaching strategies	Explicit practices	“I brought my students outside the class for real life practice...” (P1)

In summary, these findings showed that teachers integrated eco-pedagogical practices through both implicit and explicit approaches. These findings are further discussed below

Environmental values reflected in teachers' practices

The concept of implicit practices is closely related to the hidden curriculum. According to Rossouw & Frick (2023), hidden curriculum refers to unwritten, unofficial, and sometimes unintended lessons during the teaching and learning practices. These can be moral values, norms, behaviors, or attitudes that students learned without being explicitly taught in the curriculum or books. As discussed previously, teachers' environmental awareness led them to become role models for their students. Their environmental values were reflected in their practices and behaviour. Not only did teachers explicitly teach environmental values as a part of English learning, but teachers also implemented these values through their actions and spontaneous reminders, both inside and outside the classroom. One participant shared his daily practices:

“Cleaning the board, taking some litter, and so on. For me, it is part of loving my environment, and I do that every day because it is small things” (Participant 5, semi-structured interview)

Based on that, it can be seen that a simple routine can be considered as a meaningful expression of environmental responsibility. Rather than being separate from teaching, these practices became part of how teachers implement their role in school life. Another participant shared an interesting thought:

“Teachers also need to demonstrate environmental awareness through their actions, if they do not, for what? It loses its meaning” (Participant 2, semi-structured interview)

Overall, the findings indicate that teachers expressed their environmental awareness not only through materials or activities, but also through small daily routines, even spontaneous actions. These routines were seen as very meaningful ways to demonstrate environmental responsibility within

school life. Such actions positioned environmental awareness as a crucial part of their daily teaching practice rather than as a separate or additional task.

Habituation in students' daily routines

The other important theme that appeared from the interview was habituation. Some of the teachers interviewed reported fostering environmental awareness by repeatedly asking students to engage in simple yet routine behavior. One of the participants stated:

“I help my students to develop small and simple habits such as disposing waste in the proper place, cleaning the class, and so on. Sometimes I will not start the class if they haven't done it.” (participant 5, semi-structured interview)

Another participant added a similar point:

“I want to integrate deep down on their beliefs, but with just simple everyday lives such as to keep clean, no littering, and so on. I always give them advice and encouragement” (Participant 2, semi-structured interview)

All of the interviewed teachers agreed that repetition and consistency are effective strategies to integrate environmental values to their teaching practice. It can continuously cultivate students' environmental awareness. Learning English in daily lives or routines such as sustainable living or community clean-ups, helps learners see the relevance of the language (Fitria, 2025). Their consistency in embedding environmental routines into everyday classroom life positioned them not only as teachers, but also as moral and social educator. It can be concluded that environmental awareness appears to influence teachers' identity, particularly in how they define their responsibility towards students' habits and attitudes alongside English language learning.

Material integration

In relation to explicit eco-pedagogical practices, material integration emerged as a common strategy used by teachers to introduce environmental values within language teaching. Based on the interview, most teachers reported incorporating some environmental topics into their teaching and

learning practices. They believed that by including material about nature, students can be more aware of their environment while maintaining engagement in English lessons. One participant shared:

“During the analytical exposition text material, I added a factual environmental topic. I wanted my students to be more familiar with the variety of texts, avoid monotonous learning, and enrich their environmental knowledge.” (Participant 3, semi-structured interview)

These findings are supported by Fauzi et al, (2022) who stated that engaging students with authentic environmental texts improves reading comprehension skills as well as fosters critical thinking, particularly in understanding the cause-effect relationship and problem-solving. Another participant highlighted that environmental integration was often driven by personal interest, even when the topics were not explicitly included in the book:

“There is no material about the environment. However, since I love nature, I usually include some discussion about nature when the timing is good. For example, last time I taught a description text, I described the poor condition of the river in my village.” (Participant 4, semi-structured interview)

This practice aligns with research conducted by Nurhaliza et al (2024) who stated that one way to integrate environmental values when they are not explicitly included in the materials is by incorporating contextual information and teachers' experiences. This suggests that the way teachers teach is closely related to their lived experiences, which play a crucial role in shaping their professional identity (Beauchamp & Thomas, 2009; Yazan, 2022) The teaching was not meaningless because vocabulary and grammar are still taught through environmental experience from teachers who would help students to also gain English proficiency (Fitria, 2025). Interestingly, these similar findings were also found in the research conducted by Rushton (2021) that the use of personal narratives, particularly about environmental stories, could be added into the teaching and learning process.

It can be concluded that these findings support some previous research that the application of environmental value to the material could develop students' ecological intelligence (Fauzi et al., 2022). This notion aligns with Fitria (2025), who

stated that by embedding environmental topics into English activities, students can develop critical thinking, a sense of responsibility, and awareness while learning in a real-world context. Even though the primary focus of this practice was instructional, teachers' decision to integrate environmental topics was also influenced by their personal environmental values. These findings suggested that eco-pedagogical practices were closely related to how teachers perceived their professional role. It means that teachers not only positioned themselves as language instructors but also as educators who are responsible for fostering environmental awareness.

Teaching method

Another theme about explicit eco-pedagogical practices emerged through the teaching methods used by teachers. Rather than relying solely on traditional classroom instruction, most of the teachers implemented their own methods to teach environmental themes. These methods were often adapted to students' learning types and the classroom context. One participant explained that outdoor learning activities are used to support kinesthetic learners and provide authentic learning experiences:

“Based on my observation, most of my students are kinesthetic. So, I brought them outside the class, did real-life practice to describe or discuss the environment. I also often do games such as scavenger hunts and making trees or plants as a clue.” (Participant 3, semi-structured interview)

Similarly, another teacher described using the surrounding environment as a part of learning resources, even as simple as vocabulary:

“I usually invite my students to go outside the room, to change the environment, and sometimes just to write anything around them to enrich their vocabulary, especially about nature.” (Participant 1, semi-structured interview)

These techniques align with Huot & Em (2025) who stated that English teachers should support innovation for sustainability, not just English teaching methods. Outdoor activity can be a good way for English learning and practice within an authentic learning atmosphere (Marpa, 2020). Fitria (2025), also stated that language learning with a real-life environmental context will encourage active participation and meaningful

learning from students. Therefore, Ahmad et al. (2025) specifically noted that while outdoor learning activities are frequently implemented, they do not always lead to lasting behavioral change due to limited facilities, time constraints, and uneven student motivation. In this context, even though outdoor learning brings the environment closer to students, teachers should really manage it well.

In addition to outdoor activities techniques, some teachers integrated environmental awareness and topics through the use of technology. One participant shared that digital media was used to introduce environmental topics to young learners:

“I often use technology to teach my students about nature, because they are young learners. By providing audio and visuals, I “bring” the environment to them, even to the places they have never seen.” (Participant 5, semi-structured interviews)

These two techniques indicate that teachers employed flexible teaching methods to integrate eco-pedagogical values, whether through direct interaction to the environment or through the help of technology.

From a teacher identity, these teaching methods reflect how they positioned themselves as facilitators of experiential and meaningful learning. Their willingness to adapt their teaching methods, bring students outside the classroom, or use technology to bring the environmental experiences suggest that ecological awareness influenced how they understood their professional role as an English teacher. These findings support the view that teacher identity is shaped through everyday pedagogical decisions and practices (Yazan, 2022).

CONCLUSION

This research examined how teachers' environmental awareness influences their professional identity. The findings showed that environmental awareness appears to shape moral self-positioning, pedagogical decision-making, and even professional identity beyond language instruction. Teachers viewed environmental values as an integral part of their role as English teachers, which influenced how they defined their responsibilities, made professional decisions, and positioned themselves within the school context.

In addition, this research also explored how teachers implement and integrate environmental values into their teaching practices. The findings

revealed that teachers incorporated environmental values into the English teaching and learning process through both implicit and explicit eco-pedagogical practices. Implicitly, teachers modeled environmental values through their daily actions and encouraged habituation in students' routines. Explicitly, environmental values were integrated through teaching materials and instructional methods that connected language learning with real-life environmental contexts.

This study contributes to the growing body of research on teacher identity by highlighting environmental awareness as a meaningful dimension of professional identity construction among English teachers. However, several limitations should be acknowledged. First, this study relied on self-reported data, which may not fully capture teachers' actual classroom practices. Second, the qualitative phase involved a small number of participants ($n = 6$), which might limit the transferability of the qualitative findings. Third, the reliability of two questionnaire themes showed borderline Cronbach's alpha values. Next, there was no inter-coder agreement applied in the coding process in the scenario-based response and semi-structured interview response. In addition, the research was conducted within a specific educational context, which may limit the generalizability of the findings to other settings. Despite these limitations, the findings offer practical implications for teacher education programs. They should incorporate scenario-based ethical dilemmas to foster reflective and critical thinking among teachers and students. Furthermore, the curriculum maker should develop and include resources that link environmental themes to English skills, so it will align with sustainable education. Alignment with national initiatives such as Adiwiyata and P5 can further support the contextual integration of sustainability in ELT.

Future research could employ classroom observations or longitudinal designs to explore how eco-pedagogical identity develops over time. Further studies may also investigate how institutional policies and curriculum demands shape teachers' capacity to integrate environmental values into their professional identities and pedagogical practices. It might also be good for future research to examine further about national education policies and school-based environmental programs, such as the Adiwiyata program and P5 (*Projek Penguatan Profil Pelajar Pancasila*) shape teachers' environmental awareness and the construction of their eco-pedagogical and

professional identities. Cross-cultural comparative studies (for example, in Asia context) would also be very valuable to examine how environmental awareness and teacher identity are constructed across different sociocultural and policy contexts.

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REFERENCES

- Adams, T. R. (2013). *Overcoming barriers to teaching action-based environmental education: A multiple case study of teachers in the public school classroom*.
- Afrin, F., & Saha, S. (2023). Environmental awareness exposure through English language teaching: an analysis of middle school EFL textbooks in Bangladesh. *The International Journal of Interdisciplinary Educational Studies*, 19(1), 25–42. <https://doi.org/10.18848/2327-011X/CGP/v19i01/25-42>
- Ahmad, V. I., Ali, N., & Zuhriyah, I. A. (2025). Islamic values in environmental school culture: character formation and challenges. *EDUKASIA Jurnal Pendidikan Dan Pembelajaran*, 6(1), 267–280. <https://doi.org/10.62775/edukasia.v6i1.1400>
- Akkerman, S. F., & Meijer, P. C. (2011). A dialogical approach to conceptualizing teacher identity. *Teaching and Teacher Education*, 27(2), 308–319. <https://doi.org/10.1016/j.tate.2010.08.013>
- Ambusaidi, A. K., & Al-Maqbali, F. Y. (2022). Exploring pedagogical decision making from the lens of science teachers in response to different pedagogical issues. *Social Sciences & Humanities Open*, 5(1), 100236. <https://doi.org/10.1016/j.ssaho.2021.100236>
- Arsyad, M., Layli R, N., & Abdullah, G. (2024). The role of nature education in building students' emotional connections with the environment. *Scientica Education Journal*, 1(5), 1–9. <https://doi.org/10.62872/w3q1sb23>
- Balino, A. S., Flores, J. M. L., Estalilla, S. G. M., Jaranilla, C. A. B., Ramos, K. P. M., Maxino, D. S., & Galay-Limos, J. A. (2025). Psychological well-being and in-service training performance of teacher education students in Divine Word College of San Jose. *International Journal of Research Studies in Education*, 14(11). <https://doi.org/10.5861/ijrse.2025.25506>
- Bayraktar, Ş. (2020). Factors contributing ecological footprint awareness of Turkish pre-service teachers. *International Education Studies*, 13(2), 61. <https://doi.org/10.5539/ies.v13n2p61>
- Beauchamp, C., & Thomas, L. (2009). Understanding teacher identity: an overview of issues in the literature and implications for teacher education. *Cambridge Journal of Education*, 39(2), 175–189. <https://doi.org/10.1080/03057640902902252>
- Belina, A. (2023). Semi-structured interviewing as a tool for understanding informal civil society. *Voluntary Sector Review*, 14(2), 331–347. <https://doi.org/10.1332/204080522X16454629995872>
- Butkevich, Y. I. (2024). Methodological foundations of the formation of environmental awareness in the practice of teaching linguistic disciplines. *Journal of the Belarusian State University. Ecology.*, (3), 11–16. <https://doi.org/10.46646/2521-683X/2024-3-11-16>
- Campbell-Lendrum, D., Neville, T., Schweizer, C., & Neira, M. (2023). Climate change and health: three grand challenges. *Nature Medicine*, 7(29), 1631–1638. <https://doi.org/10.1038/s41591-023-02438-w>
- Chang, C.-H., & Kidman, G. (2024). Teacher identity and geographical & environmental education: why it matters. *International Research in Geographical and Environmental Education*, 33(4), 261–266. <https://doi.org/10.1080/10382046.2024.2418772>
- Coşkun, I. C., & Sarikaya, R. (2014). Determining the ecological footprint awareness levels of prospective primary school teachers. *Journal of Turkish Studies*, 9(Volume 9 Issue 5), 1761–1761. <https://doi.org/10.7827/TurkishStudies.6598>
- Creswell, J. W., & Clark, V. L. P. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications. <https://doi.org/10.1111/j.1753-6405.2007.00096.x>
- Creswell, J. W., & Creswell, D. (2022). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (6th ed.). SAGE Publications.
- Dipalaya, T., Pratiwi, A. C., Muriati, St., Hamid, S., & Swandi, A. (2024). Ecological awareness and behaviour among university students in education majors: an empirical study. *IOP Conference Series: Earth and Environmental Science*, 1425(1), 012016. <https://doi.org/10.1088/1755-1315/1425/1/012016>
- Dogru, M., & Çelik, M. (2019). Investigation of pre-service teacher awareness levels for environmental problems. *The Journal of Kesit Academy*, 16(1), 1791–1813. <https://doi.org/10.23891/efdyu.2019.180>

- Ezeudu, T. S., & Chukwudubem, E. K. (2023). Exploring socio-cultural factors in the context of urban environmental management in Nigeria. *International Journal of Research and Innovation in Social Science*, 7(19), 282–300. <https://doi.org/10.47772/IJRISS.2023.701025>
- Fauzi, A., Fitriyani, S., & Muthaqqin, D. I. (2022). *Development of Student Ecological Intelligence Through the Implementation of Ecopedagogy*. <https://doi.org/10.2991/assehr.k.220108.099>
- Felix, S. M., Lykknes, A., & Staberg, R. L. (2022). Identifying the ‘different we’s’ in primary teachers’ education for sustainable development discourse—A positioning theory perspective. *Sustainability*, 14(20), 13444. <https://doi.org/10.3390/su142013444>
- Fitria, T. N. (2025). Eco-English and Eco-ELT: Integrating environmental values for a sustainable future in English language learning. *Prosiding Seminar Nasional ITB AAS Indonesia 2025*. <https://prosiding.stie-aas.ac.id/index.php/prosenas/article/view/308>
- Hastürk, G., Urhanoğlu, M., & Gökbulut, Y. (2023). Examination of the environmental awareness primary school students and their attitudes towards the environment. *European Journal of Education Studies*, 10(7), 337–365. <https://doi.org/10.46827/ejes.v10i7.4885>
- Haynes-Brown, T. K. (2023). Using theoretical models in mixed methods research: An example from an explanatory sequential mixed methods study exploring teachers’ beliefs and use of technology. *Journal of Mixed Methods Research*, 17(3), 243–263. <https://doi.org/10.1177/15586898221094970>
- Hofflinger, Á., Boso, Á., Álvarez, B., & Garrido, J. (2025). Breathing dirty air, struggling in school: The case of air pollution and Student Learning in Chile. *Population and Environment*, 47(1), 2. <https://doi.org/10.1007/s11111-024-00472-5>
- Holdsworth, S., Sandri, O., Hayes, J., & Maslen, S. (2025). Scenario-based capability assessment in professional learning contexts. *Journal of Adult and Continuing Education*, 31(3), 600–627. <https://doi.org/10.1177/14779714241297069>
- Hryhorczuk, D., Levy, B. S., Prodanchuk, M., Kravchuk, O., Bubalo, N., Hryhorczuk, A., & Erickson, T. B. (2024). The environmental health impacts of Russia’s war on Ukraine. *Journal of Occupational Medicine and Toxicology*, 19(1), 1. <https://doi.org/10.1186/s12995-023-00398-y>
- Hunter, R. H., & Jordan, R. C. (2020). “I have a little, little, little footprint on the world” and “I’m not political”: feelings of low self-efficacy and the effect of identity on environmental behaviour in educators. *Environmental Education Research*, 26(5), 666–683. <https://doi.org/10.1080/13504622.2020.1750567>
- Huot, S., & Em, S. (2025). The integration of English language teaching with environmental sustainability: A comprehensive review of pedagogical strategies and global impacts. *Cambodian Journal of Educational and Social Sciences (CJESS)*, 2(2), 83–95. <https://doi.org/10.69496/cjess.v2i2.68>
- Izah, S. C., Sylva, L., & Hait, M. (2023). Cronbach’s alpha: A cornerstone in ensuring reliability and validity in environmental health assessment. *ES Energy & Environment*, 23, 1057. <https://doi.org/10.30919/esee1057>
- Jha, M. K., & Dev, M. (2024). Impacts of climate change. In *Smart Internet of Things for Environment and Healthcare. Studies in Computational Intelligence* (pp. 139–159). Springer. https://doi.org/10.1007/978-3-031-70102-3_10
- Kazazoglu, S. (2025). Environmental education through eco-literacy: integrating sustainability into English language teaching. *Sustainability*, 17(5), 2156. <https://doi.org/10.3390/su17052156>
- Khan, S. M., Shafi, I., Butt, W. H., Diez, I. de la T., Flores, M. A. L., Galán, J. C., & Ashraf, I. (2023). A systematic review of disaster management systems: Approaches, challenges, and future directions. *Land*, 12(8), 1514. <https://doi.org/10.3390/land12081514>
- Khazen, M., Asli, S., Hofstein, A., & Hugerat, M. (2025). Effect of an educational initiative for sustainability on pre-service teachers’ ethical decision-making skills, motivation to learn science, and learning atmosphere in the classroom. *Sustainability*, 17(3), 992. <https://doi.org/10.3390/su17030992>
- Khodjaev, N., Boymuradov, S., Jalolova, S., Zhaparkulov, A., Dostova, S., Muhammadiyev, F., Abdullayeva, C., & Zokirov, K. (2024). Assessing the effectiveness of aquatic education program in promoting environmental awareness among school children. *International Journal of Aquatic Research and Environmental Studies*, 4(S1), 33–38. <https://doi.org/10.70102/IJARES/V4S1/6>
- Kiyosov, S. U., Tulakov, U. T., Kholmamatov, F. K., Sapaev, I. B., Saylaubaevna, S. S., Beknazarova, Z. F., & Khurramov, A. (2023). A primary factor in sustainable development and environmental sustainability is environmental education. *Caspian Journal of Environmental Sciences*, 21(4), 965–975. [10.22124/CJES.2023.7104](https://doi.org/10.22124/CJES.2023.7104)
- Marín, D., Calle, N., Arango, V., Betancur, P., Pérez, M., Orozco, L. Y., Marín-Ochoa, B., Ceballos, J. C., López, L., & Rueda, Z. V. (2024). Knowledge, attitudes and practices about air pollution and its health effects in 6th to 11th-grade students in Colombia: a cross-sectional study. *Frontiers in Public Health*, 12. <https://doi.org/10.3389/fpubh.2024.1390780>
- Marpa, E. (2020). Navigating environmental education practices to promote environmental awareness and education. *International Journal on Studies in*

- Education*, 45–57. <https://doi.org/10.46328/ijonse.8>
- Martin, J., & Carter, L. (2018). *Finding ways to fill the void: A study of science preservice teachers' self-positioning as consumers* (pp. 19–32). https://doi.org/10.1007/978-3-319-65608-3_2
- McKim, C. (2023). Meaningful member-checking: A structured approach to member-checking. *American Journal of Qualitative Research*, 7(2), 41–52. <https://www.ajqr.org/article/meaningful-member-checking-a-structured-approach-to-member-checking-12973>
- Mercer, S., Correia Ibrahim, N., Bilsborough, K., Jones, C., & Potzinger, C. (2023). Teacher perspectives on addressing environmental issues in ELT. *ELT Journal*, 77(4), 393–406. <https://doi.org/10.1093/elt/ccac039>
- Najia, N., Taher, H., & Elkader, G. A. (2024). The effect of environmental deterioration and socio-cultural factors on economic sustainability in asia pacific selected countries. *International Journal of Energy Economics and Policy*, 15(1), 8–14. <https://doi.org/10.32479/ijeep.17472>
- Nunnally, J. C. (1978). An overview of psychological measurement. In *Clinical Diagnosis of Mental Disorders* (pp. 97–146). Springer US. https://doi.org/10.1007/978-1-4684-2490-4_4
- Nurhaliza, S., Silvhiyani, S., & Inderawati, R. (2024). Integrating climate change education in English lessons and P5 projects in junior high schools. *Journal of Languages and Language Teaching*, 12(4), 1926. <https://doi.org/10.33394/jollt.v12i4.12622>
- Olorunsogo, T. O., Ogugua, J. O., Muonde, M., Maduka, C. P., & Omotayo, O. (2024). Environmental factors in public health: A review of global challenges and solutions. *World Journal of Advanced Research and Reviews*, 21(1), 1453–1466. <https://doi.org/10.30574/wjarr.2024.21.1.0176>
- Padhiary, M., & Kumar, R. (2024). Assessing the environmental impacts of agriculture, industrial operations, and mining on agro-ecosystems. In *Smart Internet of Things for Environment and Healthcare. Studies in Computational Intelligence* (pp. 107–126). Springer. https://doi.org/10.1007/978-3-031-70102-3_8
- Perea, H. R., Piedrahita, A. R., & Alzate, Ó. E. T. (2025). Models of environmental awareness: exploring their nature and role in environmental education – a systematic review. *Heliyon*, 11(13), e43679. <https://doi.org/10.1016/j.heliyon.2025.e43679>
- Raihan, A. (2023). A review of the global climate change impacts, adaptation strategies, and mitigation options in the socio-economic and environmental sectors. *Journal of Environmental Science and Economics*, 2(3), 36–58. <https://doi.org/10.56556/jescae.v2i3.587>
- Raphael, E. B., & Nandan, S. L. (2024). Green English language teaching and EFL textbooks: Fostering environmental consciousness in language education. *RESEARCH REVIEW International Journal of Multidisciplinary*, 9(4), 108–119. <https://doi.org/10.31305/rrijm.2024.v09.n04.013>
- Richards, J. C. (2023). Teacher, learner and student-teacher identity in TESOL. *RELC Journal*, 54(1), 252–266. <https://doi.org/10.1177/0033688221991308>
- Robinson, R. S. (2023). Purposive Sampling. In *Encyclopedia of Quality of Life and Well-Being Research* (pp. 5645–5647). Springer International Publishing. https://doi.org/10.1007/978-3-031-17299-1_2337
- Rossouw, N., & Frick, L. (2023). A conceptual framework for uncovering the hidden curriculum in private higher education. *Cogent Education*, 10(1). <https://doi.org/10.1080/2331186X.2023.2191409>
- Rushton, E. A. C. (2021). Building teacher identity in environmental and sustainability education: The perspectives of preservice secondary school geography teachers. *Sustainability*, 13(9), 5321. <https://doi.org/10.3390/su13095321>
- Rushton, E. A. C., Rawlings Smith, E., Steadman, S., & Towers, E. (2023). Understanding teacher identity in teachers' professional lives: A systematic review of the literature. *Review of Education*, 11(2). <https://doi.org/10.1002/rev3.3417>
- Schulman, K., & Demantowsky, M. (2024). Teacher students' conceptions of geography and their sources. *International Research in Geographical and Environmental Education*, 33(4), 300–318. <https://doi.org/10.1080/10382046.2024.2313332>
- Sonko, S. P., Zelenchuk, I. D., & Novikova, T. P. (2025). Industrial construction as a factor in the destruction of natural landscapes and the loss of the ecosystem services potential. *Man and Environment. Issues of Neoeology*, (43), 63–77. <https://doi.org/10.26565/1992-4224-2025-43-05>
- Takona, J. P. (2024). Research design: qualitative, quantitative, and mixed methods approaches / sixth edition. *Quality & Quantity*, 58(1), 1011–1013. <https://doi.org/10.1007/s11135-023-01798-2>
- Turculet, A., & Popa, D. (2025). Green and digital pedagogies. A mapping exercise on CPD programmes in teacher education. *Educatia* 21, 31(20), 188–193. <https://doi.org/10.24193/ed21.2025.31.20>
- Ullah, S., Ur Rahman, S., & Rehman, C. A. (2023). Public investment, technological innovations, and environmental degradation: Asymmetric ARDL approach. *Pakistan Journal of Humanities and Social Sciences*, 11(2), 730–741. <https://doi.org/10.52131/pjhss.2023.1102.0386>
- Wahyuni, D. S., & Fatdha, T. S. E. (2026). Language teaching for a sustainable future: integrating

- sustainability in ELT. *Journal of Social Work and Science Education*, 7(2), 862–878. <https://doi.org/10.52690/jswse.v7i2.1372>
- Yang, C. H., Chuang, M. C., & Chen, D. F. (2024). Role of higher education students' environmental awareness and environmental concern in the purchase intention of circular economy products. *Sustainability*, 16(5), 1979. <https://doi.org/10.3390/su16051979>
- Yazan, B. (2022). A conceptual framework to understand language teacher identities. *Second Language Teacher Education*, 1(2), 185–208. <https://doi.org/10.1558/slte.24908>
- Zen, I. S., Surata, S. P. K., Titisari, P. W., Ab Rahman, S. A., & Zen, S. (2024). Sustaining subak, the balinese traditional ecological knowledge in the contemporary context of Bali. *IOP Conference Series: Earth and Environmental Science*, 1306(1), 012034. <https://doi.org/10.1088/1755-1315/1306/1/012034>
- Zogaj, G., Morina, V., Mazreku, I., Halili, J., & Lleshi, S. (2024). Impact of ecological education and environmental awareness on sustainable practices in Kosovo: An analytical study. *Multidisciplinary Science Journal*, 7(6), 2025312. <https://doi.org/10.31893/multiscience.2025312>

Paschalis Kurniawan Sanjaya, Paulus Kuswando

Environmental awareness and English teachers' professional identity: A mixed-method study