

## The Effects of Ecology-Oriented Instruction on Enhancing EFL Learner's Writing Competence

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### Abstract

The twenty-first century has witnessed an unprecedented pace of environmental issues with catastrophic consequences. Accordingly, an increasing number of initiatives have been seized to solve ecological problems in cooperation. In this regard, integrating eco-friendly practices into EFL classes has received considerable attention globally. However, the effects of ecology-oriented writing instruction have not been explored thoroughly in the Iraq context. Thus, this study was carried out to fill this gap in the literature with 30 EFL learners who studied at a language preparatory school of a private university in the spring semester of the 2022-2023 Academic Year in Erbil. Participants, whose ages were between 18 and 24, were chosen through the convenience sampling method. The study lasted eight weeks when data were gathered via writing exams and interviews in this explanatory sequential mixed-methods research design study. Control group students were exposed to traditional instruction, while experimental group students' lessons were enriched by ecology-oriented writing topics. The in-depth analysis was performed through SPSS 27 and NVivo. The former revealed that experimental group students increased their writing competence more substantially than the control group students. Likewise, interview findings unearthed that students' awareness about ecological problems increased dramatically in the experimental group, while the difference was not significant in the control group. The findings of this study may drive authorized bodies to integrate eco-friendly approaches into academic writing lessons on a global scale.

**Keywords:** Academic writing, eco-friendly approaches, EFL learners, environmental issues, raising awareness

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## Introduction

English is acknowledged as the passport to unlocking learners' potential, thanks to its global dominance in all fields. In other words, it is a common language to be able to communicate globally. Accordingly, it is the official language in over 50 countries, followed by French and Arabic. In the same vein, the number of people who speak English has exceeded 1.5 billion to reap the benefits of mastering English in various sectors (Statista, 2022). The influence of English has also been observed starkly in different aspects of life. To name a few, approximately 65 % of websites are run in English (Celik & Kara, 2022). Considering the indispensable role of the internet, this percentage becomes more meaningful in the information age. When users learn how to grasp details on websites, they can receive information, cross-check the accuracy of the information, expand their knowledge, have an enjoyable time, and socialize. Additionally, the percentage of academic publications has surpassed the 80 % threshold (Kosimov, 2022). To name a few, curious people can read various articles to get satisfactory responses to their queries. In addition, academics can publish articles to reach the maximum number of possible readers thanks to adopting English as the medium in the articles. Subsequently, English is a lingua franca to communicate in tourism, aviation, commerce, and media (Köylü & Tracy-Ventura, 2022). It is the expectation to travel easily, land more lucrative business deals and make more accurate interpretations after reading multiple sources in the media. Policymakers have realized this inescapable fact and urged the relevant units to integrate English into the curriculum so they will be qualified to compete with others in the competitive job market. As it is unambiguous, mastering English opens plenty of opportunities to seize on various occasions.

Writing is one of the most essential skills in English thanks to its reflections on people's lives at different stages. Thus, improving writing skills from kindergarten to the highest level of education is paramount. Writing skill plays an integral role in learners' lives (Küçük, 2023 & Yucedal et al., 2022). To illustrate, students need to convey the meaning in exams, which can be math, science, or English in a written format. In addition, written communication is essential to doing business, filing a complaint, or requesting changes because the ideas can be more precise and persuasive. After that, many companies integrate written tasks into the interview process to hire the best candidates by considering their written and spoken English performance. Subsequently, writing is a fundamental section in internationally recognized exams, such as TOEFL, IELTS, PTE, and SAT (Ginting & Barella, 2022; Kara & Abdulrahman, 2022). Additionally, writing is crucial to contributing to society through memoirs, biographies, stories, novels, poems, or blogs. People can uncover their potential, break the monotony in their lives, and be lifelong learners by writing creatively. On the other hand, learners can have many drawbacks if they cannot sharpen their writing skills (Tong et al., 2023; Yildiz & Budur, 2019). For example, they may fail if they are not good at writing. Additionally, they have many conflicts in their written communication attempts. Afterward, they may lose their chance to work for a company if they cannot accompany their spoken English with the written one. Moreover, they may lose the chance to find a lucrative job or earn a degree abroad if they get a low mark in the writing section of universally accepted English proficiency exams. As it is evident, writing has a wide variety of roles in people's lives from a very early age till finalizing their lifespans.

Several ecological problems have affected the whole universe due to destructive human activities. For example, climate change is a serious problem that occurs by the release of greenhouse gases. Likewise, fossil fuels, deforestation, mining, and overconsumption are leading causes of climate change. In this respect, climate change increases global temperatures, so

humanity may notice far-reaching effects of it on the ecosystem, such as widespread flooding, storms, droughts, fires, contagious diseases, and the extinction of many species (Cumming et al., 2006). Another serious ecological problem is pollution. The universe has been affected severely by various types of pollution such as noise, air, nuclear, water, soil, and light pollution. Noise pollution can arise from noisy vehicles, giant machines, and amplified speakers. Air pollution can occur due to industrial emissions, pollutants produced by vehicle exhausts, livestock, fertilizers, pesticides, hazardous wastes, burning fuels for heating or electricity generation, volcanic eruption, and windblown dust. In addition, nuclear pollution happens when radioactive materials are released into the atmosphere. After that, water pollution emerges because of oil leakage, sewage, industrial waste, and agricultural practices. Moreover, soil pollution occurs because of improper waste disposal, erosion, plastics, some natural disasters and unconscientious farming implementations. Furthermore, light pollution occurs due to using lights excessively or making the wrong decision about the type of lamps for a particular place. It is evident that serious ecological problems need close attention to resolve. Otherwise, catastrophic consequences are imminent.

Raising awareness about ecological problems has increased its popularity at educational institutions as it is necessary to take relevant measures immediately in order to protect present and future generations. Correspondingly, some courses, extra-curricular activities, campaigns, workshops, and projects have been launched, so teachers, students, and parents may strengthen their relationships and take sensible actions to save the world (Corraliza & Collado, 2019). To name a few, some themes are highlighted in courses, such as geography, science, and English. Thus, incorporating themes into lessons raises students' awareness of ecological issues. In the same vein, some campaigns, which are planting trees, collecting rubbish, recycling, and reusing, are launched to spread good deeds to other people in society. Thus, this cycle can create a positive chain reaction in society. Similarly, some workshops are organized to inform parents and students about the disastrous effects of human beings on the environment and urge them to promote sustainable development strategies. Moreover, some hands-on projects are organized to show the current problems in the environment and provide practical ideas to resolve the issues gradually. Furthermore, some field trips are planned to see nature and behave with common sense to protect it (Arundati et al., 2020). Afterward, some advertisements, documentaries, and graphs are available to increase the awareness of humanity about chronic ecological problems. Likewise, some incentives are given to people who consider buying an electric car or producing organic fruit and vegetables in an increasing number of countries (Ricoy & Sanchez-Martinez, 2022). As it is stark, a multi-faceted approach is required to change the negative cycle in nature and increase eco-friendly practices.

The research has multiple significances. Firstly, raising environmental awareness has not become more vital than this century. The universe has been under constant threats from many points, so individual actions should be transformed into collaborative practices to yield better results in the long run. Also, an increasing number of countries are suffering from ecological problems, so it is vitally important to plan, monitor, and make necessary changes for the betterment of the environment. In the second place, Iraq also takes its lion's share of the environmental issues, like many other countries in the form of sandstorms, air pollution, loss of biodiversity, or droughts (Abdulla et al., 2020). Correspondingly, this study was conducted in Erbil, Iraq to raise environmental awareness, thereby undertaking the responsibility to reverse the negative cycle. Thus, it is the expectation to reduce and eliminate ecological problems systematically in Iraq and

be a role model for other countries plagued by environmental problems. In congruent with the research aims, research questions were created:

RQ1: How does ecology-oriented writing instruction play a role in enhancing students' writing scores?

RQ2: What is the function of ecology-oriented instruction in raising students' awareness of ecological problems?

### Literature Review

The unprecedented pace of destruction in the environment due to human intervention or natural disasters has triggered a wave of campaigns and bills to raise ecological awareness globally since the 1970s. The Endangered Species Act, the Clean Air Act, the Creation of the Environmental Protection Agency, and the celebration of the first Earth Day have raised awareness in the US and gradually spread to other countries (Vasileva et al., 2021). Correspondingly, some movies, documentaries, leaflets, brochures, and advertisements are prevalent to inform human beings and equip them to take rational measures. In the same vein, increasing efforts have been made to embed eco-friendly themes into the curriculum. In this regard, some influential books such as *Silent Spring* by Rachel Carson, *The Ecology of Writing* by Marilyn Cooper, and *Eco Literature: Contemporary Discourses* by Candy D. Cunha have sparked an international interest in ecological problems with practical solutions (Corraliza & Collado, 2019). Once the international interests and necessities have been noticed, writing ecology-oriented paragraphs, essays, and compositions has received considerable attention in EFL, ESL, and ELT settings, regardless of stages of education. In other words, raising ecological awareness has been a common theme at educational institutions, particularly in writing courses. Some scholars (Elsherif, 2013; Head, 2022; Lai & Tseng, 2011) posit that ecology-oriented writing topics should be integrated into the writing curriculum, whereas others like Alimjanovna (2022), Rosa et al. (2022), and Yamalee and Tangkiengsirisin (2019) have verbalized their hesitations on the effectiveness of ecology-oriented writing instruction. To name a few, Shen and Chong (2023) assert that shining the spotlight on environmental issues in writing courses creates a chain reaction to change learners' behaviors positively, so they can work collaboratively to protect nature. They also suggest that the power of writing can be used effectively to inform people on the internet and reach a larger audience for the sake of protecting the world. In the same vein, Mukherjee and Roy (2023) convene that the key to securing a sustainable environment is the integration of ecology-based topics in writing classes, thereby increasing the chance of spreading such positive ideas to their communities. On the other hand, Rashid et al. (2022) postulate that writing essays on ecological problems is challenging for many students, so they cannot be exposed to all students without considering their capabilities. It hints that a well-established plan should be adopted for the implementation, grading and offering constructive feedback policy in order not to demotivate learners.

In this regard, a plethora of studies have been conducted to measure the effects of ecology-oriented instruction in English classes. To illustrate, Routarinne et al. (2023) found a correlation between ecological inquiry-based writing and their performance which revealed that students' enthusiasm increases exponentially as they explore environmental problems and seek ways to eliminate the effects of them on the Earth. It can be ascribed to finding some common points between daily life issues and writing because environmental problems have been mentioned frequently through news, documentaries, reports and articles. Similarly, Szeberenyi et al. (2022) carried out a large-scale study in Hungary on university students, revealing that taking lessons to

raise ecological awareness and expressing their ideas in a written format urges the students to launch some campaigns and change the negative cycle in the world. It is unambiguous that ecology-oriented instruction leads to some initiatives to change the world positively upon examining the fatal consequences and being trained to take sensible measures individually and collaboratively. Another significant study was undertaken by Vasileva et al. (2021) in Russia on adults which unearthed that students benefit from eco-friendly approaches in many aspects. They reiterated that students not only become more conscious of environmental issues but also enhance their performance in writing classes. Subsequently, Setyowati et al.'s (2020) study unleashed that brainstorming, outlining, watching videos, reading articles, and writing essays on ecological problems have far-fetching positive effects on students' success in an Academic Writing course. They also found that students develop positive attitudes toward eco-friendly campaigns in their community. On the other hand, Nystrand et al.'s (2001) study in the US indicated that focusing on challenging topics about the environment can have adverse effects on students' writing performance because it is likely to feel overwhelmed after being exposed to many technical terms, regarding environmental problems. Similarly, Balgopal et al.'s (2012) study demonstrated that the effects of ecology-oriented writing classes differ significantly when students' majors are varied. Their study hints that a solid background knowledge is needed to increase the success rate in ecology-oriented based writing instruction. It can be postulated that balancing the degree of difficulty and enriching the lessons with varied learning and teaching materials are underlying factors to increase positive outcomes in ecology-oriented writing instruction.

By checking the related literature above, it is evident that the number of studies on ecology-oriented instruction has increased over the years in line with the exacerbating environmental disasters around the world.

## Method

An explanatory sequential mixed-methods design was used in this study to reap the benefits of it in several aspects. Toyon (2021) points out that an explanatory sequential design ensures triangulation, so qualitative and quantitative data can be compared and contrasted conveniently. He also postulates that this design gives the flexibility to test the tendencies of a limited number of students in advance to shape final forms of data collection tools for a higher number of participants in the subsequent phase. To illustrate, it urges the researcher to collect quantitative data in the prior phase. After that, qualitative data were gathered. In the final phase, both data were compared to make more reliable interpretations. To realize this goal, quantitative data were collected by two writing exams as pre-test and post-test. On the other hand, qualitative data were gathered via semi-structured interviews.

## Participants

A private university in Erbil, Iraq was chosen as the setting of this study. The university offers an English-only instruction to 5000 students as of 2022-2023 Academic Year. The university welcomes students from diverse nationalities, so English serves as a lingua franca to receive lessons and communicate without having any difficulty. Additionally, English-only instruction affects students' decision positively to choose the university so that they can race with other candidates in the competitive job market upon graduation. The language preparatory school of the university runs a proficiency exam to measure students' levels in English and place them accordingly. Students can be placed in the preparatory school program, Foundation English, if they



need to sharpen their English for a year respectively. When they get a satisfactory mark, they proceed to their departments directly. Language preparatory school students were chosen on purpose because this group takes an intensive language learning program for one year. In addition, the Academic Writing course is offered for two semesters, spanning nine months, so the researcher preferred this group on purpose to notice the reflections of ecology-oriented writing instruction on students' writing competence starkly. In this regard, 30 students who studied at language preparatory school in the 2022-2023 Academic Year encompassed the participants. The convenience sampling method was employed to determine the participants as it offers several benefits for the researcher to choose participants conveniently (Rahman et al., 2022). The number of male students was 13, whereas it was 17 for females. Additionally, their ages ranged from 18 to 24. It was common for all students to be exposed to English-only instruction for the first time in their lives, albeit taking some English lessons sparsely in their high school period, so their levels were the same prior to this study.

### ***Research Instruments***

Qualitative and quantitative data were collected and analyzed by employing several instruments. For example, essays were the main instrument to pinpoint the difference between pre-test and post-test. The researcher composed 16 writing topics which were reduced to eight after the item analysis, conducted by two writing experts to corroborate the construct validity of the topics. Writing topics were piloted on other students in similar levels to ensure that they were relevant and clear. Once topics were validated, the researcher was prompted to commence the study. Accordingly, students wrote their essays before and after the treatment, so their performance was evaluated to determine whether there were marked differences via SPSS 27. Independent samples t-test was activated to compare average pre-test and post-test scores. However, a different approach was adopted in collecting and analysing qualitative data. The data were collected via semi-structured interviews and analysed according to the framework of content analysis by NVivo software program. Interview questions were formed as follows:

#### ***Pre-treatment***

- Can you describe some of the ecological problems?
- What are some solutions to solve ecological problems?
- Do you think that ecological awareness can be raised in an Academic Writing course?

#### ***Post-treatment***

- How did this study affect your attitude toward ecological problems?
- Did this study help you offer some solutions to chronic ecological problems?

### ***Procedures Followed by Students***

#### ***Experimental Group***

Prior to the study, students answered some questions in the interview and wrote a randomly selected essay about ecological problems, so the influence of the treatment could be measured unambiguously. Subsequently, they joined a seminar to show some videos, images, articles, and graphs about numerous ecological problems with some sensible solutions. Thus, they were motivated to join the study more ambitiously, thereby increasing their awareness of ecological

problems within eight weeks. The researcher explored a topic each week in the given cycle: brainstorming, watching videos, examining images, analyzing graphs, reading sample essays, writing an essay collaboratively, composing their essays individually within 30 minutes, and receiving feedback by anonymously displaying their works on the smartboard. Selected topics for each week are illustrated below in Table One.

Table 1. *Common topics in the experimental group*

Week 1	The Most Chronic Ecological Problems
Week 2	Solutions to the Most Serious Ecological Problems
Week 3	Causes of Global Warming
Week 4	Measures to Reduce Global Warming
Week 5	Types of Pollution with Clear Examples
Week 6	Solutions to Eliminate Pollution
Week 7	3Rs: Reduce, Reuse, Recycle
Week 8	A Thorough Revision

As shown in Table One, describing the problem, and expressing some practical solutions were the researcher's ultimate goals. In the same vein, all problems were uncovered in general at first, which was specified in the weeks to come.

### **Control Group**

The participants who represented the control group were exposed to traditional instruction, so their curriculum was more comprehensive than solely ecological problems and solutions. The sequence of topics in the control group can be observed in Table Two:

Table 2. *Common topics in the control group*

Week 1	Leading a Healthy Lifestyle
Week 2	Electric Cars Versus Fuel-run Cars
Week 3	Characteristics of a Good Friend
Week 4	Hobbies
Week 5	Life in the 2050s
Week 6	Reasons to Read Books
Week 7	The Best Movie in Your Life
Week 8	A Thorough Revision

According to Table Two, the topics are varied in the control group, albeit including only one topic to raise environmental awareness. In other words, the writing tasks in the control group urged the students to articulate their ideas in a wide range of topics rather than focusing solely on ecology-oriented themes.

### **Findings**

Findings were classified into two sections, which encompassed quantitative and qualitative data consecutively in the form of writing exams and interviews.

#### ***The Analysis of the Writing Exams***

Participants underwent the treatment period and took two writing exams, which required writing on given topics in the essay format. Details of the writing exams are illustrated thoroughly in Table Three.

Table 3. *Independent samples T-test in terms of writing*

Variables	Measurement	N	M	SD	t	df	p
Pre-test	Control	15	57.67	10.142			
Pre-test	Experimental	15	57	11.629	-.138	28	.891
Post-test	Control	15	58	15.683			
Post-test	Experimental	15	72.33	9.783	3.653	28	.001

Note. P<0.05

An independent samples t-test was run to address the first research question which was about the effects of ecology-oriented writing instruction on learners’ writing scores in Table 3. Once mean scores were examined in detail, it was evident that their levels were approximately the same with 57 and 57.67 points for the control and experimental group, respectively. However, a dramatic increase was noticed in the experimental group according to post-test scores. In other words, the experimental group students’ average leaped from 57 to 72.33. Conversely, control group students could not increase their scores as much as their peers in the experimental group. These figures were in line with p-values which were .891 and .001. The former one hints that the p-value, 891, was higher than 0.05, so there was no significant difference based on pre-test scores. On the other hand, the p-value, .001, was less than 0.05 in the post-test which can be concluded that experimental group students who followed an ecology-oriented instruction performed far better than their peers who took part in a traditional writing instruction. The substantial difference between pre-test and post-test scores was also visualized in Figure One below:

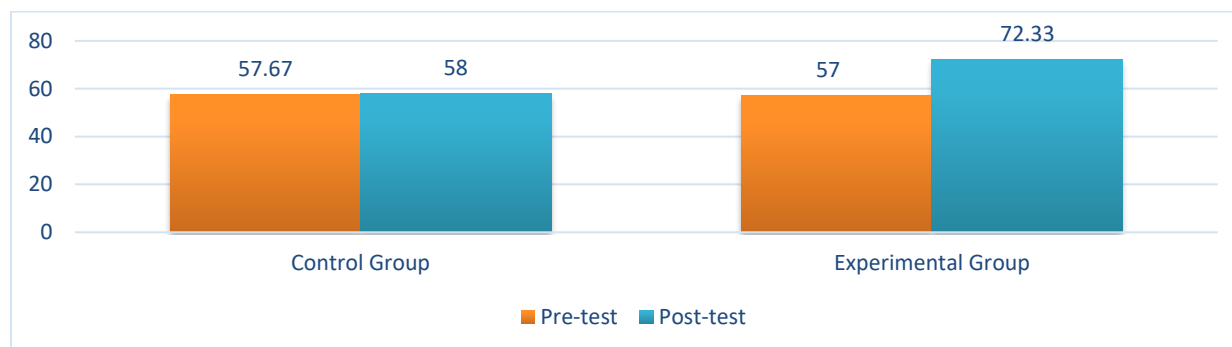


Figure 1. Mean scores of students in writing exams

**The Analysis of the Interview**

The analysis of the interview was done by adopting the principles of content analysis. Common themes that emerged are illustrated in Table Four. Later, they were elaborated further in the following lines.

Table 4. *Common themes, classifications and codes in the interviews*

Main Themes	Categories	Codes
Global Warming	Deforestation Fossil Fuels	Causes, effects and action plans
Pollution	Air Water Soil Nuclear Noise	Causes, effects and action plans



Several themes and sub-categories emerged based on the qualitative data analysis through interviews. The first theme was global warming, which could arise primarily due to cutting trees in the forests and burning fossil fuels. Students became aware of the causes and catastrophic effects of it on the environment. In addition, they came up with sound action plans:

Being aware of global warming through videos, articles, news, and movies raised our awareness. We also got the inspiration to revert it with simple but collaborative steps. Finally, we put our ideas into practice via essays. Thus, this study urged me to be more sensitive to major ecological problems. (St4)

Another theme, which can be as serious as the previous one, was pollution with six sub-categories. Students were introduced to the causes and effects of pollution. Later, they proposed their action plans to resolve them wisely. To begin with, students cited fires, exhaust fumes, and industrial smoke as the causes. They came up with some plans such as promoting campaigns on reducing fires, using public transportation, and urging factories to install air filtration systems.

It was a mind-blowing period for me because I not only learned the causes of air pollution but also devised some practical plans to eliminate it globally. I wish I had learned them earlier, so I could take action and spread those good ideas to people, around me. (St6)

The other sub-category under the pollution theme was water pollution, which was exemplified by household or industrial waste, oil spills, improper management of sewage, and overuse of pesticides and fertilizers. They formulated some practical solutions, such as raising awareness about reducing, reusing, and recycling, monitoring oil ships more closely, allocating more funds for the modernization of sewage systems, and training farmers about employing eco-friendly approaches for present and future generations.

Although there are some issues with the pureness of water, they can be tackled easily by raising awareness among citizens and urging authorized bodies to take action. When all relevant units come to an agreement, positive effects of it can be noticed in the environment gradually. (St8)

Soil pollution was the subsequent sub-theme under pollution. Students reiterated that mismanaged landfills, hazardous chemicals, and out-of-date farming practices are the primary causes of soil pollution. They devised a practical plan to eliminate its disastrous effects on the environment.

There are several ways to change this negative cycle on the environment, such as re-designing landfills, raising awareness on consuming less, and reaching more farmers to replace their impractical and hazardous techniques with proven eco-friendly ones. (St11)

Subsequently, nuclear pollution arose as the other sub-theme which affects the environment adversely. Students pointed out that the leakage from nuclear power plants may cause life-threatening diseases. They had a clear plan to solve it by investigating nuclear power plants to determine whether they are secure or switching the focus from nuclear power plants to alternative energy sources such as sun, wind or hydropower.

Technology has developed significantly, so generating electricity from sun, wind or water can be eco-friendlier and less harmful to humanity. If nuclear power plants remain active, they have to be inspected more frequently to make the neighborhood as secure as possible. (St12)

The final sub-theme that emerged was noise pollution. Students mentioned cars, huge machines, and amplified speakers which may disrupt people's behaviours. They postulated that assembling

modern exhaust systems, replacing fuel-run cars with electric ones, setting the limit for the sound or insulating buildings appropriately can be helpful in addressing this unresolved problem.

We can tackle noise pollution easily. For example, the government can urge drivers to equip cars with eco-friendly exhaust systems, sell electric cars with further incentives or inspect some places periodically to determine whether their sounds are in line with current laws. (St13)

## Discussion

The effects of ecology-oriented writing instruction on EFL learners' writing competence were sought via writing exams and interviews in this study. Thus, research questions were addressed correspondingly. Collected data revealed essential points to be emphasized. To begin with, the first research question was addressed through two writing tasks with pre-test and post-test prompts. To illustrate, the findings in the quantitative data unleashed that students' writing competence increased substantially when they were exposed to focused writing instruction in eco-oriented subjects. It was consistent with Kurtén's (2020) study which unearthed that ecological problems are hotly debated issues at educational institutions, so students feel more engaged in writing classes when students are exposed to a great deal of information on environmental issues in their social and academic lives. He also convenes that students' writing marks increase gradually because they research, discover, and shape their writing styles during this period. Subsequently, the second research question was examined through the interviews to come to a decision on whether their ideas towards ecology-oriented writing instruction transformed significantly.

Findings in the interview were in congruent with writing marks harmoniously. For instance, students raised their awareness of ecological problems by figuring out the causes, catastrophic effects, and possible solutions to revert such disastrous effects. Armbruster and Wallace (2001) postulate that indulging in activities to raise environmental issues can yield better results at educational institutions, thereby, paving the way for spreading eco-friendly deeds in society. More specifically, findings in the interview revealed that they got the privilege to focus on each ecological problem and set an action plan to change this cycle in a positive way. According to Head (2022), defining the ecological problems and having a say in the resolution can increase students' ambition in writing classes. Subsequently, the interview findings showed that students appreciated the value of 3Rs which are reduce, reuse, and recycle. They adopted an eco-friendly approach to saving the planet. Similarly, Benton (2015) attests that 3R has far-reaching effects on individuals' lives, so such training should be increased at all stages of life to reap the benefits of it. Another fundamental point to be considered in the interview was collaborative campaigns to change the world positively. They stated that collaborative actions encouraged them to launch a campaign and organize it successfully because they learned to brainstorm, outline positive and negative aspects, and follow the procedure in cooperation. As stated by Hartman et al. (2002), individual actions to transform the environment can be slow and futile, however, taking action in cooperation can increase the rate of success and its impacts on society. The final remark to be emphasized in the interview was on practical implementations. Students reiterated that they started consuming less, urging their loved ones to buy electric cars or use public transportation more frequently. They also highlighted that they started producing organic products and buying locally grown fruit and vegetables. Prabawani et al. (2017) point out that adopting an eco-friendly education at educational institutions helps students develop good habits toward the environment and change their behaviors for the sake of living in an utterly sustainable world.

## Conclusion

This research purported to investigate the unfulfilled potential of ecology-oriented instruction in enhancing EFL learners' writing competence and raising eco-awareness simultaneously. In this respect, findings indicated that employing ecology-oriented writing instruction paved the way for developing learners' academic writing skills and raising their awareness of serious ecological issues. In other words, learners boosted their performance to write more persuasively and acquired good habits to raise their voices about environmental problems. Their schedules to learn the underlying reasons of ecological problems and offer sensible resolutions yielded positive outcomes. Correspondingly, they changed their behaviors and urged others to make drastic changes, thereby providing a more liveable environment for present and future generations.

## Implications

Some implications can be drawn based on the conclusions of the present study. First, the implication for Academic Writing course teachers is that they can consider the integration of ecology-oriented instruction into the writing curriculum to reap the benefits in several ways. Secondly, administrators can encourage the teaching staff to highlight ecology-oriented issues in varied classes, so students' awareness can be raised substantially. Additionally, the importance of ecology-oriented instruction can be understood well once students do further research and expand their macro and micro-skills, such as listening, reading, grammar and pronunciation. Lastly, educators should be aware that a student who receives ecology-oriented instruction can persuade their family members, relatives and friends to acknowledge the problem and offer practical solutions.

## Recommendations

Some recommendations can be made for future studies regarding raising environmental awareness in an Academic Writing course. This study was conducted on EFL learners at the tertiary level in Iraq which can be extended with previous stages such as high school or secondary schools. Following from that, only writing skill was measured in this study, which can be enlarged with other macro and micro-skills. In addition, the timespan for this study was eight weeks, which can be prolonged to get more reliable results. Likewise, the students of a private university encompassed the participants, which can be enriched with other private or public universities in the region. Similarly, the number of female students was higher than their male peers, which can be equalized to get a clearer image of each gender. Finally, this study was conducted on exams and interviews which can be enlarged with the questionnaires.

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