RESEARCH ARTICLE

The Role of Climate Change-oriented News in Cultivating Students' Reading Skills and Raising Environmental Awareness

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ABSTRACT

Climate change is a term that takes precedence in the 21st century by humanity due to its negative impacts on the environment in various forms. Similarly, reading is a fundamental skill to grasp information and behave in a more civilised way. Accordingly, online news is the readily available source to be informed about the latest news. Although many studies have been conducted about climate change, reading, and news, a gap in the literature has been observed in merging them into one study with an interdisciplinary approach. To this aim, this study investigates the influence of reading climate change-oriented news on university students' reading comprehension and raising their ecological awareness simultaneously at a private university in Erbil, Iraq, in the 2023–2024 academic year. Having chosen 34 first-year students through the stratified random sampling method in this mixed methods study, experimental group students read news from news websites, brainstormed, and took relevant exams created by Chat GPT spanning 10 weeks. On the other hand, control group students kept reading the passages in their coursebooks. The findings via reading exams, questionnaires, and interviews, unearthed that reading climate change-oriented news enhanced experimental group students' reading performance significantly, raised their ecological awareness, and prompted them to persuade others in their community to be more proactive, thereby reversing the catastrophic effects of climate change with a feasible plan. The finding of the study may have some implications for all concerned parties to put the United Nation's 17 Sustainable Development Goals into practice at educational institutions.

Keywords: Chat GPT 4; Climate change-oriented news; Enhanced reading performance; Environmental awareness

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1. Introduction

The uniqueness of English stems from various reasons in terms of linguistic history, vocabulary sources, and global influence. Although it originated from Anglo Saxons, a group of tribes migrated to England from what is now Germany and Denmark in the 5th century, the Norman Conquest in 1066 made it inevitable to derive a considerable number of words from French (Diaz, 2006; Yucedal and Kara, 2023). In other words, welcoming words from other languages contributed significantly to the development of the English language. Another essential point to justify the broad influence of English is that its interaction with other languages, such as Latin, Greek, and French, culminated in borrowing words from those languages flexibly, thereby enriching the power of English with diverse forms to communicate by employing multiple words instead of repeating the same forms in a vicious cycle (Meighan, 2023). More specifically, incorporating words from other languages into English successfully and putting them into practice strengthened its place in the global arena. Furthermore, the British Empire played a pivotal role in spreading English around the world, so its role has been noticed conspicuously in education, commerce, aviation, tourism, media, and communication (Ly, 2023). In other words, the global influence of English in a wide range of fields prompted people to learn it fluently and reap the benefits correspondingly. In this respect, countless numbers of videos, books, dictionaries, articles, and games serve learners on the web to acquire English through various sources. The influence of English on a global scale was also confirmed statistically. To name a few, English is the most widely spoken language, with around 1.5 billion speakers, albeit having no more than 400 million native speakers (Celik, 2023). Likewise, all 100 of the world's most influential science journals are published in English, and more than 60% of web content is in English globally (Ou et al., 2023) Additionally, approximately 25% of published books are in English, and 30% of released games are in English around the world (Smith et al., 2021). It can be argued that the global influence of English has been observed in all fields of life with practical reflections.

Reading skills are crucial in various aspects of life, thereby playing essential roles in individuals' personal, academic, and professional development. More specifically, its indispensable significance regarding academic endeavors, career advancement, communication skills, critical thinking, problem-solving, cultural awareness, lifelong learning, and personal development cannot be underestimated in the information age when the competition among people is more intense than in previous ages thanks to globalization, advanced communication tools and sophisticated means of transportation (Amin, 2019; Kucuk, 2023; Smith et al., 2021). For instance, reading is a pre-requisite to being literate, so people can understand the concepts, make interpretations, and increase their chances of coming to the right decisions in exams. Thus, their percentage of being successful academically increases substantially. On the other hand, learners who have difficulty understanding concepts in reading texts may lag behind others during their education periods, which can have varied adverse effects on their social lives later (Bilgin, 2024; Duke et al., 2021; Irgatoglu & Kirmizi, 2023). In the same vein, companies seek candidates who read the texts and take appropriate action quickly. Additionally, they are considered eligible to be promoted while climbing the career ladder. However, employees who are likely to misunderstand given written prompts can come to wrong decisions. Thus, they can destroy the reputation, reduce the profits, or affect the atmosphere of the company negatively. Similarly, comprehending texts in books, social media platforms, or e-mails precisely is of paramount importance to strengthen relationships in communicative acts (Goldenberg, 2020; Olszewski and Cullen-Conway, 2021). Otherwise, it is inevitable to have some conflicts due to conveying the meaning or receiving the message in written and spoken communication. Likewise, readers who can figure out the texts accurately become eager to read more extensively

from different sources, thereby boosting their critical thinking skills dramatically. In addition, individuals who develop their critical thinking skills by reading extensively come up with brilliant ideas to resolve chronic problems. Furthermore, reading activities pave the way for being familiar with cultural norms in different societies, so knowing about different cultures can help individuals build better connections with people from a plethora of countries (Kara and Yildiz, 2022). Afterwards, reading activities are not limited to educational institutions which span the whole of life. Thus, lifelong learning takes place to support people throughout their lives. As it is conspicuous, reading has many reflections on people's lives at different stages.

English learning and teaching process goes beyond the classroom in the 21st century with the advent of online platforms. There is a plethora of platforms to acquire English with graded materials in a stress-free environment. In this regard, one of the most prominent platforms is newspapers, which offer several benefits for the readers. To begin with, they were accompanied by audio-recorded versions of the news, supplementary videos, and appealing images. Thus, news meets the needs of the readers to access up-to-date, engaging, detailed, and varied information instantly (Gong, 2023). Additionally, reasonable prices for mobile devices and internet connection quadrupled the significance and popularity of English newspapers worldwide by capturing the users' interest. After that, many newspapers allow the readers to write their comments in an interactive form. Besides, newspapers classify the topics in certain sections, so readers can save time by channeling their energy on their focused topics in pre-defined sections (Rodríguez Gómez, 2017). Subsequently, readers can broaden their horizons by following the columnists from all walks of life. Also, newspapers send notifications to readers who want to read some news upon publication. Afterward, online newspapers are cost-effective and e-friendly because there is no additional cost to cut the forests, print, or transport them (Afdal et al., 2022; Soori et al., 2023). Last but

not least, renowned media companies, such as BBC, VOA, and the New York Times encompass news offer special sections to learn English through news through a level-by-level sequence. Considering all the features of e-news, it is not surprising that they have been used more and more to sharpen all skills, particularly reading.

Climate change has been one of the most commonly searched terms in 2023, considering the released newsletters by Google Trends which highlight trending topics at an international and local level periodically (Kara and Kucuk, 2023). Its significance stems from the fact that climate change presents fundamental threats to the whole ecosystem, which affects not only animals but also humanity. Climate change refers to observing remarkable shifts in temperatures and weather patterns in the long run. Although climate change can slightly result from natural phenomena such as the changing of sun's activity or giant volcanic eruptions, human interventions are the primary driver of climate change due to burning of fossil fuels, manufacturing goods, clearing lands, cutting down forests, agricultural malpractices, consuming excessively (Xu et al., 2020). To illustrate, using non-renewable energy sources like oil, gas, and coal can ensure that electricity will be generated, cars will be run, and buildings will be heated or cooled. However, burning fossil fuels uncovers greenhouse gases by covering the Earth's atmosphere like a blanket, trapping the sun's heat and increasing global warming. Similarly, reducing the acre of arable lands and forests leads to natural calamities, such as flooding, erosion, heat waves, melted glaciers, hurricanes, loss of habitat, and drought. In addition, the carbon dioxide rate increases substantially when CO_2 is not replaced with oxygen to ensure sustenance in the world (Trenberth, 2018). Likewise, relying heavily on pesticides, fertilisers, and obsolete machinery for cultivation or irrigation causes varied pollution types, thereby increasing the negative impacts of climate change. In addition, consuming excessively contributes a lot to climate change because the more people consume, the higher efforts are made to produce and transport.

Thus, it is inevitable to observe increased greenhouse gases on the surface of the atmosphere. On the other hand, humanity can reverse this negative cycle by taking some measures in cooperation, such as channelling energy into renewable energy sources, encouraging reforestation endeavours, adopting sustainable agriculture practices, recycling, and developing civic literacy (Huang et al., 2020). It is obvious that climate change is a major threat to the whole world; however, eliminating its negative impacts seems possible by urging all the people in the universe to take rational measures.

1.1 Research significance

The adverse effects of climate change have been observed more starkly in this century. In this respect, it is of paramount importance to raise the awareness of individuals from all walks of life in many settings, one of which is educational institutions due to their roles in creating positive social change in society. Thus, some logical measures can be taken unanimously to reverse this negative cycle on the way to having a more livable world where the effects of climate change have been reduced dramatically or eliminated. Besides, reading skills are at the forefront in language learning classes thanks to their direct connections with literacy and numeracy. The current study will fulfil the goal of raising ecological awareness and sharpening reading skills through eye-catching news simultaneously. Apart from other factors contributing to the significance, it can be considered the first example in the literature to convert climate change-oriented news into reading comprehension questions via artificial intelligence programs. Taking the aforementioned points into consideration, the study has been planned meticulously to observe and measure the changes in the treatment period of university students in the Iraq context.

1.2 Research aim and research questions

Although a plethora of existing studies have been conducted about climate change and following the

news separately, no study has explored the effects of climate change-oriented news on boosting the reading skills of EFL learners in a single study. To address this gap, the present study is an attempt to measure the effects of climate change-based news on raising students' reading scores and ecological awareness in Iraq at the tertiary level. Therefore, this study aimed to answer the following research questions:

RQ1. What is the influence of climate change-based news on developing learners' reading skills?

RQ2. Does the climate change-oriented news play a role in raising learners' ecological awareness to spread others?

2. Literature review

Climate change is a defining challenge in the 21st century, as its destructive effects on humanity and the ecosystem have been mitigated tremendously. In this respect, the actions of government, foundations, educational institutions, and individuals have accelerated since the 1990s to combat the effects of climate change before it is regarded as a void attempt in the last moment of a destructive global disaster. To name a few, the United Nations Framework Convention on Climate Change (UNFCCC) organised the first conference in Germany in 1995 to negotiate with the representatives of countries about stabilising greenhouse gas concentrations (Carlsen and Bruggemann, 2022). As of 2023, they organised the 23rd conference in Dubai with the participation of 198 parties around the world. Kyoto Protocol (1997) and Paris Agreement (2015) have been regarded as landmark agreements signed in those conferences to ensure that carbon emissions will be reduced gradually by taking certain measures about burning fossil fuels in a minimised way. Such conferences have created global milestones for the climate movement, setting standards, encompassing declining carbon emissions, encouraging the trend from non-renewable energy into renewable energy sources, and assisting countries to devise ways to change climate on a micro and macro level. Additionally, the United Nations Sustainable Development Summit in 2015 culminated in the

adoption of 17 Sustainable Development Goals, signed by all 193 member states of the United Nations to reach a more livable world for all people regardless of colour, ethnicity, and economic power (Corpuz et al., 2022). For example, affordable and clean energy, sustainable cities, and responsible consumption are core parts of this landmark agreement. Correspondingly, a growing number of countries have increased their attention to environmental issues by launching particular units to combat climate change under the Ministry of Environment (Hormio, 2023). In the same vein, there are some government initiatives to create eco-cities by shifting the focus from non-renewable energy sources to renewable ones. To name a few, the UAE, Denmark, Sweden, the USA, and China have made pioneering attempts to spread eco-cities in the short run.

Considering the increased concentration towards an eco-oriented lifestyle, the number of publications to raise environmental awareness in EFL and ESL classes has risen substantially in the last decade. Meanwhile, some of the publications have formed a link between raising awareness about climate change and developing learners' macro and micro-skills simultaneously. Although a plethora of studies have been conducted about eco-friendly approaches in English classes, a consensus has not been built about the integration of climate change-oriented approaches during lessons. More specifically, some scholars (Balgopal et al., 2012; Beach et al., 2017; Celik, 2023; Pennycook, 2023) posit that it is not practical to encompass topics about climate change in English classes, whereas others (Bayraktar Balkir, 2021; Ningsih & Zalisman, 2022) hold the opinion that some macro and micro-skills of English can be sharpened during climate change-oriented education. For example, Beach et al. (2017) conducted a study in the USA where high school students improved their writing, listening, reading, and speaking skills in an Earth Science course by employing inquiry-based instruction about the reasons for climate change, coming up with practical ideas to eliminate and urging the governments in the local and international platforms. Their study also revealed that the positive cycle spread to other people thanks to students' elaboration in their social communities. In addition, Jones and Lucas (2023) carried out a study in Australia on teenagers who articulated that doing further research about climate change has prompted them to speak more confidently and persuade the stakeholders to reverse the negative cycle in the whole world. They have reiterated that reading thoroughly, watching relevant videos, and joining debates periodically about climate change have fostered their speaking skills because they have raced with each other to beat others in the discussions. Another noteworthy study, conducted by Kara (2024) at the tertiary level in Iraq unearthed that there is a positive correlation between covering eco-friendly topics and boosting Academic Writing performance substantially. His study has also uncovered that employing ecology-oriented writing instruction raises students' awareness about environmental dilemmas and develops their various skills simultaneously. Likewise, Stromso et al. (2010) found that reading texts about climate change offers several benefits, some of which are increasing reading literacy, and developing problem-solving and critical thinking skills in Norway secondary school students. In the same vein, Silvhiany et al. (2023) pointed out that being exposed to graded readers can increase students' vocabulary breadth and grammar scores as well as elevate their levels of reading. They emphasized that well-balanced reading materials on climate change appeal to all readers thanks to the seriousness and popularity of the theme. Another notable study was carried out by Pennycook (2023) who asserted that following news on climate change has the potential to improve students' multiple skills at the same time because students can read, listen, take quizzes, and record their voices to summarize the news thanks to advanced software programs. In addition, such news is appealing to capture their attention as they are familiar with the effects of climate change more or less in their societies.

On the other hand, some studies have not found a positive relationship between covering climate change-oriented reading topics and improving reading scores. To name a few, Nystrand et al.'s

(2001) findings in the USA on adult learners indicated that choosing well-balanced topics related to climate change pays off in writing classes; otherwise, topics that include a wide array of words beyond their understanding can discourage the students from learning essential words about climate change and writing correspondingly. Similarly, Balgopal et al.'s (2012) study revealed that students' background knowledge should be ready to be triggered by climate change-oriented themes. They have pointed out that students who were exposed to some instructions about environmental issues before can be more enthusiastic to grasp the details and progress accordingly. Conversely, students whose background knowledge is limited about climate change-oriented themes may not be as ambitious as others in terms of reading the news and improving various linguistic skills gradually. It is evident that integrating news about climate change into English classes is a fruitful attempt if it is balanced, planned, and monitored harmoniously.

3. Materials and methods

3.1 The study

Mixed-method research combines qualitative and quantitative methodologies to expand the field of investigation and enhance the ability to come to reliable interpretations about the subject being studied (Doyle et al., 2016). An explanatory sequential mixed-method design was employed in this study to investigate whether reading news on climate change could affect learners' reading performance in English classes. In other words, the sequence of collecting data was to gather quantitative and qualitative data separately; however, it was compulsory to compare both means of data collection to determine whether they complemented each other harmoniously, thereby coming to more reliable interpretations. According to Stoecker and Avila (2021), explanatory sequential mixed-method design has been used widely in social sciences to reap the benefits of quantitative and qualitative research in a sole study.

3.2 Sample selection

A private international university, located in Erbil, Iraq was chosen as the setting for this study. The rationale for choosing this university is that its medium of instruction is 100% English for 5000 students who have been studying in 30 departments as of the 2023–2024 academic year. Participants were all the students who took the Foundation English course after having been placed in this category via the proficiency exam of the university. The Foundation English course has been specifically designed to sharpen learners' English substantially by employing a well-established language learning and teaching curriculum that spans the whole year. Students are expected to adapt to departmental courses without having much difficulty when they are privileged to develop their English throughout the year in technology-enhanced classrooms with qualified lecturers. Those students take 10 hours of instruction weekly through the OWN IT series, released by Cambridge University Press in 2020. OWN IT series has been renowned for offering appealing topics for teenagers and adults on 4 levels according to the needs of the educational institutions, so learners find more common grounds in their social lives which boosts their motivation dramatically (Zhang et al., 2023). Moreover, all units have been enriched with supplementary materials to develop learners' 21st-century skills, so they develop not only their English but also other interpersonal skills to be more successful in their academic, social, and professional lives. The administration also highlights the necessity of written and spoken stimuli for the learners, thereby increasing their chance to express their ideas in a written and spoken format effectively. Accordingly, participants were chosen via a stratified sampling method, which necessitates selecting two students from each department out of 250 Foundation English students. Rahman et al. (2022) assert that stratified sampling is a promising method to collect participants from different groups according to their shared qualities, thereby raising the chance to represent the population more precisely. Thus, 34 students, aged between 18 and 25, were chosen to

represent 17 departments. The number of male and female students was also equalised to represent the genders fairly.

3.3 Instrument and procedures

Several instruments were activated to ensure the validity and reliability of the data. To name a few, the Cambridge Placement Test was the first instrument to insert the participants into groups homogeneously. It assessed students' reading, listening, grammar, and vocabulary knowledge out of 50. The test was piloted on some students whose levels were similar to the participants. The pilot study showed that Cronbach Alpha was .80, which met the internal consistency criteria successfully according to Izah et al.'s (2023) guideline. Upon the completion of the pilot test, participants took the test and were placed in either the control or experimental group. Apart from internal consistency, content and face validity were cross-checked by testing experts on English language teaching. Having taken the insightful comments of the experts, the test was updated accordingly. The average score in each group was almost the same, so it was fair enough to begin the study by offering equal opportunities.

In the second place, pre-test and post-test exams were held based on end-of-term tests. Three official sets were created for each semester by Cambridge University Press to measure students' progress during the learning process. In addition, basic, standard, and extension modes were available to conduct the exams in line with students' levels. In this study, standard modes were used because Foundation English students' levels were between A2 and B1. Students took pre-test exams in December 2023, and they took post-test exams in February 2024. The reading passages of the pre-test and post-test exams were piloted on some students which culminated in a .84 Cronbach Alpha index. Additionally, some suggestions of the experts were taken into consideration so that the intelligibility of the items could be increased substantially.

In addition to placement, pre and post-tests, questionnaires, and semi-structured interviews were held whether the treatment period paid off in raising awareness about climate change-related issues and boosting the reading performance of the learners. The items in the questionnaire and the prompts of the interview were examined in detail by the committee and refined correspondingly to ensure content and face validity. Some of the items were replaced with new ones or removed to increase clarity based on five experts' comments. It is of greatest importance that experts had prior background information and credentials to evaluate the items from the perspective of linguistics and statistics. Additionally, they were piloted to ensure internal consistency, which culminated in 0.89 and 0.95, respectively. Thus, internal consistency criteria were met successfully to apply to real participants during the study. The questionnaire was formed based on a 5-point Likert scale thanks to its convenience for both the participants and the researcher, and the interview was held in line with the principles of the focused group as it allowed the researcher to welcome participants' opinions in a discussion mode, transcribe and transfer common themes instantly. Meanwhile, students' opinions before and post-test periods were reflected and measured statistically in the questionnaires and the interviews.

A 10-week data collection period was allocated for the study, one of which was reserved for the common workshop to underline all important points, get consent forms, and complete placement and pre-test. Additionally, all participants were introduced to the key points of climate change-oriented news in reading classes so that they could make the comparison between news-enriched and news-free English classes. Thus, each participant had sufficient background knowledge to shoot responses in the interview and the questionnaire appropriately. Of particular note was that the scientific committee of the university approved the study and examined it periodically to take appropriate measures immediately when ethical infringements were noted. Once the orientation week was over with the pre-test, the students were split into two groups to represent the control and experimental groups respectively.

In the treatment period, the common point was the coursebook, *OWN IT 2*. However, the conduct of lessons differed greatly in reading classes. For instance, control group students followed all reading passages in the book, whereas experimental group students' reading classes were enriched with climate change-oriented news and relevant questions, created by Chat GPT based on the excerpts taken by renowned news channels or newspapers, such as BBC, CNN, The Guardian, New York Times, VOA and NPR. More specifically, experimental group students were exposed to intriguing news from well-known newspapers about climate change. Having read the news and discussed it in detail, students were prompted to take the reading tests, created by a standardized testing app, Zip Grade, so they could have the ample opportunity to develop their reading skills and raise environmental awareness simultaneously. Conversely, control group students followed the reading passages in the book without switching to news about climate change, so their texts varied considerably rather than focusing on a specific theme, such as climate change.

When the treatment period was finalised, it was time to organise the reading exam, questionnaire, and interview as a part of the post-test. The list of the covered news in this study is given in **Table 1** below:

Table 1. Chosen news about climate change.

Title	Source
1. February was warmest on record globally, say scientists	The Guardian
2. What is the climate change? A really simple guide	BBC
3. Climate change: Four things you can do about your carbon footprint	BBC
4. What was agreed on climate change at COP28 in Dubai?	BBC
5. COP28: Five reasons for optimism on climate	BBC
6. Rains are scarce in the Amazon. Instead, megafires are raging.	NYT
7. What is the UN Environment Assembly, and why does it matter?	UN News
8. The U.N. set 17 goals to make the world a better place	NPR
9. Airlines look to fuel planes with plants	VOA

According to **Table 1**, a wide range of news was chosen from established sources to reach reliable content within 9 weeks. To illustrate, they figured out the connection between global warming and lack of rain or snow. In addition, they became familiar with all key terms of climate change with easily understandable examples. Moreover, they became capable of setting a master plan to reduce the carbon footprint. Furthermore, they examined the climate change conference held in Dubai by the UN in 2024. Additionally, they sought possible ways to reverse the negative cycle in the Amazon. After that, they analysed 17 Sustainable Development Goals set by the UN in 2015 to save the world. Finally, they became more knowledgeable about reducing air pollution globally by switching to alternative renewable energy sources. It can be argued that participants had sufficient information to learn about chronic environmental issues, devise practical ideas to eliminate them, and inform others to take collaborative actions.

3.4 Data analysis

Descriptive statistics such as mean and standard deviation were utilised to examine quantitative data, while MAXQDA's thematic coding capability was used to transcribe and categorise students' thoughts in the interview. Mean and standard deviation were used to assess if the intervention had a substantial impact on learners' reading scores. An independent samples t-test was conducted to determine if there were significant differences between groups in reading scores (Kim, 2015). In the same vein, thematic coding was conducted by unlocking the transcripts, coding, creating themes, modifying, and finalising. The inter-rater consistency of the coded data was tested at 0.75 by five analysts, indicating an acceptable level of reliability (Marjaei et al., 2019). The primary tools used to analyse the obtained data were SPSS version 28 and MAXQDA. The former was utilised for retrieving and analysing quantitative data, while the latter was employed for exploring qualitative data.

4. Results and discussion

4.1 Descriptive results

Participants' pre-test and post-test scores were compared to determine whether the difference was significant in reading exams after being exposed to climate change-oriented news and taking AI-created multiple-choice questions. The details are depicted in **Table 2** through an independent sample t-test.

Table 2. Independent sample t-test result in reading expansion.

Variables	Measurement	N	M	SD	t	df	p
Pre-test	Experimental	17	52.06	16.869	0.112	32	0.911
Pre-test	Control	17	52.65	13.477			
Post-test	Experimental	17	75.29	16.627	–4.240	32	0.000
Post-test	Control	17	56.47	7.658			

Based on the information visualised in **Table 2**, there was not a considerable difference between the control and experimental groups in pre-test scores, with a 0.911 p-value. More specifically, the mean score increased from 52.65 to 56.47. However, a significant leap was observed after the treatment period, which encompassed reading climate-change-oriented news and taking relevant questions created by Chat GPT. For instance, the experimental group students' mean score switched from 52.06 to 75.29 with a p-value of .000 which is highly significant. Considering the levels of significance, it is safe to claim that reading ecology-oriented news and answering related questions paid off with substantial gains; however, sticking to the curriculum in the traditional format did not yield better results on the way of improving students' performance in reading classes.

4.2 Perceptions towards reading climate change-oriented news

Participants' points of view about reading news on climate change were explored thoroughly via questionnaires and interviews. Correspondingly, the findings are illustrated in **Tables 3, 4, and 5**.

Questionnaires

Items in the questionnaire were designed to measure reading enhancement, climate change awareness, and motivation rates of the participants in the experimental group, considering pre-test and post-test periods so that more reliable interpretations could be made. The details are depicted in **Table 3**.

Table 3. Combination of pre-test and post-test questionnaire results.

Item	Pre M	Pre SD	Post M	Post SD	p
1.Reading news on climate change captured my attention to read more extensively.	2.26	1.44	4.55	0.660	0.001
2.Reading news regarding climate change increased my awareness of climate change issues.	2.20	1.27	4.67	0.684	0.000
3.Reading news based on climate change sharpened my reading skills via AI-enriched comprehension questions.	2.44	1.41	4.73	0.618	0.000
4.Reading climate change-oriented news boosted my motivation in English classes.	2.05	1.25	3.67	0.911	0.004
5.Following news on climate change urged me to raise awareness among other people.	2.55	1.07	4.05	1.47	0.002

Based on the figures in **Table 3**, statistically significant improvements are noticed clearly upon analysing the pre-test, post-test, standard deviation, and p-values in the experimental group. To name a few, item 1, which is about figuring out the connection between reading more comprehensively and following news on climate change, hinted that they were more interested in reading further because they wanted to satisfy their quench to be more knowledgeable about climate change. Accordingly, the mean score leaped from 2.26 to 4.55 with a p-value of 0.001, which is a statistically noticeable

gain. In the second place, item 2 was designed to pinpoint the correlation between being interested in climate-change news and raising ecological awareness, which unearthed that students' awareness skyrocketed as they became more familiar with reading climate-change-oriented news. In this regard, the difference in mean scores was + 2.47, with a p-value of 0.000, which unleashed that being inclined to news regarding climate change had a fundamental role in raising ecological awareness. Apart from exploring the connection between reading a wide range of sources and increasing awareness through eco-oriented news, students' reading performance, motivation, and spreading ecology-oriented awareness were sought in detail. To illustrate, item 3 showed that there was a positive correlation between reading eco-oriented news and sharpening reading skills via AI-enriched multiple-choice questions in English classes with a p-value of 0.000, which is highly noticeable. In the same vein, the difference was + 2.29, which is quite stark. Additionally, item 4 was inserted into the questionnaire to measure whether there was a correlation between following climate-change-oriented news and being more concentrated in English classes. The results revealed that a positive relationship was prevalent between reading eco-oriented news and keeping the concentration level high in English classes; however, the difference was not as sharp as other categories. In other words, the difference was + 1.62 with a p-value of 0.004, which is statistically significant. The last item of the questionnaire was about spreading ecological awareness to others in the community through reading eco-oriented news, which unearthed that eco-oriented news plays a pivotal role in disseminating ecological awareness with a p-value of 0.002. Considering all the items into consideration, it is evident that reading ecology-oriented news paid off with significant gains albeit with varied differences between pre-test and post-test mean scores.

The results of the interview

Participants highlighted the pros and cons of the following news under the pretext of developing reading skills. They responded to the query below in an open-ended format. Accordingly, the distinguishing themes are coded and illustrated in **Tables 4 and 5** by the researcher:

What are some positive and negative aspects of following climate change-oriented news and taking relevant quizzes?

Table 4. Advantages of following eco-oriented news.

Positive sides	Frequency	Percentage %
Convenient	3	17.65
Diverse perspectives	2	11.80
Environmentally friendly	4	23.45
Interactive	2	11.80
Multimedia enriched	3	17.65
Updated	3	17.65

As presented in **Table 4**, participants emphasized six positive points of following eco-oriented news with varying percentages. To begin with, three participants (17.65%) reiterated that it was convenient to read online news which hints that clicking on the news and scrolling flexibly are appreciated. After that, two participants (11.80%) opted for diverse perspectives which reveals that having a broad perspective is considered as a benefit of reading eco-oriented news in online resources. Additionally, four students (23.45%) prioritized the advantages of online news in promoting environmentally friendly practices as online news does not require cutting trees to publish in a paper-based format. Subsequently, two participants (11.80%) highlighted stimulating interactive features of online news, which reveal that users can indulge in comments to read others' ideas or express their opinions, respectively. Furthermore, several news outlets offer videos in line with the scripts of the news, so the news can appeal to various learning styles as favored by three participants (17.65%). Finally, having the privilege to access the latest content received the highest appreciation rate with three participants (17.65%). It can be argued that several positive reflections of online news are realized and used effectively by the participants.

Table 5. Negative aspects of following eco-oriented news.

Positive sides	Frequency	Percentage %
Fake news	2	11.80
Obligatory internet connection	1	5.90
Overwhelming	3	17.65
Prompting a poor eyesight	2	11.80

According to the figures in **Table 5**, some disadvantages of following online news are depicted. For instance, two participants (11.80%) asserted that fake news is common and poses serious risks. Besides, one participant (5.90%) expressed that a compulsory internet connection reduces the convenience of online news. In addition, an unending cycle of news was found overwhelming by three participants (17.65%). Apart from other negative sides, poor eyesight was mentioned by two participants (11.80%) as a hindrance to reading online news. Considering the implications of online news, it is evident that a well-established plan is needed to prioritize the advantages and eliminate the negative points.

The qualitative findings, which complemented the quantitative ones, revealed that participants' perceptions about following eco-oriented news and improving reading skills were positive except for some minor concerns. In this regard, one of the participants underlined:

"I had some prior information about climate change, which was superficial. Throughout the study, I explored more about the dire effects of climate change on the environment. The more I figured out the catastrophic impacts of climate change on the Earth, the more responsibility I took to take some measures individually and collectively. More specifically, I increased my knowledge about climate change and shared it with others in the community, so people around me were prompted to read more and behave more responsibly. Apart from raising awareness, I noticed an improvement in my reading performance because we read, took the test, and analyzed all questions engagingly. I wish I could have joined such a mind-blowing study previously." (St 7)

In congruent with the previous remarks, another student quoted:

Reading the news used to be a pastime for me; however, I found the news informative to satisfy my curiosity and expand my English knowledge. For example, we read the news to get the main idea and discuss the main themes. Additionally, we were encouraged to read further from various sources because we wanted to double-check the accuracy of some information. Thus, we not only improved our English but also raised our awareness about the destructive effects of climate change throughout the world. (St 9)

In support of the previous statements, another participant elucidated:

Adopting an eco-friendly approach was the best part of this study for me. We did not waste any paper because we read the news online and took the tests through Zip Grade. It allowed us to take the quizzes online with our mobile phones and get the results instantly, so it was useful to see our mistakes and learn from them. Additionally, contributing to the environment positively by not cutting trees was a great feeling. Finally, climate change is at the heart of our lives, so I could grasp a lot of essential words throughout the study that can be used in my social life. Thus, I reaped the fruits of the study in many ways. (St 10)

Resonating with former statements, one of the participants unearthed some minor drawbacks of online news:

It is an undeniable fact that reading the news has several benefits. On the other hand, it does not necessarily mean that reading online news has no flaws. For example, the necessity of having a stable internet connection, the difficulty of distinguishing genuine news from fake news, being bombarded with limitless sources, and having poor vision were some problems I encountered during the study. Apart from those concerns, it was a memorable moment for me to keep learning incessantly. (St 14)

The above-mentioned excerpts starkly indicated that participants were satisfied with the education provided by eco-oriented news. Their opinions also hinted that some obstacles can be removed if logical

actions are taken in a balanced way.

5. Discussion

As noted above, the first research question investigated whether following climate change-oriented news and taking relevant quizzes led to sharpening students' reading skills in the Iraq context at the tertiary level at a private university. The findings evidenced that experimental group students outperformed the control group pupils with a significant difference in terms of reading scores upon receiving an education based on reading climate change-oriented news. Considering the quantitative findings through independent samples t-test, substantial gains of the experimental group can be ascribed to the influence of education, enriched with online news on climate change. In other words, experimental group students took advantage of the online news, whereas control group students did not progress well as much as expected. As the findings demonstrated, reading online news about climate change offers ample opportunity in English classes.

The second research question sought the influence of reading climate change-oriented news on raising students' ecological awareness. The findings gathered via the questionnaire and the interview revealed that students' awareness of climate change rose dramatically because they learned the causes, got a briefing about the action plan, and had the self-confidence to invite others, thereby making efforts collectively in the community in the experimental group. The students expressed some convincing reasons for their positive perceptions, such as adopting a global perspective, reaching the most updated content, accessing both written and visual materials in a cost-free format, joining interactive sessions, and saving the environment by not resorting to cutting trees thanks to online content. On the other hand, some drawbacks of reading online news were mentioned, such as the necessity of having a stable internet connection, distinguishing real news from fake ones, being unable to control the limitless content, and suffering from eyesight problems. It may be argued that positive perceptions can be ascribed to multiple advantages of reading online news about climate change conveniently.

The results of the present study are congruent with those of Balgopal et al. (2012) and Pennycook (2023), asserting that choosing reading passages from real-life problems and indulging in relevant news pay off in English classes because students are likely to become more ambitious as they read more comprehensively. Further, the findings of the study lend credence to those of Prakasha et al. (2023) and Trenberth (2018), pointing out that climate change is a global phenomenon, so integrating some themes about it into the English curriculum can increase students' engagement, motivation and self-confidence, thereby improving their linguistic skills significantly. Likewise, in keeping with the findings of the present study, Olszewski and Cullen-Conway (2021) elucidated that reading online news broadens readers' perspective, offers news in a visually stimulating format, allows interaction, and encourages individuals to be aware of the latest events around the world. In the same vein, Jones and Lucas (2023) stated that the effects of climate change are unavoidable in this century, so counting on climate conferences solely cannot be a solution; rather, all possible means of communication should be employed to inform people from all walks of life to see the positive impacts instantly. In this regard, it can be suggested that inserting climate change themes into reading classes via online news can be a viable solution to have multiple gains at the same time.

A further discussion of the findings may be attributed to the principles of technology-integrated English education. Online news, AI-created exams, and Zip Grade enriched standardized grading were the main phases of the study which facilitated the process substantially. Thus, in alignment with Kucuk (2023) and Kara (2024), it may be asserted that online news has a lot of intriguing features to unlock learners' potential; Artificial Intelligence is promising to support teachers and help learners grasp details in various ways; Zip Grade assists the educators to design the exams, grade in seconds and print the

analysis instantly. These advantages prompted the educators to create a more welcoming atmosphere to boost students' learning and change their attitude towards environmental problems positively.

6. Conclusions

This research purported to measure the influence of following climate-change-oriented news on students' reading comprehension rates. Findings through reading exams unearthed that choosing certain news about climate change from the renowned newspapers captured students' attention in the experimental group, so they could answer reading questions more accurately than control group students whose education was kept according to the curriculum as outlined. Accordingly, experimental group students showed a far better performance than control group students in terms of reading performance. In addition, complementary questionnaires and interviews were consistent with the exam results because their satisfaction rates were noticed starkly. For example, students asserted that they expanded their knowledge of ecological problems, read further, took related quizzes created by Chat GPT, and analyzed their mistakes through Zip Grade. They reiterated that a well-established plan not only fostered their learning in reading classes but also raised their awareness to be more proactive in the way of eliminating ecological problems.

Based on the findings of the study, some pedagogical implications are presented. The first implication is that educational institutions should equip their classes with modern technology and increase in-service training periods to reap the benefits of technology in classes. Once the latest technology is prevalent in classes, teachers can have the flexibility to watch videos, read news, and play games for the sake of improving their levels in a stress-free and engaging atmosphere. In the second place, stakeholders in education should encourage the authorized bodies to close the gap between real and academic life, so learners can find more common grounds to discuss and spread their noteworthy ideas in their communities. When curriculums have reflections from social life, students' enthusiasm may increase dramatically because the topics capture their attention. Another implication is that the use of AI in educational settings can be increased to design exams professionally and stimulate students' problem-solving and critical-thinking skills. Finally, breaking the monotony in reading classes can be ensured with real-life problems, such as climate change, addiction, or poverty. To do so, a multi-faceted approach is required from all stakeholders in education.

Concerning the limitations imposed on the study, a range of constructive suggestions for further research is put forward. Firstly, as the present study measured the influence of online news on reading comprehension rate, another study can be conducted to investigate the influence of news on other skills, such as listening, grammar, vocabulary, and pronunciation because newspapers are versatile to offer printed and audio-visual materials at the same time. In addition, the present study was confined to university students, which can be expanded to high school students to make more reliable comparisons. After that, the current study counted on exam questions created by Chat GPT. Further studies can be conducted by trusting teachers', publishers', and Chat GPT's questions in three different groups. Last but not least, the news was presented in English in this study, which can be accompanied by their mother-tongue translations to make an analogy in future studies.

Author Contributions

The author, Saban Kara, has initiated and finalized the study which includes the elaboration of the study under the presence of scientific committee members, receiving the approval of the ethics committee, data collection, and analysis.

Conflict of Interest

The author declares no conflict of interest.

Data Availability Statement

The author confirms that the data supporting the findings in this article are available within the article. Raw data that support the findings are also available from the corresponding author, upon reasonable request.

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Publication ethics

The author confirms that the study has completed the procedures to obtain permission from the Scientific Committee which verifies that scientific methods and ethical considerations are followed adamantly. The committee members examined the study periodically to figure out whether the researcher adhered to scientific and ethical principles. The approval date: 12/1/2024.

References

Afdal, T., Iswanto, J., Surfaifel, F., 2022. Developing students' writing competency of news item text through online English news. ELT in Focus. 5(2), 67–78.

Amin, M.R., 2019. Developing reading skills through effective reading approaches. International Journal of Social Science and Humanities. 4(1), 35–40.

DOI: http://dx.doi.org/10.2139/ssrn.3342538

Balgopal, M.M., Wallace, A.M., Dahlberg, S., 2012. Writing to learn ecology: A study of three populations of college students. Environmental Education Research. 18(1), 67–90.

DOI: https://doi.org/10.1080/13504622.2011.576316

Bayraktar Balkir, N., 2021. Uncovering EFL learners' perspectives on a course integrating global issues and language learning. Novitas-ROYAL (Research on Youth and Language). 15(1), 118–133.

Beach, R., Share, J., Webb, A., 2017. Teaching climate change to adolescents: Reading, writing, and making a difference. Taylor & Francis: Milton Park.

Bilgin, R., 2024. Exploring students' perceptions towards 21st century skills through novel applications: A comparative study among EFL learners in Iraq. Arab World English Journal (AWEJ). 15(1), 283–297.

DOI: https://dx.doi.org/10.24093/awej/vol-15no1.18

Carlsen, L., Bruggemann, R., 2022. The 17 United Nations' sustainable development goals: A status by 2020. International Journal of Sustainable Development & World Ecology. 29(3), 219–229.

DOI: https://doi.org/10.1080/13504509.2021.1948456

Celik, B., 2023. The effects of input flood and input enhancement techniques in teaching collocations to EFL learners. Forum for Linguistic Studies. 6(1).

DOI: https://doi.org/10.59400/fls.v6i1.2088

Celik, B., 2023. Using QR codes to develop EFL learners' pronunciation skills and expand vocabulary knowledge. Amazonia Investiga. 12(66), 21–30.

DOI: https://doi.org/10.34069/AI/2023.66.06.2

Corpuz, A.M., San Andres, T.C., Lagasca, J.M., 2022. Integration of environmental education (EE) in teacher education programs: Toward sustainable curriculum greening. Problems of

Education in the 21st Century. 80(1), 119–143.

DOI: https://doi.org/10.33225/pec/22.80.119

Díaz, V.G., 2006. The origin of English periphrastic comparatives. English Studies. 87(6), 707–739.

DOI: https://doi.org/10.1080/00138380600 768197

Doyle, L., Brady, A.M., Byrne, G., 2016. An overview of mixed methods research–revisited. Journal of Research in Nursing. 21(8), 623–635.

DOI: https://doi.org/10.1177/17449871166 74257

Duke, N.K., Ward, A.E., Pearson, P.D., 2021. The science of reading comprehension instruction. The Reading Teacher. 74(6), 663–672.

DOI: https://doi.org/10.1002/trtr.1993

Goldenberg, C., 2020. Reading wars, reading science, and English learners. Reading Research Quarterly. 55(1), S131–S144.

DOI: https://doi.org/10.1002/rrq.340

Gong, W., 2023. Enhancing ESL learner's literacy by peer-assisted learning strategy of online English news. Frontiers in Psychology. 14, 1172099.

DOI: https://doi.org/10.3389/fpsyg.2023.117 2099

Hormio, S., 2023. Collective responsibility for climate change. Wiley Interdisciplinary Reviews: Climate Change, 14(4), e830.

DOI: https://doi.org/10.1002/wcc.830

Huang, J., Zhang, G., Zhang, Y., et al., 2020. Global desertification vulnerability to climate change and human activities. Land Degradation & Development. 31(11), 1380–1391.

DOI: https://doi.org/10.1002/ldr.3556

Irgatoglu, A., Kirmizi, Ö., 2023. Pre-service EFL teachers' immunity perceptions concerning their perceived teacher commitment levels. Novitas-ROYAL (Research on Youth and Language). 17(2), 95–111.

DOI: https://doi.org/10.5281/zenodo.10015834

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.

DOI: https://doi.org/10.30919/esee1057

Jones, C.A., Lucas, C., 2023. 'Listen to me!': Young people's experiences of talking about emotional impacts of climate change. Global Environmental Change. 83, 102744.

DOI: https://doi.org/10.1016/j.gloenv-cha.2023.102744

Kara, S., Kucuk, T., 2023. The effects of picture dictionaries in promoting vocabulary development of EFL learners at tertiary level. Novitas-ROYAL (Research on Youth and Language). 17(2), 80–94.

DOI: https://doi.org/10.5281/zenodo.10015826

Kara, S., 2024. The role of bell work assignments in expanding EFL learners' vocabulary breadth. Forum for Linguistic Studies. 6(1).

DOI: https://doi.org/10.59400/FLS.v6i1.2074

Kara, S., Yildiz, Y., 2022. From a commodity to addiction: Are mobile phones valuable commodities or sources of addiction for freshman students?. Revista Amazonia Investiga. 11(56), 196–209.

DOI: https://doi.org/10.34069/AI/2022.56. 08.20

Kim, T.K., 2015. T test as a parametric statistic. Korean Journal of Anesthesiology. 68(6), 540–546.

DOI: https://doi.org/10.4097/kjae.2015.68. 6.540

Kucuk, T., 2023. AI integrated grammar teaching in language preparatory school. International Journal of Social Sciences & Educational Studies. 11(1), 1–17.

Kucuk, T., 2023. Students' perceptions of the use of ICT Tools in language preparatory school. Arab World English Journal (AWEJ). 14(4), 197–212.

DOI: https://dx.doi.org/10.24093/awej/vol-14no4.12

Ly, C.K., 2023. English as a global language: An exploration of EFL learners' beliefs in Vietnam. International Journal of TESOL & Education. 3(1), 19–33.

DOI: https://doi.org/10.54855/ijte.23312

Marjaei, S., Yazdi, F.A., Chandrashekara, M., 2019. MAXQDA and its application to LIS research. Library Philosophy and Practice. 1–9.

Meighan, P.J., 2023. *Colonia-lingualism*: Colonial legacies, imperial mindsets, and inequitable practices in English language education. Diaspora, Indigenous, and Minority Education. 17(2), 146–155.

DOI: https://doi.org/10.1080/15595692.2022.2082406

Ningsih, W., Zalisman, Z., 2022. Using VOA news material through virtual small group discussion on the students' reading comprehension for university level. International Journal of Advances in Social and Economics. 4(3), 90–94.

DOI: https://doi.org/10.33122/ijase.v4i3.238

Nystrand, M., Gamoran, A., Carbonaro, W., 2001. On the ecology of classroom instruction. Writing as a learning tool: Integrating theory and practice. Springer: Dordrecht. pp. 57–81.

DOI: https://doi.org/10.1007/978-94-010-0740-5_5

Olszewski, A., Cullen-Conway, M., 2021. Social media accompanying reading together: A smart approach to promote literacy engagement. Reading & Writing Quarterly. 37(5), 479–494.

DOI: https://doi.org/10.1080/10573569.2021.1902442

Ou, W.A., Gu, M.M., Hult, F.M., 2023. Translanguaging for intercultural communication in international higher education: Transcending English as a lingua franca. International Journal of Multilingualism. 20(2), 576–594.

DOI: https://doi.org/10.1080/14790718.2020.1856113

Pennycook, G., 2023. A framework for understanding reasoning errors: From fake news to climate change and beyond. Advances in Experimental Social Psychology. 67(1), 1–85.

DOI: https://doi.org/10.31234/osf.io/j3w7d

Prakasha, G.S., Chakraborty, R., Thirumalesha, S., et al., 2023. Expectations of university lecturers and students on smart learning environments. Problems of Education in the 21st Century. 81(4), 501–516.

DOI: https://doi.org/10.33225/pec/23.81.501

Rahman, M.M., Tabash, M.I., Salamzadeh, A., et al., 2022. Sampling techniques (probability) for quantitative social science researchers: A conceptual guideline with examples. Seeu Review. 17(1), 42–51.

DOI: https://doi.org/10.2478/seeur-2022-0023

Rodríguez Gómez, L.F., 2017. Reading the world: Increasing English learners' global literacy through international news. Lenguaje. 45(2), 305–329.

DOI: https://doi.org/10.25100/lenguaje.v45i2.5274

Silvhiany, S., Rahmadhani, S., Inderawati, R., et al., 2023. Integrating climate change into English language teaching: A survey of indonesian teachers' preparedness and perspectives. Voices of English Language Education Society. 7(3), 801–815.

DOI: https://doi.org/10.29408/veles.v7i3.24232

Smith, R., Snow, P., Serry, T., et al., 2021. The role of background knowledge in reading comprehension: A critical review. Reading Psycholo-

gy. 42(3), 214–240.

DOI: https://doi.org/10.1080/02702711.2021.1888348

Soori, A., Kafipour, R., Dakhil, T.A., et al., 2023. The effect of role-play on vocabulary learning and retention in Iranian EFL learners. Forum for Linguistic Studies. 5(2).

DOI: https://doi.org/10.59400/fls.v5i2.1835

Stoecker, R., Avila, E., 2021. From mixed methods to strategic research design. International Journal of Social Research Methodology. 24(6), 627–640.

DOI: https://doi.org/10.1080/13645579.2020.1799639

Strømsø, H.I., Bråten, I., Britt, M.A., 2010. Reading multiple texts about climate change: The relationship between memory for sources and text comprehension. Learning and Instruction. 20(3), 192–204.

DOI: https://doi.org/10.1016/j.learnin-struc.2009.02.001

Trenberth, K.E., 2018. Climate change caused by human activities is happening and it already has major consequences. Journal of Energy & Natural Resources Law. 36(4), 463–481.

DOI: https://doi.org/10.1080/02646811.2018.1450895

Xu, R., Yu, P., Abramson, M.J., et al., 2020. Wildfires, global climate change, and human health. The New England Journal of Medicine. 383(22), 2173–2181.

DOI: https://doi.org/10.1056/NEJMsr2028985

Yucedal, H.M., Kara, S., 2023. The influence of formulaic sequences on students' oral proficiency via collocations and idioms. Problems of Education in the 21st Century. 81(6), 825–839.

Zhang, A., Lipton, Z.C., Li, M., et al., 2023. Dive into deep learning. Cambridge University Press: Cambridge.