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Abstract: Teaching sustainability in the language classroom has the potential to promote both climate action and community engagement, especially when the curriculum is experiential, participatory, and connected to real-world issues. Programs that include hands-on projects, leadership opportunities, and systems thinking encourage meaningful behavior change and climate leadership. They may help students cultivate the resilience required to continue learning in a world of rapidly evolving climate change and determine the most responsible and feasible actions in their context. This article examines the integration of sustainability education and community-engaged learning in postsecondary German classes at all levels, including in a languages for specific purposes course. Drawing from multiple sustainability projects, the authors present a pedagogical framework that combines language-learning tasks with action-oriented approaches to addressing global challenges. The courses and curricula proposed are built around the United Nations Sustainable Development Goals that emphasize student agency, cross-cultural collaboration, and the development of transferable skills.

Keywords: community engagement, education for sustainability, global citizenship, global humanities, language learning

Introduction

In 2020, a global survey answered by 15,000 people, mostly younger than 30, revealed deep-seated anxieties about climate crises, diminishing biodiversity, lack of government action, pervasive racism, and growing economic instability (UNESCO, 2021). Five years earlier, the General Assembly of the United Nations had adopted the 17 Sustainable Development Goals (SDGs) (United Nations, n.d.), culminating in the Paris Agreement on Climate Change when 195 countries pledged close collaboration to limit temperature increases by 2030 (United Nations, 2015). The United States withdrew from the agreement in 2017, rejoined in 2021, and pulled out again in 2025. Concurrently, the rapid growth of artificial intelligence resulted in swiftly increasing demand for electricity and water, significantly slowing alternative energy development and leading corporations to abandon their climate pledges (Green, 2024). Furthermore, governments diluting or abandoning climate agreements and dismissing scientific evidence risks sending the message that what is taught in schools and universities is irrelevant, which, in turn, has implications for teaching (Säfström & Östman, 2020).

Mitigating climate change is more than recycling or conservation; it is a battle of worldviews that requires a process of rebuilding and reinventing the idea of the collective and the civic (Klein, 2015). Language instructors are beginning to recognize the need to prepare students not only for linguistic and intercultural competence but also for active global citizenship in a rapidly warming and increasingly unequal world. Many teachers already include units with

information on sustainability and green economies, yet to reduce a complex issue like climate change to a series of facts and numbers, without placing it into an ethical, political, and social context, reinforces "climate anxiety rather than set[s] out the possibilities for action" (Säfström & Östman, 2020, p. 991). Examples in this article will show ways to teach about the planetary crisis and ready students, as Stein (2024) says, to make their own critically engaged, inquiry-based, socially, and ecologically responsible decisions.

Preparing language students to become engaged citizens in an uncertain future requires rethinking teaching approaches while simultaneously guiding learners toward taking meaningful action. In their study of K-12 after-school programs that combined on-site educational climate-related activities with off-site photography, Trott and Weinberg (2020) found that the more students understand the relevance of sustainability to their lives and communities, the more their motivation to act tends to increase. Orr (1992) advocates for designing class assignments using place-based and participatory approaches to help students gain ecological literacy, learning to understand how natural systems work and applying that knowledge to create sustainable communities. This links abstract education to physical spaces through hands-on observation, investigation, and experimentation, which can lead to higher engagement and willingness to act. Since most universities want their students to gain real-world experiences and develop practical skills for future professions (Houghton et al., 2024), learning how to work effectively across languages and cultures to combat environmental destruction and economic injustice becomes essential to finding ways of mitigating climate change. This then may help address some universities' missions on sustainable climate action in education, research, and campus operations. While language teachers may not be environmental experts, they can help their students develop competencies that are fundamental to global collaboration.

This paper outlines sustainability-focused approaches implemented at two postsecondary German programs at multiple language levels. At the University of St. Thomas, the curriculum of a first- and second-year German program was revised to interweave sustainability and environmental stewardship, while a third-year language course connected students to collaborate on international sustainability initiatives in a community-engaged learning project (CEL). At Boston Univeristy, adding new foci to existing courses and focusing on effective presentational skills in a third-year languages for specific purposes (LSP) course encouraged students to discuss sustainability projects, environmental action, re-read canonical texts through diverse lenses, and learn to communicate complex scientific concepts effectively in the target language and to a lay audience. In both programs, students had the opportunity to turn climate anxiety into action, while also recognizing that challenging entrenched systems of power can lead to stress and burnout and require both self- and collective care (Conner, 2020). The framework presented here demonstrates how language educators can foster both linguistic development, intercultural and global competency, as well as critical engagement with and preparation for responsible and feasible actions to meet global challenges.

Pedagogical Framework

The 2030 Agenda for Sustainable Development (United Nations, 2015) challenges citizens to go beyond individual action and engage at the societal or even global level. Achieving a sustainable lifestyle involves knowledge and skills that recognize human rights and promote cultural diversity and equity. This concept of an active, informed society requires collaborative citizens who are prepared to embrace wider local, national, and even global issues (Chowdhury

et al., 2020). Accordingly, educators should consider how their courses support students to navigate their trajectory from knowledge to action and equip them with competencies to both understand climate change and contribute toward building a better future (Houghton et al., 2024). With their focus on developing students' skills in cross-border communication and understanding, language educators are particularly well positioned to focus on sustainability issues that reach across the globe and allow learners to consider perspectives outside their own culture.

Focused on a "global development with-and-for sustainability," the 17 SDGs demonstrate "the understanding that the environment is not an add-in or in opposition to sustainable development, but rather the base that underpins all other goals" (Woodbridge, 2015, p. 2). Since the SDGs are aimed at addressing economic, environmental, and social sustainability issues, they align effectively with inclusive, critical, and transdisciplinary humanities programs that cultivate students' linguistic, translation, intercultural, and communication skills alongside knowledge of diverse cultures, histories, and languages (Amirell, 2023). Language instructors wanting to address these issues can identify which SDGs complement specific course objectives and integrate them into common themes they cover in their courses to emphasize "a link between promoting ... [environmental] literacy and addressing societal engagement, both individually and collectively" (Chowdhury et al., 2020, p.1). Both language programs discussed here incorporate the SDGs as a framework for having students engage with global sustainability challenges. Activities include exploring the SDGs and their interconnections with local communities and developing action plans for addressing select goals at school, home, or in the community.

The pedagogical approach described in this article draws from several theoretical traditions, ranging from content-integrated and project-based learning to effective science communication, education for sustainable development (ESD), and CEL. At both institutions, instructors work with administrative units that facilitate the development of community-engaged courses or class projects, making learning more impactful and relevant (Rodríguez-Zurita et al., 2024). The approach builds on Orr's (1992) place-based and participatory approaches to help students develop ecological literacy that fosters resilience and responsible decision-making that links abstract education to physical spaces through hands-on observation, investigation, and experimentation. It further integrates Knapp's (2008) notion of place-based learning as community-based, with the environment as an integrating concept, sustainable development education and real-world problem-solving as an integrating concept for curriculum planning, which uses local communities and the environment as a starting point to teach linguistic and cultural concepts. Following an action-oriented approach means that instructors take "task-based learning to a level where the class and the outside world are integrated in genuine communicative practices" and thus promote the organization of learning through realistic, unifying scenarios, culminating in a collaborative project (Council of Europe, 2025, para. 1). Finally, instructors employ what Säfström and Östman (2020) term transactive teaching: a dialogue-driven, constructivist approach in which teachers and learners co-construct knowledge through critical thinking, problem-solving, interaction, and inquiry. This approach focuses on creating understanding through active engagement rather than transmission of knowledge through the teacher, positioning instructors instead as facilitators through which communication involves building on a partner's ideas by critiquing, extending, or integrating them.

Integrating these concepts into language education can offer several advantages. It can strengthen ties between educational institutions and their communities, making learning more impactful and relevant (Rodríguez-Zurita et al., 2024). Further, it can position language learners

as active agents working on real-world sustainability issues while also developing their linguistic abilities (Kazazoğlu 2025; Yu et al., 2024). According to Moghadam et al. (2022) it may also help develop critical thinking, environmental awareness, greater empathy and global citizenship. Teaching in a classroom setting where students and instructor are accustomed to working in teams encourages collective action, builds social trust, and leverages community resources for greater impact (Özcan & Gürsoy, 2024).

To effectively prepare students, the classroom should serve as "a location of possibility" where they can "actively participate and challenge societal boundaries set by race, gender, and class" and "collectively imagine ways to move beyond boundaries, to transgress" (Hooks, 1994, p. 207). By also facilitating affective experiences (Houghton et al., 2024), teachers help students critically analyze their surroundings, encouraging them to reflect and seek ways to transform the world they live in, and evolve from passive recipients of knowledge into active participants who view themselves as agents of social change (Freire, 1998; Houghton et al., 2024; Stein, 2024). Pedagogical approaches that emphasize collaboration and shared learning experiences between instructors and students foster creative engagement with the world, allowing for ethical-political inquiries that can lead to multi-faceted responses to the complexities of climate change and other social, ethical, and epistemological issues (Säfström & Östman, 2020, pp. 998-1000). Such collaborative or *transactive* teaching can bring about change for teachers who thoughtfully consider their teaching methods and acknowledge their own perspectives and vulnerabilities, while fostering a sense of shared responsibility with students and their institutions (Houghton et al., 2024).

Before embarking on sustainability projects, instructors should also consider that the current students' generation has been identified as the first to feel the effects of the climate crisis and the last who can still make a difference (Neubauer & Repenning, 2020). For climate activists Neubauer and Repenning (2020), climate change is a fundamental crisis of humanity that evokes strong anxieties. They urge citizens to embrace these fears and harness the feelings of devastation and sadness as powerful motivators for change, to move towards "possibilism," a middle ground that rejects both blind optimism and paralyzing pessimism. While contemplating climate change can contribute to feelings of depression, recognizing that resolving the larger problem is beyond the reach of mere individual actions enables students to begin thinking more creatively about what they can achieve together in the present moment.

Feelings of distress and climate anxiety can be eased through people-centered and place-based perspectives that encourage diversity and the value of lived experiences, centering agency and co-constructed meaning (Houghton et al., 2024; Säfström & Östman, 2020). Students should also critically examine how public language frames and communicates climate change issues, as well as understand the underlying politics and inequalities, before delving into course projects. In the current context of misinformation, it is essential to equip students with the skills to parse the foundations of knowledge, address differing viewpoints and biases, analyze public discourse on the environment, and discuss the underlying bases of public facts (Bellewes, 2024; Houghton et al., 2024). One such example is the shift from "global warming" to the now dominant term "climate change," which, according to Penz (2017) can be seen as intentionally "detached, remote and abstract" and potentially "veiling human responsibility" (p. 277).

This pedagogical framework illustrates how language learning can be integrated effectively with sustainability education, community engagement, and climate action; all three may be seen as essential for preparing students to address current and future challenges. Linking language learning to real-world issues and action-oriented strategies has the potential not only to

enhance students' linguistic skills but also to help them acquire the knowledge, intercultural abilities, and attitudes required to tackle complex global problems in international teams.

Preparing Language Students for Action Beyond the Classroom

Navigating strong emotions and learning to understand the nuances of public discourse on sustainability, climate, and social justice issues is the first step. Students then need to develop organizational skills before developing action plans. Citizens actively engaged in sustainable development issues may organize, write, and distribute petitions, boycott products and practices, take initiatives to promote behavioral change, work at resolving ethically fair issues, and promote innovative solutions for local and even global problems (Chowdhury et al., 2020). While action-oriented work (engaging more in-depth with sustainability projects in class or taking them to the public, whether in person or virtually), can be empowering, it may also be exhausting, isolating, and even traumatizing. It requires reflection, careful preparation, self-care, the development of trusting relationships among group members, and spaces for sharing and processing adverse experiences. Above all, students need to develop responsible and participatory decision-making skills.

In a simple exercise suitable for learners at novice to high proficiency levels and above, students engage in one-on-one or small group discussions in the target language, based on three questions: (1) What makes me happy or satisfied? (2) What unique skills do I possess, or what am I good at doing? (3) What actions do I believe should be taken regarding climate change? After students share their conversations with the entire class, the instructor encourages them to create a rough draft of a possible action plan that addresses the intersection of these three questions. As part of this activity, the instructor introduces the class to Penniman's model of transformative social justice (Hsiung, n.d.) in a preparatory activity. Students learn that movements for social change are often comprised of groups of people with different strengths and preferences for engagement. Penniman divides the groups into resisters, reformers, healers, and builders who collaborate to achieve their shared goals. In groups, students use their electronic devices to find examples of activities for each category of people: Resisters confront an injustice and organize a protest; reformers propose changes to existing institutions, educate or advocate; healers are therapists, storytellers, or artists who address past oppression and trauma; builders create alternative or new systems. After sharing their ideas with the class, students establish which category they belong to, understanding that they might be a combination of two or more.

Recalling the three questions they discussed at the beginning, students now link their interests and unique skills to their brainstorming on how they might develop meaningful climate action projects. As they discuss and develop possible project ideas, students consider the following in small groups: What skills do we have and how can we use them to act? What resources are available to us to take meaningful action? What additional resources do we need, and which community partners could we connect with to achieve our goals? How will we take care of ourselves to avoid physical, mental, emotional, and spiritual burnout? The goal of this activity is not only to reflect on how to prepare for action beyond the classroom but also to develop presentational skills. Each group then introduces their initial plans to the class. They explain their preferences and describe how their project plays to their individual strengths in a short presentation. Their classmates formulate opinions, compare the proposals with each other, and ask questions to help refine each plan. Proposed projects have included becoming involved

in a group that addresses local aspects of the climate crisis, producing educational materials, composing and performing songs, developing stand-up comedy routines, designing posters, making short films, organizing a campus protest, creating a club to educate their peers, planting a pollinator garden, and inviting a climate activist to campus through the German club. These experiences also provide students with ideas about potential career options. While this is an example of an activity that can be used at the intermediate level and in more advanced (including LSP) courses, the next section describes how sustainability themes are integrated throughout an entire German language program.

One Approach: Revising an Entire Language Curriculum

The University of St. Thomas, located in the Twin Cities, is a private Catholic university with campuses in St. Paul, Minneapolis, and Rome. Founded in 1885, it is the biggest private university in Minnesota with approximately 6,000 undergraduate and 4,000 graduate students. The German program is a one-faculty language, literature, and culture program offering multiple curricular pathways, including a traditional major and minor, a dual degree with engineering, and a teaching licensure program. Due to the program's size and individual attention, the program director has complete control over the entire curriculum, within university guidelines. The program prioritizes workforce development, transferable skills, linguistic abilities, and intercultural competence. Courses span canonical literature, German for the professions, cultural and historical studies, as well as experiential learning, community engagement, and internships. St. Thomas joined a nation-wide network interested in promoting structured programs for the acquisition of German in the United States with resources and know-how (SPARK) funded by the *Goethe Institut USA* and the American Association of Teachers of German (AATG) in early 2023. This enabled the program to extend its existing CEL curriculum with German nonprofits and companies to local K-12 schools, allowing college students to gain applicable real-world experience through team teaching while supporting local K-12 German education. This multifaceted approach allows the German program to serve diverse student needs while maintaining a strong focus on both practical skills and cultural understanding. First- and second-year as well as upper-level courses have been aligned with the university's goals and mission, adding CEL and environmental stewardship flags as well as sustainability designations, allowing them to be counted as electives toward the university's sustainability minor.

One example of early integration of sustainability themes is in the second-semester German class, where environmental stewardship and sustainability questions are interwoven throughout the course, even in modules that are not dedicated to the environment. Students plan a trip along the *German Fairy Tale route* and consider sustainability issues pertaining to transportation, accommodations, gift purchasing, and food options. They analyze statistics about Germans' spending habits for souvenirs and compare them with similar spending habits of US citizens. They also consider their own use of plastic products and discuss alternatives. In addition, students investigate complex sustainability topics. One example is the ban of plastic straws in the European Union (EU) implemented in July 2021 (European Commission, 2021). While students see the reduction in plastic waste as a positive, they also investigate potential negative consequences such as disadvantaging differently abled consumers and the danger of using sharp objects (metal straws) while driving or walking. A second example is the trend of sustainable production of children's toys following increasing demand for "eco-friendly, non-toxic, and ethically produced toys, especially among parents and educational institutions" in

Germany (Viroorah Global Analysis, 2026). Learners use both to consider how the concept of environmental stewardship has affected recent consumer behavior in the United States and in Germany. As a result of these initiatives, the course won the university's *Curricular Innovation in Sustainability Award,* the first time a language class received the honor.

Sustainability Collaboration: Pedagogical Implementation and Community Impact

This section examines a case study of how sustainability-focused community partnerships were successfully incorporated into an advanced language curriculum, specifically within the context of the *Climate Smart Municipalities* program. The Introduction to German Studies course was strategically redesigned to incorporate a community-engaged project focused on climate and energy issues. This curricular innovation coincided with the city of Elk River's participation in *Climate Smart Municipalities*, a transnational collaboration between five cities in Minnesota and municipalities in North Rhine-Westphalia, Germany, coordinated by the University of Minnesota Twin Cities, a large public land-grant research university with more than 50,000 students. Within this framework, Elk River established a partnership with Iserlohn, Germany, to develop and implement energy-efficient and sustainable initiatives (EPIC-Network, 2022).

A particularly noteworthy component of this collaboration centered on Iserlohn's *Konzeptpapier* [concept paper] video contest, an initiative designed to stimulate community engagement with climate-smart and clean energy concepts. Seeking to adapt this successful model for implementation in their own community context, Elk River municipal officials established a partnership with the German language program. This collaboration provided students with an authentic translation and cultural adaptation project while simultaneously addressing a concrete community need. As Kristin Mroz, a city representative, noted: "the students' work and translation saved the city of Elk River time in developing a similar program and was also helpful in promoting the competition and our partnership with our German counterparts" (EPIC-Network, 2022). The students' contributions ultimately facilitated a program-wide video competition between educational institutions in Minnesota and North Rhine-Westphalia, extending the impact globally beyond the immediate classroom and local community.

Through the collaboration with the *Climate Smart Municipalities*, students were introduced to sustainability concepts used in Germany and acquired related vocabulary and language structures. They explored the SDGs and similar frameworks, analyzed sustainability communication models, were introduced to community-engaged action plans, and finally implemented a local sustainability initiative modeled after the global example. The video contest concept paper, translated by the German university students, was used by the City of Elk River to hold their own municipal sustainability video contests in 2019 and 2020. This contest later extended to other cities in Minnesota, resulting in multimedia projects related to sustainability submitted by local K-12 students from across the state. The video projects ranged from growing and eating local produce to saving energy and electro-mobility (Climate Smart Municipalities, 2019, 2020).

The implementation of this CEL project had profound implications for pedagogical practice, as it was the start of a fundamental shift in the program director's teaching philosophy and curriculum development; a transformation that is also reflected in a broader movement in language education toward situated learning experiences that connect classroom instruction with authentic community needs. The curriculum subsequently evolved to incorporate various community-based partnerships across diverse topics, thereby enriching student learning experiences and demonstrating the relevance of German language skills to contemporary issues, particularly in sustainability contexts as promoted

by the UN SDGs. This example illustrates how CEL can be implemented effectively in a local community. By engaging students in identifying important sustainability issues, applying their skills to real-world challenges, assessing available resources, and developing partnerships, the program exemplifies a model for integrating language acquisition with meaningful community engagement and sustainability education.

Adding a "Sustainability Lens" to Existing Curricula

In postsecondary language programs where non-tenured language and tenure-track literature faculty teach courses with different goals, achieving a comprehensive, integrated curricular revision can be more challenging. However, if all faculty agree that a comparative teaching approach provides students with a transdisciplinary framework for language learning, literary and other content analyses throughout, a more global focus in the humanities may allow teachers not only to move beyond the humanities in crisis discourse, but also to better equip students in all courses to face contemporary challenges (Amirell, 2023; Denecke, 2021). While acquiring deep cultural, linguistic, and regional knowledge alongside profound intercultural abilities can be challenging, the more open curricular framework of the global humanities allows faculty to teach courses that are conceptually comparative and encourages students to analyze systemic inequalities. This supports the integration of sustainability-related course content and asks the class to develop "questions that produce bold new knowledge in the humanities today" (Deneke, 2021, p. 482).

Concrete examples of applying an eco-critical lens to canonical literature will show how students can study the roles of culture and the arts regarding the SDGs and climate change. In the following sections, we show how five SDGs can function as a road map for course and assignment transformation: #7: *Bezahlbare und saubere Energie* [Affordable and Clean Energy], #10: *Weniger Ungleichheiten* [Reduced Inequalities], #11: *Nachhaltige Städte und Gemeinden* [Sustainable Cities and Communities], #12: *Nachhaltige/r Konsum und Produktion* [Responsible Consumption and Production], and #13: *Massnahmen zum Klimaschutz* [Climate Action]. Here we outline how instructors can integrate them into grammar and vocabulary exercises they already cover in a specific segment of their lower-level courses and develop written assignments, presentations, or projects. As a result, students learn to identify environmental challenges and learn about different models of sustainability while acquiring pertinent vocabulary, writing, and speaking skills.

Lower-level Language Courses

The following activities are designed to familiarize students with the SDGs and help them acquire the vocabulary they will need at higher proficiency levels. At lower proficiency levels, students can engage meaningfully with SDGs 7, 11, 12, and 13 to calculate their environmental footprint with an online interactive tool (Global Footprint Network, n.d.). First, student groups analyze individual SDGs and provide examples for each. Then, they work in groups to discuss and compare each other's food habits, where and how they live, energy consumption, how much trash they generate, and use of transportation. After comparing notes, they develop suggestions for improvement together, using the calculator to lower their footprint, where possible. Depending on the students' proficiency level, the activities can be simple (e.g., *Wie kommen Sie zur Arbeit/zur Universität/nach Hause?* [How do you get to work/to the

university/home]; *Wie viele Kilometer fahren Sie jede Woche?* [How many kilometers do you drive each week?]; *Wie viele Stunden fliegen Sie jedes Jahr mit dem Flugzeug?* [How many hours do you travel by plane each year?]; *Welche Tierprodukte essen Sie und wie oft?* [How often and which animal products do you eat?]); *Wie viel und was für Energie verbraucht Ihr Auto oder Ihr Transportmittel*? [How much fuel and what kind of fuel does your vehicle or mode of transportation use?]; or more involved (e.g., *Wie viel Prozent und welche Ihrer Elektrizität ist nachhaltig?* [What percentage of your electricity use comes from renewable sources? What are they?]; *Was für Essensgewohnheiten haben Sie? Wieviel ist organisch, hat keine Verpackung, ist regional*? [What are your food habits, and what percentage of your food is unprocessed, has no packaging, and is regionally grown?]). In lower-level courses, students can make comparative lists and discuss them; at higher proficiency levels, students develop suggestions for more sustainable living, requiring them to practice more complex language forms depending on the group's average proficiency-level. These range from stating viewpoints with supporting evidence to providing detailed explanations or analyses.

These and other SDGs also lend themselves to an activity that initiates student discussions on ways of reducing, reusing, recycling, repairing, and ultimately refusing to support unsustainable habits. Lower-level students choose expressions from a word bank, provide definitions, and give examples for each activity. Using a digital or a class whiteboard allows other groups to add additional information. Once they have developed some ideas, they discuss how to live more sustainably and either collaboratively write a pledge or create posters that outline several sustainable shopping rules.

In a second-year course, the instructor finds an infographic on the internet that introduces learners to the concept of fast fashion, allowing students to develop vocabulary, discuss alternatives, generate keywords, and analyze statistics before discussing their habits and proposing several principles for dressing more sustainably. Learners may touch on some of the following: use natural or sustainably developed materials, avoid plastic and other unnecessary packaging, use natural dyes, and use renewable energy for production. After sharing how they could dress more sustainably, they added SDG #10: Reduced Inequalities to their discussion. Combined with the information they received previously and their knowledge of the definitions of the SDGs, they can discuss inequities such as sweatshops in other countries that produce fast fashion. Students are asked to propose solutions formulated as imperatives, such as: do not always buy the newest fashion; wear your clothes longer; learn how to repair them; borrow or rent clothes for special occasions; buy used clothes; or boycott irresponsibly produced fashion.

In that same second-year level course, a short video about a climate blogger and her husband who endeavor to lead a climate-neutral life in a large German city (TVThek, 2019) can serve as a springboard to discussing opportunities and challenges of sustainable living. The couple discusses shopping without packaging, minimal trash generation (1 liter per year), sustainable food consumption, use of public transportation and bicycles only, composting with worms in the kitchen, owning only a few items of clothing that can all be combined and worn by both, and collecting chestnuts in city parks to create detergent. Students discuss if they do some of the things the video highlights, determine what they would like to try as well, and what they do not see themselves doing. They discuss the costs of climate-friendly or climate-neutral living and possible differences between urban and rural settings. Over the next few weeks, students post some changes they have made to their lifestyles to a class discussion forum, comment on each other's posts, reflect on the long-term feasibility of their choices, and discuss how they can get their roommates, friends, or family members to make changes to their lifestyles.

Two Advanced Courses

Introduction to Reading German Literature, a third-year language course that introduces students to various literary genres, also helps them develop effective reading and writing strategies. Additionally, this course teaches the analysis of certain texts through a sustainability lens. Fiction can enable readers to imagine a world different from our own, thereby helping them envision alternative forms of human existence—an essential challenge posed by climate change (Ghosh, 2016).

The course begins with fairytales, many of which were written as counter-narratives to the growing environmental destruction wreaked by the Industrial Revolution, resultant urbanization, deforestation, and poverty. As students read three vastly different tales, *Rotkäppchen* [Little Red Cap], *Der süße Brei* [Sweet Porridge] (both Grimm & Grimm, 1843), and *Der Königssohn* [The Queen's Son] (Arnim, 1965), they also consider how the arts and culture can address global challenges and make the SDGs more impactful.

While the general plot of *Rotkäppchen* is unfamiliar to students, the other two stories are usually new to them. *Der süße Brei* is about a starving mother and daughter who obtain a magic pot that cooks porridge. The daughter knows the words that control the device; her mother does not. After the mother uses it in the girl's absence and cannot stop it, the girl comes back and prevents the pot from burying the entire town. *Der Königssohn* is the story of a queen whose husband is repulsed by her pregnant body and banishes her from the castle to the gardens, where, seven years later, she gives birth to seven sons. A river runs between the castle and the woods beyond, where the wild animals live. Due to her seven-year-long pregnancy, the sons are all born as strong seven-year-olds, and immediately after birth, the oldest is carried across the river into the forest by a she-bear. The queen dutifully raises her other sons but continues to mourn the oldest. Meanwhile, the king finds his remaining six sons all eligible to rule and is about to crown them all when the firstborn son returns as king of the animals. He ascends his father's throne together with his brothers, speaking only the language of the animals.

Students are first asked to identify the tales' heroes and antagonists, as well as the story structures. With these prompts, students typically start by sharing straightforward readings about gender, power, or family relations. However, since this is an advanced course, the instructor can encourage students to re-read the texts while applying an eco-critical lens, i.e. study the relationship between literature and the physical environment and examine how language shapes human perceptions of the natural world. Such readings may help them uncover descriptions that normalize ecological degradation or anthropocentrism and re-interpret the texts in a way that deconstructs dualisms like nature/culture or human/animal (Clark, 2011; Giacoppe, 2018).

After their eco-critical analyses of the texts, students choose one of the following scenarios to discuss and work on in groups:

(1) Determine how *Rotkäppchen* would have to change if the forest had disappeared through deforestation or forest fires, and use the tale as the basis for a poster for climate action (SDG 13);

(2) Consider the relationship between nature and human civilization in *Der Königssohn* through the lenses of SDGs 15: *Leben an Land* [Life on Land] and 17: *Partnerschaften zur Erreichung der Ziele* [Partnerships for the Goals];

(3) Interpret *Der süße Brei* through the lens of SDG 12: *Nachhaltige/r Konsum und Produktion* [Responsible Consumption and Production] and craft a public service announcement (PSA).

Subsequent student work can be thoughtful and creative. In our experience, one student group designed a poster featuring *Rotkäppchen* and her grandmother as climate activists, inviting concerned citizens to a community center to discuss organizing against a large logging company about to destroy the forest and the wolf's habitat. One reading of *Der Königssohn* was a critique of the abuse of nature associated with the language of rationalism and science; another interpretation saw the story's ending as portraying a society having achieved both SDG 15 and 17. *Der süße Brei* was interpreted as a story about food waste and the environmental consequences of industrialized food production and resulted in creative PSAs.

Using works of fiction to convey sustainability issues helps students realize that storytelling is a powerful tool to "transform people's attitudes, values, and structures of perception" (Oziewicz, 2022, n.p.). This positions them well for similar analysis of other media (video and newspaper), while also preparing them for the final assignment, writing their own piece of climate fiction. In groups, they reiterate how fairytales are typically structured before watching the video *Cotton Dreams* (INKOTA-Netzwerk, 2012), produced by the human rights organization INKOTA (acronym for *Information, Koordination, Tagungen* [Information, coordination, conferences]). The film begins with a little girl asking her father to tell her a bedtime story. He obliges, warning her it is a scary story from the cotton fields of Uzbekistan. After he has finished, she looks at her pajamas and blanket and asks if they are made of Uzbek cotton. Before closing her door, her father says, "Probably." The film ends with a call to end the exploitation of people in Uzbekistan.

After watching the video, students compare it to a news article about labor practices in the Uzbek cotton industry (Cramon, 2012). They note how many tons of cotton are generated annually, the number of children working in the fields and under which conditions, what access they have to education, and how resistance is punished. Then, learners work in groups to discuss whether they find it effective to use the fairy tale format to raise awareness of unfair labor practices. As they report back to the class, the instructor explains that human rights campaigns led by INKOTA and other organizations led to labor reforms in Uzbekistan, ostensibly ending child and forced labor after 2012. As they prepare for their writing assignment, they brainstorm ideas with each other and develop outlines for their own stories about unfair labor conditions in a context of their choice; they decide who the antagonists and heroes are, what purpose labor serves in their story (or fairy tales in general), and how the hero is redeemed.

Science and Culture, a third-year LSP course, which enrolls students majoring in business and the natural sciences, is designed to help students develop strategic thinking abilities, digital storytelling skills, and collaborative capabilities that prepare them to work in a variety of fields. From the first day of class, the instructor seeks to create a cooperative learning environment by ensuring that every group member teaches and learns, assumes a variety of roles, and everyone is co-responsible for the learning outcome of the whole group through active listening, collective readings, and student-facilitated discussions (Prádanos, 2015, pp. 162-3). Students come to this course with majors ranging from natural or social sciences to the arts, language, and literary studies. They develop projects that allow them to draw on their chosen fields, which results in the discussion of multiple approaches to issues from diverse, even conflicting points of view. Because environmental issues are global and transdisciplinary, an LSP course is a natural fit for learning how to share specialized information with a non-specialist audience in the target language. This is also where natural sciences intersect with social sciences, the arts, and literary studies.

The course is built around *Die Vermessung der Welt* [Measuring the World], a novel of two 19th-century scientists: mathematician C. F. Gauss and the naturalist A. v. Humboldt (Kehlmann, 2005). Since the story is linguistically complex, analyzing it collectively also helps prepare the students for effective collaboration as outlined by Prádanos (2015) above. Having read the first chapter collaboratively online using the social reading and annotation platform *Perusall* (King et al., 2015), students work in groups in class to develop effective comprehension questions about the chapter. Once they have shared the questions, classmates analyze them, determine what makes a good question, work on improving them, provide follow-up questions, and discuss the chapter as a group. Students then sign up as discussion leaders for the following chapters. In dyads or triads, they prepare to present to the class the chapters they are responsible for and lead the class discussion, using questions classmates have posted on the online class discussion board before the class meeting. Reading the novel collectively ensures that students rely on each other's subject knowledge and understanding of the material to discuss the book. Collaborating to acquire content knowledge (in this case, of the novel) mirrors the type of work needed to advance climate solutions.

While the novel and supplementary assignments introduce students to Humboldt's insights from his Latin American expedition, they also give students opportunities to connect Western exploration to racism, colonialism, capitalism, and climate change. As a result of his travels, Humboldt developed the idea of climate zones, invented isotherms, and discussed human-induced climate change (Rawding, 2017; Wulf, 2015). Humboldt's insistence that "nature had to be experienced through feelings" (Wulf, 2015, p. 4) combines "exact scientific data with an emotional response to what he was seeing" (p. 36). He also respected local Indigenous knowledge and condemned colonial practices such as slavery, environmental exploitation, and rampant deforestation as unjustifiable (Rawding, 2017). A class discussion on the effects of the global capitalist economy, nation-states, and the legacies of European colonialism on climate change offers an opportunity for the instructor to introduce the work of Black and Indigenous scholars who argue that ecological crises and colonial violence share the same root cause and question the effectiveness of implementing social and environmental reforms within current systems (Ituen & Hey, 2021; Stein, 2024; Sultana, 2022). Instead of trying to modify the current system to benefit more people in more sustainable ways, students explore possible processes for disinvesting and creating space for alternative approaches.

The students taking this course are typically German minors who major in the sciences, social sciences, communication, or the arts. Most universities' general education requirements—the authors' institutions are no exception—aim to help students develop effective interpersonal communication skills. This course culminates with students presenting their projects digitally to an audience of German speakers. To prepare for this, they need to determine how to use effective communication strategies in the target language. While science communication is an essential practice for scientists to both convey information and combat misinformation, it is an important skill for all undergraduate students (Shivni et al., 2021). Science students in this course collaborate with students majoring in the humanities, social science, art, communication, and music to find effective and innovative ways of using the target language to reach non-specialist audiences when they explain complex research projects in their majors.

Before students begin creating their presentations and consider which digital technology they want to use to communicate their ideas, they analyze how effective science communication works. First, they read guidelines on effective science communication published by the American Association for the Advancement of Science (n.d.) and translated into German by the instructor.

Students keep these questions in mind as they develop their presentations, which then comprise the task rubric:

(1) *Welchen Einfluss meine wissenschaftliche Forschung auf das Leben anderer?* [How does my scientific research impact others' lives?];
(2) *Möchte ich andere aufklären, ihr Bewusstsein schärfen oder sie dazu anhalten, Veränderungen vorzunehmen* [Do I want to educate, raise awareness, or encourage change?];
(3) *Wie stelle ich eine Verbindung zum Publikum her?* [How do I connect with the audience];
(4) *Welche Bilder und Statistiken helfen mir, meine Arbeit klar darzustellen?* [Which visuals and statistics will help me present my work clearly];
(5) *Welche drei Punkte möcht ich besonders betonen?* [Which three points do I want to emphasize];
(6) *Wie beschreibe ich den wissenschaftlichen Prozess und konzentriere mich nicht nur auf die Ergebnisse* [How do I emphasize the scientific process instead of focusing on the results?];
(7) *Handelt es sich um technologische, finanzielle, pädagogische oder politische Themen?* [Is my topic technological, financial, educational or political?];
(8) *Warum ist meine Forschung relevant und spannend*? [Why is my research relevant and exciting?].

Second, the students watch a video by award-winning German chemist and science communicator Mai Thi Nguyen-Kim in class, entitled *Gehen Vitamine beim Kochen von Gemüse kaputt?* [Do vitamins get destroyed when you cook vegetables?] (Maithink X, 2017). After watching, they form groups and analyze her approach to breaking down complex concepts, and they discuss which strategies they found effective, and which ones they did not. Students comment on the visuals, numbers, and texts Nguyen-Kim uses to communicate with non-specialist audiences. They also discuss how the video is structured to hold viewers' interest, commenting on how they themselves watch videos, why they might stop watching a given video, and speculate on the ideal length of a video presentation. Students analyze which titles could arouse a viewer's curiosity, what kinds of hooks might keep people watching, and how an effective ending could encourage action. Before students start working on their projects, they watch a few more YouTube videos of their choice and take notes on different presentational strategies to decide what approaches they might want to emulate.

Once students decide on their projects, they work in groups to brainstorm ideas for their presentations. They ask questions and provide suggestions to each other. Before they begin developing their presentations, they identify their target audience, consider the communication purpose and desired outcome, select a complex topic to highlight, and choose appropriate language, stylistic elements, images, written text, and numbers. They then write a script for a presentation that lasts no longer than five minutes, soon realizing the challenge of being both brief and informative at the same time. Students have the option to choose from various communication technologies for their projects. Once they complete their projects, they upload them to individual Google folders, which also contain evaluation rubrics. This allows the instructor to share the links with German speakers across campus and the community who have agreed to watch and judge the videos following a rubric developed by the class and shared with the viewers. The videos were judged on comprehensibility of the research project, quality of the digital component, clarity of language, and pacing. In the comment section, viewers provided

suggestions ranging from asking presenters to clarify their research question to explaining more clearly how they arrived at a conclusion.

In our experience teaching this course, student evaluations revealed that although students were initially apprehensive about creating digital presentations for an unseen audience, they felt empowered once they had completed the project and read the thoughtful feedback and suggestions from their viewers. They further noted that the multiple preparatory steps and brainstorming sessions in groups, discussing how to effectively communicate complex concepts to a non-specialist audience in German, led them to think more carefully about presentations they were preparing in their other (non-language-focused) courses. Above all, they expressed increased confidence that some of the presentational skills they had acquired, such as paraphrasing, defining, describing a process, and graphic organizing of research questions, would be beneficial in their future careers.

Conclusion

Language teachers are increasingly acknowledging that the climate crisis requires new methods for preparing students for the future (Barber et al, 2022; Hauschild, et. al., 2012; Webb, et. al, 2024). By providing practical, relevant, and engaging experiences in tasks such as those described in this paper, language educators can help students realize their ability to act while fostering critical thinking, knowledge, empathy, and optimism. To create a classroom environment that promotes the development of students' intellectual, emotional, and interpersonal skills for addressing the challenges of the climate crisis and environmental issues, instructors may help students build the endurance and resilience needed to engage with these realities in meaningful and responsible ways. As Stein (2024) emphasizes, this approach prevents students from feeling overwhelmed or hopeless.

Future research should investigate the long-term effects of these teaching approaches on the development of advanced language proficiency and climate action. Key questions to explore further include: (1) Does interdisciplinary learning promote a holistic understanding of environmental challenges? (2) Can specific classroom strategies cultivate eco-critical language awareness, as discussed by Clark (2011), Giacoppe (2018), and Penz (2017), allowing students to review and evaluate different perspectives on sustainability discourses? (3) How can these strategies be implemented within the constraints of institutional structures? (4) Can literature and the arts inspire learners to envision alternative futures and develop creative actions? (5) Can global comparative humanities, which aim to create more equal societies by studying diverse histories rather than solely Western perspectives (Denecke, 2021), foster eco-literacy (Knapp, 2008; Orr, 1992) and promote climate justice?

References

American Association for the Advancement of Science. (n.d.). AAAS Communication Toolkit. https://www.aaas.org/resources/communication-toolkit

Amirell, S. (2023). From global studies to global humanities. *Humanities 12.2*(27). https://doi.org/10.3390/h12020027

Arnim, B. von (1965). Der Königssohn. In G. Konrad (Ed.), *Märchen der Bettine, Armgart und Gisela von Arnim* (pp. 4-8). Frechen: Bartmann.

Barber, D., Bilsborough, K., Graham, C., & Kral, T. (2022). Climate action in language education: Activities for low resource classrooms. *Teaching English*. https://www.teachingenglish.org.uk/sites/teacheng/files/2022-04/Climate_action_language_education_Activities_low_resource_classrooms.pdf

Bellewes, E. (2024). *Ecolinguistics and environment in education. Language, culture and textual analysis.* New York: Bloomsbury Academic.

Chowdhury, TBM, Holbrook, J., & Rannikmäe, M. (2020). Addressing sustainable development: Promoting active informed citizenry through trans-contextual science education. *Sustainability, 12*(8), 3259. https://doi.org/10.3390/su12083259

Clark, T. (2011). Introduction: The challenge. In T. Clark (Ed.), *The Cambridge introduction to literature and the environment* (pp. 1-11). Cambridge University Press.

Climate Smart Municipalities. (2019). 2020 Video Competition. [14 Videos] https://www.youtube.com/watch?v=iyboNDsP_Tc&list=PLplJY-hD27fA1mH27NF0blP6gAFx8xGgB

Climate Smart Municipalities [Duluth 1]. (2020) 2020 Video Competition. [Video] https://www.youtube.com/watch?v=OvfxNE6nCfE&t=13s

Conner, J. O. (2020). *The new student activists: The rise of neoactivism on college campuses.* Baltimore: Johns Hopkins University Press.

Council of Europe (2025). *The action-oriented approach. Common European Framework of Reference for Languages (CEFR).* https://www.coe.int/en/web/common-european-framework-reference-languages/the-action-oriented-approach

Cramon, V. von (2012, February 17). Staatlich organisierte Kinderarbeit in Usbekistan. *Neue Zuercher Zeitung.* https://www.humanrights.ch/cms/upload/pdf/120217_NZZ_Kinderarbeit_Usbekistan.pdf

Denecke, W. (2021). Comparative global humanities now. *Journal of World Literature, 6*(4), 479-508.

EPIC-Network. (2022, September 29). *EPA Resilience Series with Elk River, Minnesota and the University of St. Thomas* [Video]. https://www.youtube.com/watch?v=6IqzV6-ywk4

Knapp, C. E. (2008). Place-based curricular and pedagogical models: My adventures in teaching through commonity contexts. In D. A. Gruenewald & G. A. Smith (Eds.), *Place-based education in the global age. Local diversity* (pp. 5-28). New York: Lawrence Erlbaum

Maithink X (2017, February 2). *Gehen Vitamine beim Kochen von Gemüse kaputt?* [Video]. Youtube. https://www.youtube.com/watch?v=ikhlr8P50IU

European Commission (2021). EU Restrictions on Certain Single-Use Plastics. Information and Resources on the New EU-Rules on Single-use Plastics. [Website]. https://environment.ec.europa.eu/topics/plastics/single-use-plastics/eu-restrictions-certain-single-use-plastics_en?prefLang=de

Freire, P. (1998). Cultural action for freedom. *Harvard Educational Review 68*(4), 476-522. https://doi.org/10.17763/haer.68.4.656ku47213445042

Giacoppe, M. (2018). Knowing our place: Teaching world literature and environmental issues. In L. Viakinnou-Brinson (Ed.), *Environment and pedagogy in higher education* (pp. 1-12), Lanham, MD: Lexington.

Global Footprint Network. (n.d.). https://www.footprintcalculator.org/

Ghosh, A. (2016). *The great derangement: Climate change and the unthinkable*. Chicago: University of Chicago Press.

Goethe Institute. SPARK for German https://www.goethe.de/ins/us/en/spr/unt/efd/spa.html

Green, J. (2024, August 29). Why big corporations are quietly abandoning their climate commitments? *Forbes.* https://www.forbes.com/sites/jemmagreen/2024/08/29/why-big-corporations-are-quietly-abandoning-their-climate-commitments/

Grimm, J. & W. (1983). Rotkäppchen. *Kinder- und Hausmärchen*. Halle an der Saale, Otto Hendel. https://www.projekt-gutenberg.org/grimm/khmaerch/chap028.html

Grimm, J. & W. (1843). Der süße Brei. *Kinder- und Hausmärchen*. Halle an der Saale, Otto Hendel. https://www.projekt-gutenberg.org/grimm/maerchen/chap166.html

Hauschild, S., Poltavtchenko, E., & Stoller, F. L. (2012). Going green: Merging environmental education and language education. *English Teacher Forum, 2*, 2-9. https://americanenglish.state.gov/files/ae/resource_files/50_2_3_hauschild-et-al.pdf

Hooks, B. (1994). *Teaching to transgress. Education as the practice of freedom*. New York: Routledge.

Houghton, S., Garvey, J., Conor, L., Brooke, W., Dehm, J., Gamble, R., Habib, B., Holmes, K., Millner, J., and Strickland, K. M. (2024). Toward an interdisciplinary agenda for teaching in the climate crisis: Reflections from the humanities and social sciences. *Environmental Education Research, 30*(11), 2007-2019. https://doi.org/10.1080/13504622.2023.22733791

Hsiung, M. (n.d.). *One Movement, Four Wings: Connecting climate Strategies.* https://branch.climateaction.tech/issues/issue-8/connecting-climate-strategies/

INKOTA-Netzwerk. (2013, January 10). *Cotton dreams*. [Video]. Youtube. https://www.youtube.com/watch?v=Lee_m9mNP2M

Ituen, I., & Hey, L. T. (2021, November). *Der Elefant im Raum - Umweltrassismus in Deutschland.* Heinrich-Böll-Stiftung. www.boell.de/publicationen. https://creativecommons.org/licenses/by-nc-nd/4.0

Kazazoğlu, S. (2025). Environmental education through eco-literacy: Integrating sustainability into English language teaching. *Sustainability 17*(5), 2156, https://www.mdpi.com/2071-1050/17/5/2156

Kehlmann, D. (2005). *Die Vermessung der Welt*. Hamburg: Rowohlt.

King, G., Lukoff, B., Mazur, E., & Miller, K (2015). *Perusall*. Social learning for reading and annotating. (Computer software). Cambridge, MA. https://www.perusall.com/

Klein, N. (2015). *This changes everything: Capitalism vs. the climate*. New York: Simon and Shuster

Maithink X (2017, February 2). *Gehen Vitamine beim Kochen von Gemüse kaputt?* [Video]. Youtube. https://www.youtube.com/watch?v=ikhlr8P50IU

Moghadam, N., Narafshan, M., & Anjomshoa, L. (2022). Education for sustainable development: Effects of sustainability education on English language learners' empathy and reading

comprehension. *The Journal of Environmental Education*, 53, 280 - 289. https://doi.org/10.1080/00958964.2022.2107605.

Neubauer, L., & Repenning, A. (2020). *Vom Ende der Klimakrise: Eine Geschichte unserer. Zukunft* (2nd ed.). Stuttgart: Klett-Cotta.

Orr, D. W. (1992). *Ecological literacy: Education and the transition to a postmodern world.* Albany: SUNY Press.

Özcan, E., & Gürsoy, P. (2024). Enhancing language skills and environmental literacy: An eco-pedagogical approach to teaching English to young learners. 2024: Proceedings of Teaching and Educational Research Association (TERA). https://grdspublishing.org/index.php/PUPIL/article/view/2527

Oziewicz, M. (2022, January 14). Why children's stories are a powerful tool to fight climate change. *Yes!* https://www.yesmagazine.org/opinion/2022/01/14/climate-change-childrens-stories

Prádanos, L. I. (2015). The pedagogy of degrowth: Teaching Hispanic studies in the age of social inequality and ecological collapse. *Arizona Journal of Hispanic Cultural Studies, 19*, 153-168.

Penz, H. (2017). 'Global warming' or 'climate change'? In A. F. Fill & H. Penz (Eds.), *The Routledge handbook of ecolinguistics* (pp. 277-292. London: Routledge.

Rawding, C. (2017). 'Nature' and the legacy of Alexander von Humboldt. *Geography, 102*(2), 95-98.

Rodríguez-Zurita, D., Jaya-Montalvo, M., Moreira-Arboleda, J., Raya-Diez, E., & Carrión-Mero, P. (2024). Sustainable development through service learning and community engagement in higher education: a systematic literature review. *International Journal of Sustainability in Higher Education*, *26*(1), 158-201. https://doi.org/10.1108/ijshe-10-2023-0461.

Säfström, C. A., and Östman, L. (2020). Transactive teaching in a time of climate crisis. *Journal of Philosophy of Education, 54*(4), 989-1002.

Shivni, R., Cline, C., Newport, M., Yuan, S., & Bergan-Roller, H. E. (2021). Establishing a baseline of science communication skills in an undergraduate environmental science course." *International Journal of STEM Education, 8*(47). https://doi.org/10.1186/s40594-021-00304-0

Stein, S. (2024, November-December). Making space for critical climate education. *About Campus*, 1-13. https://orchid.org/0000-0001-6995-8274

Sultana, F. (2022). "The unbearable heaviness of climate coloniality." *Political Geography 99*: 102638. https://doi.org/10.1016/j.polgeo.2022.102638

The Newsroom (2022, December 12). Sustainable Communities Partnership Inspires University-City Collaboration for Resiliency. https://news.stthomas.edu/sustainable-communities-partnership-inspires-university-city-collaboration-for-resiliency/

Trott, C. D., & Weinberg, A. E. (2020). Science education for sustainability: Strengthening children's science engagement through climate change learning and action. *Sustainability, 12*(16), 6400. https://doi.org/10.3390/su12166400

TVThek. (2019, December 7). *ZDF Volle Kanne: Klimaneutral leben*. [Video]. Youtube. https://www.youtube.com/watch?v=xWvSw7VFZZQ

UNESCO (2021). *The World in 2030. Public Survey Report*. https://www.unesco.org/en/articles/unesco-world-2030-survey-report-highlights-youth-concerns-over-climate-change-and-biodiversity-loss

United Nations (n.d.). *Department of Economic and Social Affairs. The 17 Sustainable Development Goals.* https://sdgs.un.org/goals

United Nations (2015). *Transforming Our World: The 2030 Agenda for Sustainable Development*. https://sdgs.un.org/2030agenda

Viroorah Global Analysis (2026). Germany Sustainable Toys Market Strategic Research Framework and Industry Outlook. LinkedIn. https://www.linkedin.com/pulse/germany-sustainable-toys-market-strategic-research-wqdff/

Woodbridge, M. (2015, Sept. 2). From MDGs to SDGs: What are the sustainable development goals? *ICLEI Briefing Sheet, Urban issues, 1*, 1-4.

Webb, A., Beach, R., & Share, J. (Eds.) (2024). *Empowering youth to confront the climate crisis in English language arts.* New York: Teacher College Press.

Wulf, A. (2015). *The invention of nature: The adventures of Alexander von Humboldt, the lost hero of science.* Hachette, UK. John Murray.

Yu, B., Guo, W., & Fu, H. (2024). Sustainability in English language teaching: Strategies for empowering students to achieve the sustainable development goals. *Sustainability*, *16*(8), 3325. https://doi.org/10.3390/su16083325.