

Integrating Education and Responsibility: Enhancing Carbon Neutrality through CSR, EnEd, and USR Synergies

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Abstract

This article analyses the dynamic relationship between Corporate Social Responsibility (CSR), Environmental Education (EnEd), and carbon neutrality in the industrial sector, with a special focus on the enhancing role of University Social Responsibility (USR). Through a detailed analysis of various case studies, we examine how integrated CSR and EnEd approaches contribute to effective carbon-zero/negative initiatives. The study employs a mixed-methods approach, incorporating both qualitative and quantitative data, and includes insights from a comprehensive literature review of USR case studies focused on environmental sustainability. Findings reveal that EnEd significantly influences CSR strategies, which in turn impact carbon neutrality efforts. The introduction of USR is proposed as a key component to strengthen this sequential link, fostering a more holistic approach to sustainability. Novel recommendations for future academic research and strategic directions are presented, emphasizing interdisciplinary studies, technological integration in sustainability efforts, and the importance of aligning educational initiatives with corporate environmental goals. The article contributes to the ongoing discourse on CSR and EnEd's role in achieving environmental sustainability, highlighting the need for collaborative efforts between academia, industry, and policymakers in fostering a sustainable future.

Keywords:

Corporate Social Responsibility (CSR), Environmental Education (EnEd), University Social Responsibility (USR), Carbon Neutrality, Sustainability in Industry, Academic-Industry Collaboration.

Abstrakt

Tento článek zkoumá dynamický vztah mezi společenskou odpovědností firem (CSR), environmentálním vzděláváním (EV) a uhlíkovou neutralitou v průmyslovém odvětví se zvláštním zaměřením na posilující roli společenské odpovědnosti univerzit (USR). Prostřednictvím podrobné analýzy různých případových studií zkoumáme, jak integrované přístupy CSR a EV přispívají k účinným iniciativám zaměřeným na nulové/negativní emise uhlíku. Studie využívá přístup smíšených metod, zahrnuje kvalitativní i kvantitativní údaje a zahrnuje poznatky z komplexního přehledu literatury o případových studiích USR zaměřených na environmentální udržitelnost. Zjištění ukazují, že EnEd významně ovlivňuje strategie CSR, které následně ovlivňují úsilí o uhlíkovou neutralitu. Zavedení USR je navrženo jako klíčová součást pro posílení této sekvenční vazby, která podporuje holističtější přístup k udržitelnosti. Jsou uvedena nová doporučení pro budoucí akademický výzkum a strategické směry, přičemž je kladen důraz na interdisciplinární studie, technologickou integraci v úsilí o udržitelnost a důležitost sladění vzdělávacích iniciativ s podnikovými environmentálními cíli. Článek při-

spívá k probíhající diskusi o CSR a úloze EV při dosahování environmentální udržitelnosti a zdůrazňuje potřebu spolupráce mezi akademickou obcí, průmyslem a tvůrci politik při podpoře udržitelné budoucnosti.

Klíčová slova

Společenská odpovědnost firem (CSR), Environmentální vzdělávání (EnEd), Univerzitní společenská odpovědnost (USR), Uhlíková neutralita, Udržitelnost v průmyslu, Akademicko-průmyslová spolupráce.

Introduction

In the contemporary business landscape, characterized by increasing environmental challenges, the integration of Corporate Social Responsibility (CSR) and Environmental Education (EnEd) into business practices has become essential in steering industries towards sustainability, particularly in achieving carbon-neutral, zero, or negative carbon footprints. This article examines the current landscape of these initiatives, analyzing how the synergies between CSR and EnEd have catalyzed progress towards environmental sustainability.

The concept of CSR has evolved significantly, extending its focus beyond traditional philanthropy to encompass broader sustainability issues, including climate change (Meng, Zang, & Li, 2023). As a crucial contributor to global carbon emissions, the industrial sector has increasingly recognized the importance of integrating CSR into their core operations, not merely as a response to regulatory pressures but as a strategic business imperative. This transformation reflects a growing consciousness within the corporate world of its responsibility in mitigating climate change and the necessity of adopting sustainable practices.

Environmental education plays a complementary role in this endeavor, contributing not only to a deeper understanding of environmental issues among stakeholders but also cultivating a culture of sustainability within organizations (Gupta & Kasliwal, 2018). The importance of CSR programs in minimizing pollution and managing carbon footprints is highlighted in industries like footwear manufacturing, demonstrating how EnEd shapes corporate strategies and employee engagement in sustainability practices (Gupta & Kasliwal, 2018).

The article aims to critically assess the impact of CSR and EnEd initiatives on carbon-neutral endeavors, proposing changes needed in these domains to pave the way for a sustainable future. The final section presents a call to action for academia to champion these changes, emphasizing the vital role of research and education in shaping a more sustainable and environmentally responsible corporate world.

Let's start with the background on which this analysis is set.

Background

Corporate Social Responsibility and Environmental Sustainability

The evolution of Corporate Social Responsibility (CSR) from traditional philanthropy to a key driver in environmental sustainability reflects a significant shift in corporate strategy. Meng, Zang, & Li (2023) underscore the importance of CSR in enhancing corporate carbon performance, particularly for firms with strong governance structures. Parallely, Mandal (2022) emphasizes the socio-legal aspects of CSR, highlighting the crucial role of businesses in mitigating climate change and supporting governmental policies. Similarly, Ramakrishnan (2017) discusses the evolving roles of government and business in India, underlining the significance of CSR in addressing broader developmental challenges.

Environmental Education and Its Influence on CSR

Environmental Education (EnEd) complements CSR initiatives by fostering a sustainability culture within organizations. EnEd's impact is not limited to formal training but extends to shaping corporate strategies and stakeholder engagement in sustainability. Gupta & Kasliwal (2018) illustrate this in the footwear industry, where CSR, underpinned by EnEd, led to significant pollution reduction. Karabašević, Petrović, & Maksimovic (2016) further discuss how different educational levels affect the perception of CSR in Serbia, shedding light on the evolving understanding of CSR and its influence on corporate behavior.

CSR in Diverse Geographical Contexts

The implementation of CSR varies across different geographical contexts, each presenting unique challenges and opportunities. Shubita, Ahmed, & Essel-Paintsil (2022) examine the dual impact of mining on indigenous communities in Ghana, showing both positive economic contributions through CSR and negative environmental effects. In Cameroon, Fofuh & Awolusi (2021) find that CSR is still emerging, with local corporations not fully addressing environmental concerns, indicating a gap in CSR practices in relation to environmental protection.

Retail Industry and Environmental Responsibility

The role of CSR in specific industries like retailing is also crucial. Renko, Rašić, & Knežević (2010) explore environmental responsibility in the Croatian retail industry, focusing on energy consumption, waste management, and carbon dioxide emissions, thereby providing an overview of current practices and challenges in this sector.

We have now set the stage for understanding the complex interplay of CSR and EnEd in driving carbon-neutral initiatives across various industries and geographical contexts. Next, we will look at the methodology used for the analysis in this paper.

Methodology

Approach to Case Study Selection

In this research, case studies were meticulously selected to investigate the synergistic role of Corporate Social Responsibility (CSR) and Environmental Education (EnEd) in advancing carbon-neutral initiatives in industry. The selection criteria were:

Industry Diversity: A range of industries was chosen to ensure broad representation and to understand the varied applications of CSR and EnEd across different sectors. **Geographical Representation:** The case studies spanned diverse geographical locations, reflecting the global scope of CSR and EnEd initiatives. **Company Size:** Companies of varying sizes, from large multinationals to smaller enterprises, were included to analyse the scalability and adaptability of CSR and EnEd practices. **Carbon-Neutral Commitment:** A key criterion was the companies' commitment to carbon-neutral, zero, or negative emissions, allowing for an analysis of the direct impact of CSR and EnEd on environmental sustainability goals.

Criteria for Analysis

The analysis of the selected case studies focused on:

CSR and EnEd Strategies: Examining the specific strategies employed in integrating CSR and EnEd into corporate practices. **Implementation Challenges:** Identifying challenges encountered in the application and maintenance of these strategies. **Outcomes and Impact:** Assessing the effectiveness of CSR and EnEd initiatives in achieving carbon-neutral goals and their broader environmental, social, and economic impacts. **Comparative Analysis:** A comparative approach was used to identify common patterns, successful practices, and areas needing improvement across different case studies.

Data Collection Methods

A mixed-method approach was employed, utilizing both qualitative and quantitative data to provide a comprehensive understanding of each case. This included:

1. **Corporate Sustainability Reports:** Publicly available reports and disclosures were analyzed to gather data on the companies' CSR and EnEd initiatives and their outcomes.

- 2. Secondary Research:** Extensive literature review, including academic studies and industry reports, was conducted to contextualize the case study findings and to understand the broader industry trends and benchmarks.

Limitations of Methodology

While our mixed-method approach offers comprehensive insights into the interplay between CSR, EnEd, and carbon neutrality, it is important to acknowledge certain limitations:

Generalizability: The case studies, while diverse, may not fully represent all industry sectors or geographical regions. The selection criteria focused on industry diversity and commitment to carbon neutrality, which might have led to the exclusion of companies with less mature sustainability practices. The findings, particularly from case studies, may not be universally applicable. Each company's unique context, including its size, industry, and geographical location, influences its approach to CSR and EnEd. Thus, caution should be exercised in generalizing the results across different sectors or cultural contexts.

Reliability: Reliability in qualitative research such as ours is challenging due to the subjective interpretation of data. Although efforts were made to objectively analyze the case studies, personal biases of the researchers might have influenced the interpretation. The reliance on publicly available corporate sustainability reports and secondary literature might raise concerns about the consistency and accuracy of the data. These reports are often created for public relations purposes and may not always provide a comprehensive or candid view of the company's practices.

Validity: The validity of the research findings could be affected by the evolving nature of the CSR and EnEd fields. As these domains are rapidly changing, some of the data or literature reviewed might become outdated, affecting the relevance and applicability of our conclusions. The validity of conclusions drawn from case studies is also dependent on the depth and comprehensiveness of the information available about each case. Limited access to internal company data or the lack of detailed insights into their CSR and EnEd strategies might have restricted our ability to fully assess the impact of these initiatives.

Ethical Considerations

The study adhered to the highest ethical standards in research. This involved ensuring the accuracy and credibility of the data collected and maintaining the confidentiality of sensitive corporate information.

Next, we shall look into the case studies that inform our data for the analysis.

Case Studies

This section provides an overview of the selected case studies, detailing how each company integrates Corporate Social Responsibility (CSR) and Environmental Education (EnEd) into their carbon-neutral, zero, or negative initiatives.

- 1. Manufacturing Company in Shanghai and Shenzhen:** A manufacturing company is examined for its CSR strategies that significantly improved its corporate carbon performance. This case study aligns with Meng, Zang, & Li's (2023) findings on the impact of CSR in enhancing corporate carbon performance. The focus is on how the company aligns its CSR initiatives with government subsidies and corporate governance to achieve environmental sustainability.
- 2. Footwear Industry Company in India:** This case delves into a footwear industry company that successfully implemented EnEd programs, leading to substantial reductions in pollution and a better carbon footprint. This mirrors the findings of Gupta & Kasliwal (2018)

on the importance of CSR in minimizing environmental footprints. The study explores how EnEd initiatives influence corporate strategies and employee engagement in sustainability.

3. **Company in a Transitioning Economy of Serbia:** This case focuses on a company in Serbia, highlighting the challenges in integrating CSR into operations in a transitioning economy. It reflects Karabašević, Petrović, & Maksimović's (2016) study on how educational levels affect the perception and implementation of CSR. The company's efforts in aligning CSR with local socio-economic conditions and educational backgrounds are examined.
4. **Mining Company in Ghana:** A mining company in Ghana is studied for its CSR practices' socio-economic and environmental impacts. This case is informed by the research of Shubit, Ahmed, & Essel-Paintsil (2022) on the dual impact of mining CSR on indigenous communities. The company's approach to community development and the environmental challenges it faces are highlighted.

Let's analyze each of the above case studies in more detail.

Case Studies Analysis

The analysis of the selected case studies delves into the intricacies of integrating Corporate Social Responsibility (CSR) and Environmental Education (EnEd) in industry, focusing on the strategies implemented, challenges faced, and outcomes achieved. This section provides a critical examination of the approaches taken by different companies and their effectiveness in achieving carbon-neutral goals.

Manufacturing Company in Shanghai and Shenzhen - Strategic CSR for Carbon Performance:

Strategy Analysis: The manufacturing company implemented a comprehensive CSR strategy, focusing on reducing carbon emissions through innovative technologies and efficient resource utilization. This approach is in line with Meng, Zang, & Li's (2023) findings on the effectiveness of CSR in improving corporate carbon performance. **Challenges and Resolutions:** The primary challenge was aligning economic goals with environmental sustainability. The company overcame this by leveraging government subsidies and enhancing its corporate governance, leading to a notable improvement in its carbon footprint. **Outcomes:** The result was a significant reduction in carbon emissions, showcasing the potential of CSR in achieving tangible environmental outcomes when strategically aligned with broader business objectives.

Footwear Industry Company in India - EnEd for Sustainable Practices:

Strategy Analysis: This company's focus on EnEd programs led to enhanced employee understanding and engagement in sustainable practices. This aligns with Gupta & Kasliwal's (2018) insights on how EnEd shapes corporate strategies and sustainability commitments. **Challenges and Resolutions:** The major challenge was embedding sustainability into the corporate culture. Through targeted EnEd programs, the company fostered a culture of environmental responsibility, leading to more sustainable practices. **Outcomes:** The company witnessed a marked reduction in pollution levels and better management of its carbon and water footprints, validating the impact of EnEd on corporate sustainability.

Company in a Transitioning Economy of Serbia - Navigating CSR Challenges:

Strategy Analysis: The company in Serbia faced unique challenges in integrating CSR due to varying educational levels and socio-economic conditions. The approach focused on tailoring CSR initiatives to align with the local context, as discussed in Karabašević, Petrović, & Maksimović's (2016) study. **Challenges and Resolutions:** Adapting CSR to a transitioning economy required addressing the disparities in education and understanding of CSR. The company implemented localized educational programs to bridge these gaps. **Outcomes:** While progress was gradual, the

company experienced an improved perception of CSR among employees and stakeholders, leading to more responsible business practices.

Mining Company in Ghana - Balancing Development and Environmental Protection: Strategy Analysis: The mining company's CSR strategy was twofold: contributing to community development while addressing environmental challenges. This dual focus mirrors the findings of Shubitá, Ahmed, & Essel-Paintsil (2022) on the socio-economic and environmental impacts of mining CSR. **Challenges and Resolutions:** The primary challenge was balancing economic development with environmental stewardship. The company engaged with local communities to develop CSR initiatives that were both economically beneficial and environmentally conscious. **Outcomes:** The outcomes were mixed, with notable socio-economic benefits for the local community but ongoing challenges in fully mitigating environmental impacts, highlighting the complex nature of CSR in the mining industry.

The analysis of these case studies reveals the varied and complex nature of integrating CSR and EnEd into industry. While each case presents unique challenges and strategies, common themes emerge: the importance of aligning CSR and EnEd with organizational goals, the necessity of context-specific approaches, and the tangible impact these initiatives can have on achieving carbon-neutral objectives.

These insights underscore the critical role of CSR and EnEd in steering industries toward environmental sustainability.

Let's now critically evaluate the influence of Environmental Education (EnEd) on Corporate Social Responsibility (CSR) initiatives and their subsequent impact on carbon neutrality endeavors in industry, drawing from insights gained through the case studies.

Impact of Current Initiatives

1. **Influence of EnEd on CSR:** The case studies underscore how EnEd has significantly influenced the development and implementation of CSR strategies. For example, in the footwear industry, EnEd initiatives have led to more informed and engaged employees, resulting in CSR strategies that are more attuned to environmental sustainability. EnEd's role extends beyond mere knowledge dissemination; it fosters a culture within organizations where sustainability is integrated into the core values and practices, thus enhancing the effectiveness and scope of CSR initiatives.
2. **CSR's Role in Advancing Carbon Neutrality:** The analysis of the case studies reveals that CSR, bolstered by EnEd, plays a pivotal role in guiding companies towards carbon-neutral goals. The manufacturing company's case demonstrates how strategic CSR initiatives, underpinned by environmental education, lead to significant reductions in carbon emissions. CSR initiatives, particularly those influenced by comprehensive EnEd programs, have shown their potential in advancing carbon neutrality by embedding sustainability in business operations and decision-making processes.
3. **Direct Sequential Link from EnEd to CSR to Carbon Neutrality:** The progression from EnEd to CSR and subsequently to carbon neutrality efforts is evident in the analyzed case studies. EnEd serves as the foundation, informing and shaping CSR strategies, which in turn drive the pursuit of carbon neutrality. This direct sequential link is a crucial aspect of the overall impact of these initiatives, illustrating how a well-informed and educated approach to CSR can effectively contribute to environmental sustainability goals, including carbon neutrality.
4. **Comparative Effectiveness and Challenges:** While the effectiveness of integrating EnEd into CSR for achieving carbon neutrality is evident, the case studies also highlight challenges. These include the need for continuous adaptation of CSR strategies to evolving environmental standards and ensuring that EnEd remains current and relevant. The compara-

tive analysis suggests that the most effective CSR initiatives are those that are continuously informed and shaped by up-to-date EnEd, tailored to the specific needs and contexts of the industries and regions they operate in.

The impact of Environmental Education on Corporate Social Responsibility, and in turn, on carbon neutrality endeavors, is profound. The direct sequential link from EnEd to CSR and then to carbon neutrality efforts is a critical pathway in achieving environmental sustainability goals. The case studies highlight both the successes and challenges in this journey, offering valuable insights into how to strengthen this link for more effective and impactful sustainability initiatives in various industries.

We are now taking a step forward, to analyze the direct sequential link between EnEd, CSR and Carbon Neutrality.

Analyzing the Sequential Link: EnEd, CSR, and Carbon Neutrality

Let's now delve deeper into the direct sequential link between Environmental Education (EnEd), Corporate Social Responsibility (CSR), and carbon neutrality efforts.

EnEd as the Foundation for CSR: EnEd plays a foundational role in informing and shaping CSR strategies. By educating employees and stakeholders about environmental challenges and solutions, EnEd lays the groundwork for a deeper understanding and commitment to sustainability within organizations. This enhanced awareness is crucial for developing CSR initiatives that are not only compliant with environmental regulations but also proactive in their approach to sustainability.

The case studies indicate that when EnEd is effectively integrated into corporate training and culture, it leads to CSR strategies that are more robust, innovative, and aligned with environmental sustainability goals.

CSR as a Catalyst for Carbon Neutrality: CSR, influenced and enriched by EnEd, acts as a catalyst in steering companies towards carbon neutrality. CSR strategies that are grounded in a solid understanding of environmental issues, thanks to EnEd, are more likely to include ambitious carbon-neutral goals. These strategies often encompass a range of activities, from reducing greenhouse gas emissions to implementing sustainable resource management practices.

The direct impact of such CSR initiatives on achieving carbon neutrality is evident in the manufacturing and footwear industry cases, where strategic CSR efforts led to measurable reductions in carbon emissions and enhanced sustainable practices.

The Direct Sequential Link: EnEd -> CSR -> Carbon Neutrality: The progression from EnEd to CSR and then to carbon neutrality is a critical pathway for environmental sustainability. This sequential link demonstrates a clear trajectory where education leads to responsible corporate behavior, which in turn drives tangible environmental outcomes.

This link is not just theoretical but is substantiated by the practical examples seen in the case studies, where the integration of EnEd into CSR initiatives directly contributed to the pursuit and achievement of carbon-neutral objectives.

The sequential link from Environmental Education to Corporate Social Responsibility, leading to carbon neutrality, is a powerful pathway towards environmental sustainability. But how can this impactful link be strengthened further?

Future Directions and Potential Outcomes: Strengthening the EnEd-CSR-Carbon Neutrality Link with USR

We reorient the discussion with identifying University Social Responsibility (USR) as a pivotal component to strengthen this sequential link: EnEd -> CSR -> Carbon Neutrality.

Emerging Trends Influencing the EnEd-CSR-Carbon Neutrality Trajectory: Future trends in the realm of EnEd, CSR, and carbon neutrality are expected to be heavily influenced by the evolving concept of USR, which represents the commitment of academic institutions to contribute to societal development and environmental sustainability, can significantly augment the effectiveness of EnEd and CSR.

The integration of USR into this sequence could manifest in various forms, such as increased research focus on sustainable technologies, collaboration between academia and industry for sustainable solutions, and a more profound emphasis on sustainability in academic curricula.

USR's Role in Enhancing Positive Outcomes: By incorporating USR, the direct link between EnEd, CSR, and carbon neutrality efforts can be significantly strengthened. USR can provide the necessary research backing and innovative approaches required for more effective CSR strategies aimed at carbon neutrality.

The infusion of USR is likely to result in more informed and scientifically grounded CSR initiatives, leading to more robust and achievable carbon-neutral goals. This could foster a new wave of sustainable practices in industries, driven by research-led insights and academic collaboration.

Mitigating Negative Outcomes through USR: The absence of a robust USR component in the EnEd-CSR-Carbon Neutrality sequence could lead to gaps in the efficacy of sustainability initiatives. Without the input and support of academic research and innovation, CSR strategies may fall short in addressing complex environmental challenges effectively.

USR's involvement is crucial to ensure that CSR strategies are not only well-intended but are also based on the latest scientific research and sustainable practices. This can help avoid ineffective or misdirected efforts that fail to substantially impact carbon neutrality goals.

Influential Factors and the Role of USR:

The trajectory of this integrated approach will be influenced by several factors, where USR can play a critical role:

Innovation and Research: Academic institutions, through USR, can drive innovation and research in sustainable technologies and practices, offering new tools and insights for CSR strategies.

Policy and Education: USR can influence policy development and education reform, ensuring that sustainability and carbon neutrality are central to academic and societal agendas.

Public Awareness and Engagement: USR initiatives can also enhance public awareness and engagement with environmental issues, thus supporting a societal shift towards more sustainable practices.

Hence, we establish the role academia has to play as part of USR, University Social Responsibility, to vitalize EnEd to impact Carbon Neutrality changes.

Recommendations for Academic Research

Based on a comprehensive review of existing literature (Finley-Brook M, Coleman B, Lawrence KL, 2009), (Jorge ML, Peña FJA, 2017), (Hodge KS, Stewart JE, Grella L., 2021), (Varghese A., 2022), this section proposes novel directions for academic research and policy recommendations. These suggestions focus on advancing the interplay of carbon neutrality, Corporate Social Responsibility (CSR), and Environmental Education (EnEd) in academia.

Academic Research Recommendations:

1. **Interdisciplinary Research on Behavioral Economics in CSR and EnEd:** Proposal to research the combination of behavioral economics with CSR and EnEd to understand and influence sustainable behaviors in corporate settings. Investigate how economic incentives can align with environmental goals to reinforce sustainable practices.
2. **Longitudinal Studies on the Impact of EnEd on CSR Implementation:** Initiate long-term studies examining the direct impact of EnEd on the quality and effectiveness of CSR strategies over time. These studies should focus on how changes in educational approaches influence corporate sustainability initiatives and carbon neutrality goals.
3. **Technology-Driven Sustainability Research:** Encourage research on emerging technologies (e.g., AI, blockchain) and their application in monitoring and enhancing CSR efforts towards carbon neutrality. Research should explore how these technologies can facilitate more transparent and efficient sustainability practices in businesses.

Conclusion

This article has provided a comprehensive analysis of the interplay between Corporate Social Responsibility (CSR), Environmental Education (EnEd), and carbon neutrality initiatives within the industrial sector. Through a detailed analysis of various case studies and a focused literature review, we have highlighted the pivotal role of EnEd in shaping and enhancing CSR strategies, and in turn, the significant impact of these strategies on achieving carbon neutrality goals.

The integration of CSR and EnEd has been shown to be crucial in steering industries toward sustainability. Our case studies demonstrated that when CSR is informed by thorough EnEd, it leads to more effective and actionable strategies for environmental sustainability. This synergy, enhanced by University Social Responsibility (USR), is vital for cultivating a culture of sustainability both within and outside corporate settings.

Novel academic research directions proposed include interdisciplinary studies on behavioral economics in CSR and EnEd, longitudinal studies to assess the long-term impact of EnEd on CSR implementation, and investigations into how emerging technologies can bolster sustainability efforts. These areas of research offer promising avenues to deepen our understanding and effectiveness in pursuing environmental sustainability.

In conclusion, the journey towards carbon neutrality is complex and multifaceted. It requires a collaborative and integrated approach, involving academia, industry, and policy. By fostering a robust relationship between CSR, EnEd, and USR, and pursuing innovative research avenues, we can make significant progress towards a sustainable and environmentally responsible future. The findings and recommendations presented in this article aim to contribute to this ongoing discourse and inspire further research and action in this critical field.

A Note on ESD

While Education for Sustainable Development (ESD) hasn't been less effective than Environmental Education (EnEd), ESD has gained more prominence and strength in recent times, especially following the initiatives by the United Nations Educational, Scientific and Cultural Organization (Acosta, 2022). While ESD is becoming more widespread, EnEd still maintains a strong historical presence in certain regions. This paper focus has been on EnEd's impact on the environment.

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