Leveraging Eco-Visual Literacy to Manage Affective Engagement in Higher Education: A Case Study in Curricular Innovation.

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Abstract

This study critically examines the efficacy of a curated eco-visual literacy intervention designed to mediate student affective engagement with climate related phenomena in higher education. A small scale mixed methods case study of 80 students, considered representative, evaluated a six month innovation in a Digital Photography module. The instructional sequence combined curated viewing, contextualisation, facilitated dialogue and creative practice to support engagement with the environmental rhetoric of photographers, including apocalyptic narratives and dystopic visions. Qualitative evidence from reflective journals and multimodal creative artefacts was integrated with an anonymous post programme survey to generate contextual insights into meaning making and perceived agency.

Analysis indicates that visceral portrayals of industrial degradation initially elicited shock and melancholia. As students moved from passive viewing to structured discussion and solution focused reframing, responses shifted towards empowerment. Participants translated climate induced distress into persuasive works of visual advocacy. Survey responses from 72 students complemented these accounts, with 90 per cent reporting increased motivation for sustainable behavioural change.

Overall, the findings suggest that mediation of affect, rather than unstructured exposure to distressing environmental content, can reframe climate anxiety as a catalyst for creative action and environmental advocacy. The study highlights implications for higher education, showing that embedding the United Nations Sustainable Development Goals, known as the SDGs, within core curricula may support student wellbeing and position institutions as leaders in sustainability education. Finally, it proposes a framework for analytic and pedagogical transferability, emphasising that faculty supported engagement with emotionally complex content can foster global citizenship.

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Introduction

Universities are educating a generation coming of age amid an accelerating ecological crisis and widespread climate-related distress. Young people report anxiety, anger and a sense of betrayal regarding inadequate responses to climate change (Hickman et al., 2021; Pihkala, 2020), and increasingly expect higher education to address these concerns in ways that are not only technical but also emotional and ethical (Khalaim & Budziszewska, 2024). At the same time, universities are urged to align curricula with the SDGs and to provide sustainability education that links knowledge, values and action (UNESCO, 2020). Visual media offer one promising avenue for such education. Conservation and environmental photography can foster "eco-visual literacy", enabling learners to interpret environmental issues, recognise injustice and imagine alternatives (Farnsworth, 2011; Rome, 2003). Yet the emotional power of images is ambivalent: distressing photographs can either galvanise engagement or reinforce paralysis and

avoidance if presented without context or hope (O'Neill & Nicholson-Cole, 2009; Climate Outreach, 2016; Abdellatif, 2022).

This study examines an eco-visual literacy intervention in a Digital Photography course at a Greek university. Eighty second-year students engaged with contrasting modes of environmental photography—the industrial sublime, shocking depictions of pollution and melancholic landscapes—through curated images, discussion and creative production tasks. Drawing on qualitative and survey data, the study explores how these strategies shaped students' responses, how structured activities supported emotional processing and how emerging eco-visual literacy related to intentions for pro-environmental action. The paper contributes to debates on climate anxiety, visual pedagogy and sustainability in higher education.

Accordingly, the study addresses three research questions: (1) How do different modes of environmental photography shape students' affective responses and meaning-making? (2) How do guided dialogue and creative tasks support emotional processing and a sense of agency? (3) How does emerging eco-visual literacy relate to reported intentions for pro-environmental action?

The Affective Ambivalence of Visual Media: Navigating 'Climate Porn' and the Landscape of Youth Distress

Contemporary scholarship in environmental education positions visual literacy as central to cultivating ecological awareness. Farnsworth (2011) argues that conservation photography can function as a powerful pedagogical resource because images, together with their accompanying narratives, enable photographers to act as environmental educators. In this view, learners develop "eco-visual literacy" by learning to interpret images critically and to connect what they see to scientific and ethical questions. Building on this insight, educators are encouraged to integrate photography into environmental curricula and to support teachers' development in visual literacy. Such practice equips students to interrogate images with greater precision and to develop a more grounded understanding of socio-ecological systems.

Visual media can serve both cognitive and affective purposes. By distilling complexity and evoking emotion, images can reduce the psychological distance that often accompanies climate change. A compelling photograph can attach a face or a place to environmental degradation, revealing processes that might otherwise remain unseen and personalising global issues so that they register as matters of individual concern. This affective charge is significant in environmental education because photographs can capture attention and open space for dialogue, drawing on belonging, care, or indignation in ways that may support pro-environmental action. Yet the emotional force of environmental imagery requires careful mediation. Stark depictions of ecological devastation may raise awareness, but a sustained diet of 'doom-and-gloom' images, presented without context or credible pathways to response, can be counterproductive. O'Neill and Nicholson-Cole (2009) caution that fear-laden 'climate porn' may generate numbness, fatalism, or defensive disengagement rather than empowerment, a concern that resonates with evidence of widespread climate anxiety among young people (Hickman et al., 2021). Visual communication in educational settings therefore needs to be framed to prompt agency, not paralysis.

The power of environmental iconography is, in this sense, structurally ambivalent. It can catalyse civic engagement, but it can also intensify psychological inertia. O'Neill and Nicholson-Cole's (2009) warning is particularly salient here: fear-saturated imagery, characterised by attention-grabbing depictions of ecological apocalypse, can "boomerang" when it overwhelms viewers' capacity to process what they are seeing. Where fear is not accompanied by a coherent account of agency, or by a plausible horizon of hope, it may exceed cognitive and affective thresholds and collapse into resignation or avoidance.

This risk is sharpened by empirical evidence documenting pervasive climate anxiety among young people. Hickman et al. (2021) show that many in this generation are living their formative years under the pressure of an accelerating anthropogenic crisis, reporting elevated levels of dread, anger, and moral injury, particularly in response to what they perceive as inadequate governmental and institutional action. In this context, classroom encounters with environmental degradation are rarely neutral or merely technical. They are often emotionally charged and ethically fraught, and they demand pedagogical approaches that can hold complexity without compounding distress.

Consequently, visual communication within higher education must be recalibrated to support action while remaining attentive to vulnerability. One implication is that pedagogy should move beyond clichéd, distal symbols, such as the solitary polar bear on a melting ice floe, and instead draw on the principles associated with Climate Visuals communication. The Climate Visuals guidelines (Climate Outreach, 2016) advocate balancing distressing imagery with human-centred narratives that depict identifiable people, situated in lived contexts, engaged in mitigation and adaptation. Such choices can foster identification and a sense of proximal agency, bridging the distance between an abstract, global crisis and a student's understanding of responsibility and response.

The case-study methodology discussed here operationalised these frameworks by embedding confrontational imagery, most notably Chris Jordan's Albatross series, within a scaffolded, solution-oriented learning environment. By pairing "shock" with structured dialogue and creative advocacy projects, the intervention sought to transform initial feelings of guilt or despair into sustained inquiry. This deliberate, supported engagement enabled students to confront difficult emotions within a "holding environment", repositioning climate-related distress as a stimulus for academic rigour and for ethically grounded pro-environmental action.

Incorporating visual-affective methods into the broader curriculum also has strategic significance. By explicitly attending to the affective and ethical dimensions of the climate crisis, institutions may be better placed to support student well-being and retention, particularly in disciplines where eco-distress is pronounced. Over time, such approaches can shift the educational emphasis from technocratic mastery alone towards a more integrated "head, heart and hands" orientation, aligning pedagogical practice with the ambitions of the United Nations Sustainable Development Goals (SDGs) and preparing future leaders for the complexities of a warming world.

Participatory image-making in classrooms extends this strategy. When students create or curate environmental photographs, they gain ownership of their visual stories and become communicators, galvanising awareness and action (Farnsworth, 2011). Although emphasis often falls on professional photographers, student-led visual storytelling can similarly reinforce visual-environmental literacy and spur environmental action.

Contrasting Visual Strategies: Environmental photography deploys strategies that shape perception and learning; three recurrent modes are the industrial sublime, the explicit shock image and the melancholic or poetic landscape, each combining cognitive demands with characteristic emotional responses.

The Industrial Sublime – Beauty in Devastation: Edward Burtynsky's large-format work is widely cited as exemplary of the industrial sublime, with aerial views of open-pit mines, quarries, oil sands and factories that reveal landscapes radically reconfigured by industry in vivid colour and tight composition (Frist Art Museum, 2012). These images locate unsettling beauty in sites of extraction and waste, foregrounding tensions between societies' appetite for resources and the ecological damage that sustains it. Ray (2016) argues that Burtynsky's photographs hold attraction and revulsion in suspension, inviting viewers to consider how beauty can coexist with harm and to form their own judgements about responsibility. This openness can stimulate discussion of industrial systems and consumption patterns, but it requires facilitation so that aesthetic pleasure does not eclipse the severity of the damage depicted.

Shocking Images of Environmental Harm: Chris Jordan adopts a confrontational visual register. His Midway series portrays decomposed albatross chicks on a remote Pacific island, their stomach cavities filled with plastic (Surfrider Foundation, 2012), using graphic imagery to expose the consequences of pollution and unsustainable consumption. Such intense imagery can jolt viewers out of complacency and generate a desire to act. However, unmediated shock may also leave learners overwhelmed or withdrawn. Notably, Abdellatif (2022) shows that disturbing pollution photographs can prompt students to reconsider everyday habits and lessen their environmental impact when embedded in solution-focused discussion that offers concrete response options.

Poetic and Melancholic Landscapes: Nadav Kander exemplifies a poetic strategy. Series such as Yangtze – The Long River and Dust (Kander, 2010) depict human-altered environments through sparse vistas and muted palettes that cultivate ambiguity and melancholy rather than explicit devastation. In Dust, portraying abandoned Soviet nuclear test sites in Kazakhstan, crumbling structures beneath

expansive skies may initially appear eerily beautiful, with the horror of contamination and secrecy emerging only when the context is known. Because environmental damage is not always visually obvious, learners must infer meaning from subtle cues, sharpening interpretive skills; without guidance, however, some viewers may overlook the critical message.

Across these examples, environmental photography can deepen environmental education by engaging cognitive, emotional, ethical, and imaginative dimensions and advancing education of the "head, heart and hands" for sustainability. The continuum from industrial sublime and shock images to poetic melancholic landscapes offers tools to prompt reflection and action, yet their effect depends on framing, critical dialogue and agency. However, few empirical studies have examined the integration of such visual strategies into higher education to address students' climate-related distress. This study addresses that gap. The following classroom case study shows how work by Burtynsky, Jordan and Kander can visualise environmental issues as lived realities and foster critically engaged, environmentally literate youth.

Research Methodology: A Mixed-Methods Design

This study adopted a small-scale mixed-methods case study situated within the compulsory Digital Photography module in the Department of Photography and Audiovisual Arts at the University of West Attica. The case was bounded as a six-month eco-visual literacy intervention delivered to a single cohort of second-year students (N = 80) through four structured sessions embedded in routine teaching across the semester. A case-study frame was selected because the aim was not to isolate causal effects, but to generate context-sensitive, practice-based insight into how a specific pedagogical innovation can shape students' affective engagement, meaning-making, and perceived agency. This orientation aligns with the view that case study research is well suited to holistic investigation of complex phenomena in real-world educational settings, where context and phenomenon are not easily separable (Harrison et al., 2017, p. 1).

Participants, recruitment and ethics

All enrolled students in the cohort participated in the learning activities as part of the module. The use of students' learning artefacts and survey responses for research purposes, however, was voluntary. Students received an information sheet detailing confidentiality and anonymisation procedures, their right to withdraw without penalty, and the assurance that participation would not affect assessment outcomes. To reduce the perceived coercion that can arise when research is conducted within a teaching relationship, qualitative materials were anonymised prior to coding and the end-of-programme survey was collected anonymously. Ethical approval was granted by the University's Research Ethics Committee and all procedures followed informed-consent protocols appropriate for pedagogical research in higher education.

Intervention structure and pedagogical procedure

The intervention was designed to cultivate eco-visual literacy through a sequence that deliberately combined interpretive work with affective engagement and applied visual communication. Each session followed a consistent instructional arc of curated viewing, contextualisation, facilitated dialogue, and a creative task. This structure supported fidelity and enabled comparability across sessions in both affective and interpretive prompts. The sequencing treated affect not as an incidental by-product, but as a pedagogically mediated resource for learning. At the same time, it avoided unstructured, despair-led exposure by integrating solutions-oriented reframing and peer dialogue that encouraged agency-focused meaning-making.

Across the first three sessions, students engaged with distinct visual rhetorics of environmental photography. Session 1 worked with Edward Burtynsky's aestheticised depictions of human-altered landscapes, using the tension between beauty and harm as a catalyst for critical interpretation and visual satire. Session 2 used Chris Jordan's imagery of plastic pollution as a more confrontational visual strategy that tended to elicit shock and guilt, enabling structured discussion of consumerism and responsibility. Session 3 drew on Nadav Kander's melancholic landscapes (Kander, 2010), foregrounding slower, more atmospheric registers of environmental degradation and prompting reflective writing from the imagined

perspective of damaged places. The final session functioned as an integrative capstone in which students compared how different visual strategies shaped their emotions and interpretive frames, and then curated a virtual exhibition of posters and written reflections. This consolidating task positioned learning as a publicly oriented form of visual argumentation.

To support replicability

Table 1 summarises the session design:

Session	Visual focus	Main pedagogical aim	Core in-class sequence	Outputs collected as data
1	Burtynsky (industrial sublime)	Critical interpretation of "beauty–harm" tension; linking images to systems of extraction and consumption	Curated viewing; contextualisation; facilitated discussion; creative task	Reflective journal entry; creative output (mini-poster/concept)
2	Chris Jordan (shock imagery)	Emotional engagement with pollution imagery; structured dialogue towards responsibility and action	Curated viewing; facilitated discussion; solution-oriented reframing; creative task	Reflective journal entry; poster draft/caption
3	Kander (poetic/melancholic landscapes)	Inferential meaning-making; reflective engagement with subtle environmental harm	Curated viewing; contextualisation; facilitated discussion; reflective writing task	Reflective journal entry; written piece and/or visual study
4	Integrative capstone	Comparative reflection across visual modes; public-facing visual advocacy	Comparative discussion; synthesis; curation of outputs	Final posters; exhibition captions; final reflection; post-programme survey

Table 1. Session-by-session design of the eco-visual literacy intervention

Data sources and instruments

Data were gathered from three complementary sources designed to capture both depth of experience and breadth of uptake within the cohort. First, session-linked reflection journals responded to prompts aligned with emotional response, interpretation of environmental meaning, and perceived agency. Second, creative artefacts included mini-posters, posters, and short written pieces produced during session tasks and photographed for analysis. These were treated as multimodal data in which compositional choices, symbolism, juxtaposition, captions, and calls to action functioned as interpretive traces of eco-visual literacy in practice. Third, an anonymous end-of-programme survey comprised brief closed-ended items assessing motivation and behavioural intentions, with optional open comments. The survey was framed as a descriptive complement rather than a psychometric instrument, offering a cautious quantitative indication of how widely particular qualitative patterns were shared across respondents.

Table 2 summarises the survey items and response scale:

Theme	Item wording	Response scale
Motivation for sustainable behaviour	The sessions increased my motivation to adopt more sustainable behaviours in daily life.	1 = Strongly disagree 2 = Disagree 3 = Neither agree nor disagree 4 = Agree 5 = Strongly agree
Eco-visual literacy and understanding	The photographs helped me understand environmental issues more concretely than text alone.	Same as above
Affective engagement	The sessions helped me recognise and reflect on my emotional responses to climate-related content.	Same as above
Dialogue and support	The guided discussions helped me process difficult feelings in a constructive way.	Same as above

Sense of agency	Creating a poster or visual output increased my sense that I can contribute to environmental change.	Same as above
Behavioural intention	I intend to change at least one everyday practice related to consumption or waste (e.g. reducing single-use plastics).	Same as above

Table 2. Post-programme survey: items and response scale

Integrated analysis strategy

Methodological integration was designed to move beyond parallel reporting by treating qualitative and quantitative strands as mutually interrogating forms of evidence. Mixed methods, in this sense, was not an add-on of numbers to narrative, but a strategy for generating more credible and actionable inferences by drawing on distinct epistemic strengths (Johnson et al., 2007, p. 112). Integration was planned at the level of interpretation and reporting through thematic weaving, and at the analytic level through merging patterns across datasets, consistent with guidance that integration can occur at design, methods, and reporting levels (Fetters et al., 2013, p. 2134).

In practical terms, journals and classroom-linked reflections were analysed to identify how students narrated affective response, interpretive frames, and perceived agency. Creative artefacts were analysed as visual and textual arguments, with attention to messaging strategies, compositional devices, and explicit calls to action. Survey responses were analysed descriptively using frequencies and percentages to provide an indicative measure of how prevalent motivation and intention shifts were across respondents. Importantly, the survey was used to test the resonance and distribution of qualitative themes rather than to offer superficial confirmation. Where a high proportion of respondents reported increased sustainable intentions, this was treated as convergence with qualitative narratives of empowerment. Where discrepancies emerged, they were retained as analytically meaningful tensions rather than treated as error, supporting a more rigorous account of fit between strands. Where percentages are reported, denominators (n) are included to make response rates transparent.

Coding procedures and trustworthiness

Qualitative analysis followed an iterative thematic analysis logic, treating coding as a recursive movement between parts and whole in order to construct patterns grounded in participants' accounts (Braun & Clarke, 2006, pp. 77–101). The analysis proceeded in four stages. First, both researchers conducted familiarisation by reading all journals and reviewing artefacts in full, noting emergent affective tones, recurring interpretive moves, and early indications of agency. Second, the researchers independently coded a purposive subset of journals and artefacts to generate inductive codes clustered around affective response (including shock, sadness, guilt, and hope), interpretive frames (including critiques of consumption and attention to industrial systems), and action orientation (including intention statements and advocacy language). Third, discrepancies were resolved through consensus discussion and a shared codebook was refined, which was then applied across the full qualitative dataset. Fourth, codes were clustered into higher-order themes, repeatedly checked against the dataset, and compared across journals, artefacts, and open survey comments to identify convergent and divergent patterns. Attention to negative cases was maintained by actively searching for accounts of disengagement, minimisation, or avoidance and integrating these into the interpretive narrative rather than excluding them. Quantitative analysis of survey items was limited to descriptive statistics because the intervention was exploratory and there was no control group.

Trustworthiness was strengthened through multiple, conceptually aligned strategies rather than any single procedural proxy. Researcher triangulation was built into the coding process through independent initial coding and negotiated codebook development. Peer debriefing was conducted with the wider teaching team using anonymised excerpts to test whether interpretations remained plausible and appropriately grounded in student materials. An audit trail was maintained, including prompts, codebook iterations, and theme definitions, to enhance dependability and support adaptation in comparable curricular contexts. Finally, steps to mitigate social desirability included anonymous survey collection and anonymisation of qualitative materials, alongside explicit communication that research participation would not influence grading.

Methodological scope and limitations

As a single-site pilot without a control group, and with a cohort already oriented towards visual literacy, the study does not claim statistical generalisability. The survey captured immediate self-reports and cannot evidence longer-term behavioural change. The value of the design lies instead in analytic and pedagogical transferability, offering a carefully documented intervention and an integrated evidentiary logic that can inform future comparative, multi-site, or longitudinal studies of eco-visual pedagogy in higher education.

Results

For clarity, the Results are organised around three linked strands: students' emotional responses to the imagery, the themes evident in their creative outputs, and their reported behavioural intentions.

Emotional responses: The pilot intervention in eco-visual literacy generated strong and differentiated affective engagement, recorded in reflection journals and reinforced through classroom discussion and creative tasks. Each visual strategy elicited a distinct spectrum of response. More confrontational photographs prompted shock, sadness, and anger, often accompanied by guilt and concern about personal complicity in everyday consumption. One student reflected: "I felt uncomfortable because I realised that the image was not about something distant, but about choices I make every day without thinking." Another noted that the image "made me angry at first, but then I started thinking about how I am part of the problem." Many students voiced a desire to do something to help, indicating that emotion operated as a catalyst for participation rather than an endpoint. By contrast, subtler images encouraged quiet contemplation and a slower interpretive attention, where meaning was assembled through compositional cues and contextual reflection rather than immediate denunciation. Even ambivalence proved pedagogically useful, as students held attraction and discomfort within the same gaze.

At a semiotic level, the accounts suggest that students approached the photographs as structured sign systems. They linked colour, scale, and framing to narratives of causality and responsibility, moving from description to interpretation and then to ethical positioning. One student explicitly articulated this process: "The red colour felt like a warning sign, not decoration, and the way the subject was framed made me feel responsible as a viewer." The subjective nature of visual impact was also evident. Some students who initially reported limited interest became deeply engaged when an image resonated with personal experience or with recognisable routines of daily life. Importantly, hope appeared alongside distress. Students reported feeling inspired either by witnessing people taking action in the images or by recognising their own capacity to communicate meaning through photography. As one participant wrote, "Seeing people acting in the photograph reminded me that change is possible, even if it is slow." This modulation of affect seems to have supported sustained engagement and reduced the likelihood of withdrawal.

Creative outputs: All 80 students produced creative outputs, either visual posters or written reflections, demonstrating that engagement extended beyond reception and into production. Thematic analysis of reflective writing identified recurring themes of distress at environmental degradation, empathy towards affected wildlife and landscapes, and empowerment gained through solution-oriented dialogue. One reflection captured this shift clearly: "At first I felt overwhelmed, but creating my own image helped me organise my thoughts and imagine alternatives." The outputs frequently connected individual responsibility with wider social and material structures, suggesting that eco-visual literacy was treated not only as an aesthetic competence but also as an interpretive practice grounded in everyday conditions.

The artefacts also display eco-visual literacy in practice. Many posters constructed visual arguments through juxtaposition, holding beauty and damage in the same frame, or through symbolic metaphor that transformed ordinary objects into signs of accountability and revaluation. Captions acted as linguistic anchors that guided interpretation and repositioned the image as a public invitation to change, as in the imperative slogan 'From Trash to Treasure Rethink Plastic'. The prominence of direct address and actionable language suggests that creative production served as a mediating step, translating affective response into communicable meaning.

Behavioural intentions: In the anonymous post-programme survey (n = 72 respondents; 90% response rate), 90% of respondents selected 'agree' or 'strongly agree' for the item "The sessions increased my motivation to adopt more sustainable behaviours in daily life" (Table 2). Read alongside the qualitative narratives, this quantitative pattern supports a coherent progression from affective activation, to creative articulation, and, for many students, to reported intention towards more sustainable conduct. Several journal entries reinforced this link explicitly, as in the remark: "After working on my poster, I started paying attention to small habits, like refusing plastic bags, because the issue felt personal." High levels of participation and the imaginative quality of the projects further suggest that visual and creative tasks can activate students' artistic and communicative capacities, broadening the pathways through which they engage with sustainability issues.

Integrated qualitative and quantitative findings: Taken together, the qualitative and quantitative findings indicate a coherent pattern of affective engagement and emerging agency. Reflective journals and creative outputs show that environmental photographs elicited strong yet differentiated emotional responses, including shock, sadness, ambivalence, and cautious hope. Crucially, these affective reactions were not experienced as paralysing endpoints. When mediated through structured dialogue and creative production, emotions were reframed into processes of meaning-making, ethical positioning, and reflection on personal and collective responsibility. The creative artefacts further evidence this transition, translating affective intensity into visual arguments through symbolic imagery, caption anchoring, and explicit calls to action. The post-programme survey (n = 72; 90% response rate) provides descriptive support for the breadth of this pattern; while the finding does not establish causality, it converges with and strengthens the qualitative analysis. While this finding does not establish causality, it converges with and strengthens the qualitative analysis.

Discussion

The findings have implications for three key dimensions of higher education (HE) strategy: student experience management, curriculum and faculty development, and institutional positioning. As part of a broader student experience management strategy, such eco-visual interventions may complement counselling and student support services, contributing to improved mental well-being and potentially supporting student retention in programmes where climate anxiety is prevalent. Rather than leading to paralysis, the structured engagement with emotionally powerful imagery allowed students to confront difficult feelings in a supportive environment and channel them into inquiry and action. This outcome aligns with calls for universities to recognise and respond to students' climate anxiety (Hickman et al., 2021; Pihkala, 2020). By integrating guided emotional processing into sustainability education, institutions can help students build resilience and hope, transforming anxiety into motivation for learning and action.

In terms of curriculum management, the case study suggests that eco-visual literacy activities can be formally embedded in programme specifications and module descriptors as part of institutional SDGs and sustainability mandates. It is not enough to treat climate change as a purely technical topic; the emotional and ethical dimensions must also be addressed. This approach supports the aims of the SDGs by cultivating the knowledge, skills, and attitudes needed for sustainable development. Many universities are striving to integrate the SDGs into courses and programmes (UNESCO, 2020). Our results indicate that incorporating visual, affective learning activities can aid this effort. However, implementing such innovations requires institutional support. Instructors need preparation to confidently facilitate discussions on distressing topics and to support students through emotional turbulence. At the policy level, universities may need to incorporate training in eco-visual and trauma-informed pedagogy into faculty development frameworks so that staff are equipped to facilitate emotionally complex sustainability sessions. Investing in such training would enable educators to engage students with challenging sustainability content more effectively and sensitively.

At the institutional level, leveraging eco-visual literacy can also contribute to how a university presents its commitments to sustainability and social responsibility. Universities that pioneer novel approaches to sustainability education signal a willingness to innovate pedagogically and to take students' climate-related concerns seriously. Proactively addressing climate change in the curriculum and doing so while also supporting student mental health, may contribute to enhancing public trust and

appeal to students who value sustainability. Such initiatives can be integrated into institutional strategies for global citizenship and environmental leadership, and communicated in sustainability reporting, rankings and accreditation narratives as evidence of innovative teaching practice. In this way, the pedagogical insights from this case study suggest not only a model for teaching and learning, but also a strategy for institutions to position themselves as leaders in sustainability education and to cultivate engaged global citizens.

Implications and Originality: The findings speak to three interlocking agendas in higher education: student support in the context of climate-related distress, curriculum design that operationalises SDG commitments, and institutional leadership in sustainability-oriented teaching. At the level of student support, the study suggests that carefully scaffolded engagement with emotionally charged climate imagery can operate as a form of pedagogically mediated affective regulation. When images are framed through facilitated dialogue and accompanied by credible response pathways, learners are able to acknowledge distress without becoming immobilised by it. In practical terms, eco-visual pedagogy may therefore complement existing well-being provision by offering an educational route through which anxiety is recognised, held, and redirected into reflective understanding and purposeful activity.

From a curricular perspective, the case study illustrates how SDG-aligned sustainability imperatives can be embedded beyond technical competence, explicitly integrating emotional and ethical dimensions into disciplinary learning. The intervention demonstrates that eco-visual literacy can be treated not as an ancillary enrichment activity, but as a structured, assessable learning process that connects interpretation, moral imagination, and agency. Framed in this way, eco-visual tasks can be incorporated into module descriptors and learning outcomes as legitimate forms of inquiry and communication, linking what students know to what they feel, and what they feel to what they are prepared to do.

At an institutional level, designing, implementing, and documenting such pedagogical innovation provides visible evidence of sustainability-oriented teaching leadership. It strengthens the ways universities can articulate their commitment to global citizenship and socially responsive education in strategy documents, quality assurance narratives, and external engagement. In a sector increasingly evaluated through sustainability reporting and public-facing accountability, interventions that address climate content while attending to student vulnerability may function as credible indicators of institutional seriousness—demonstrating not only curricular compliance with sustainability agendas, but also pedagogical maturity in responding to the affective realities of a warming world.

In terms of originality, the study offers an empirically grounded contribution to higher education research on eco-visual pedagogies by specifying how such approaches can be designed to address climate-related emotional distress while sustaining student engagement. Rather than treating affect as a diffuse background condition, the paper traces explicit links between emotional response, creative synthesis, and self-reported behavioural intention, showing how creative production can mediate the move from distress to meaning-making and, for many learners, towards agency-oriented commitments. The result is a practically transferable, classroom-tested sequence that integrates sustainability education with student well-being concerns—an intersection that remains comparatively under-developed in empirical work on visual pedagogy in higher education.

Conclusion

This study indicates that environmental photography can link information, emotion and agency in sustainability education. Encounters with images of industrial infrastructures, polluted environments and altered landscapes made environmental issues more immediate and personally meaningful than text or statistics alone. Reflective journals, visual advocacy pieces and survey responses (with 90% reporting increased motivation to act) suggest that eco-visual activities can awaken concern while nurturing a sense of responsibility.

However, the findings also show that visual impact depends on careful pedagogical design. Working with three contrasting modes—the industrial sublime, explicit shock images and melancholic landscapes—highlighted how different aesthetics generate different kinds of engagement. Contextual information, guided discussion and opportunities to produce visual advocacy were essential in helping students process difficult emotions and move from paralysis towards constructive forms of inquiry and

expression. Eco-visual literacy thus emerges as an integrated competence: the ability to interpret environmental images critically, to manage the affective responses they evoke and to communicate one's own environmental messages.

For higher education, these insights have both pedagogical and strategic implications. Visual approaches can support interdisciplinary, SDG-oriented curricula, while also addressing students' climate anxiety in a proactive and supportive manner. By embedding emotionally resonant, solution-focused eco-visual activities into programmes, universities can foster informed, engaged and resilient graduates, and strengthen their profile as institutions committed to sustainability, social responsibility and global citizenship.

Ethics Statement: This study was approved by the University of West Attica Research Ethics Committee. All participating students provided informed consent and were assured that their data would remain confidential.

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