Biocentric Industrial Creative Writing: A Worker-Led Critical Pedagogy for Environmental and Labour Justice

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Abstract

This article introduces Biocentric Industrial Creative Writing (BICW), a worker-led critical pedagogy that integrates creative writing, ecological ethics, and working-class narratives to challenge extractivist, anthropocentric optimisation in industrial culture. Drawing on ecocriticism, posthumanist theory, and critical pedagogy, BICW reframes the workplace as a narrative ecosystem in which humans and more-than-human actors co-produce meaning, value, and agency. We report an exploratory mixed-methods study (N = 219) across Greek industrial contexts, combining Likert-scale items with open-ended prompts that encourage ecological identification and the biocentric reimagining of optimisation. Descriptive results show high support for embedding BICW within workplace sustainability agendas, perceived benefits for well-being and reflective work engagement, and willingness to accept minor

productivity reductions for ecological gains. Qualitative responses frequently adopt non-human standpoints (e.g., rivers, algae, butterflies) and express scepticism toward corporate sustainability messaging, underscoring the value of worker-generated narratives. We argue that BICW can strengthen critical ecological literacy and democratic participation at work, linking labour empowerment with environmental justice and opening space for just, multispecies industrial futures.

Keywords: *Biocentric Industrial Creative Writing; Working-Class; Environmental Justice; Anthropocentrism; Multispecies Ethics*

Introduction

Contemporary socio-ecological crisis is frequently interpreted through the concept of the Anthropocene – a term that is both a proposed geological epoch and, more broadly, an influential representation of modernity as an Earth-system condition inseparable from human activity. In this discursive sense, the Anthropocene does not denote a singular entity ('the Anthropocene is…') but a way of seeing and narrating entangled processes such as industrialisation, land-use change, deforestation, pollution, climate change, biodiversity loss, and even techno-political imaginaries of geo-engineering. The concept is also produced through the scientific, technological and institutional infrastructures that render planetary change legible (e.g., Earth system science, modelling, and global monitoring) (Crutzen, 2002; Steffen et al., 2007; Moore, 2015).

Within many industrial workplaces, anthropocentric optimisation logics translate this epochal framing into everyday practices: workers may be treated as disposable inputs and non-human nature as a resource base or externality. This produces a double injustice – labour alienation alongside ecological degradation – sustained by an anthropocentric hegemony of value and narrative (Buell, 2005; Washington et al., 2024). The intervention proposed here

therefore addresses the Anthropocene not only as a description of planetary change but as a dominant storyline that can be interrogated, contested, and re-written in situated organisational contexts.

This article advances Biocentric Industrial Creative Writing (BICW) as such an integrative framework. BICW synthesises creative practice, ecological consciousness, and labour critique. It extends Industrial Creative Writing (ICW) – initially proposed to reposition creative writing within industrial and working-class contexts (Morley, 2007) – by infusing it with biocentric ethics that recognise the intrinsic value of non-human beings and even abiotic systems (Naess, 1989). In contrast to traditional industrial narratives that render workers alienated and environments inert or disposable (Politis, 2008), BICW positions both human workers and non-human entities as central characters in an interconnected story of production. Drawing on posthumanist calls to "make kin" across species and technologies (Haraway, 2016), BICW seeks to re-enchant the industrial landscape, recognising the agency of workers, machines, materials, animals, and ecosystems as co-participants in industrial life.

Situated within ecocriticism and critical education, BICW reframes factories and supply chains as narrative ecosystems and reconceptualises optimisation as a multidimensional equilibrium that aligns productivity with ecological viability and human well-being (Geissdoerfer et al., 2017; Porter & Kramer, 2011). This orientation resonates with debates around Industry 5.0, which advocate sustainable, human- (and by extension life-) centric industry (Breque et al., 2021). In this view, creative writing is not a "soft" add-on but a critical literacy that can expose greenwashing, cultivate multispecies empathy, and steer organisational practice toward justice.

A distinctive contribution of BICW is its explicit focus on working-class creativity, flow, and well-being. Research on flow – a state of deep immersion

and intrinsic reward – shows robust links to higher satisfaction and flourishing (Csikszentmihalyi, 1990). Contemporary evidence indicates that arts and crafting predict improved subjective well-being and reduced loneliness (Keyes et al., 2024), with policy syntheses identifying mechanisms such as autonomy, meaning, and social connection (Abreu Scherer, 2024). In alienating, routinised workplaces, structured opportunities for narrative and poetic expression can therefore serve as a counter-practice, enhancing well-being while opening space for critical reflection on environmental harms and labour conditions.

Empirically, we report an exploratory mixed-methods study (N = 219): a questionnaire combining Likert items with open-ended ecosystem identification prompts that invited participants to narrate their industrial site as an ecosystem and to locate their own role within it. We use these data to examine (a) receptivity to BICW's premises (artistic representation of industrial processes; embedding ecological ethics in efficiency), (b) links between creative practice and perceived flow and well-being, and (c) evidence of decentring anthropocentrism (e.g., workers adopting non-human viewpoints). In doing so, we position BICW as a transformative pedagogy capable of bridging worker empowerment and environmental justice.

Research questions - Contribution and structure

1. How do workers in industrial/technical settings understand the value and feasibility of BICW (artistic representation, ecological ethics in optimisation)?
2. In what ways does creative/narrative practice relate to experiences of flow and well-being at work?
3. Can BICW-style prompts catalyse a biocentric shift in perspective (e.g., identification with non-human roles) that challenges anthropocentric hegemony?

These questions underpin three main contributions. **Theoretically**, the article develops Biocentric Industrial Creative Writing as a framework that links ecocriticism, biocentrism, labour poetics, and critical pedagogy in order to deconstruct anthropocentric industrial narratives. **Empirically**, it presents an exploratory mixed-methods survey (N = 219) that documents workers' receptivity to BICW, the relationship between creative practice and flow/well-being, and emergent biocentric perspective shifts in industrial settings. **Structurally**, the article first outlines the theoretical framework, then details the mixed-methods methodology and presents quantitative and qualitative findings, before discussing implications for critical education, industrial policy, and future research.

Theoretical framework

This section elaborates the conceptual foundations of Biocentric Industrial Creative Writing (BICW) by drawing on three interlocking strands: (a) the poetics of labour and the cultural production of working-class voice, (b) the psychology of flow and its implications for worker well-being and collective agency, and (c) posthumanist and ecocritical theories that reconceptualise industrial environments as multispecies, material-discursive assemblages. Together, these strands situate BICW as both an aesthetic intervention and a political act of resisting anthropocentric industrial epistemologies. Because BICW works through narrative, metaphor, and value, it engages the Anthropocene primarily as an epochal representation to be examined and re-written, rather than as an external 'state of the world'.

Poetics of labour and working-class voice

Approaching labour through an aesthetic and narrative lens foregrounds the cultural agency of working-class subjects whose lived experiences have historically been marginalised within literary canons and industrial discourse.

The tradition of working-class writing – stretching from eighteenth-century artisan poets to contemporary labour poetry – illustrates how textual form can reconfigure the socio-material conditions of work. The rhythmic interplay between manual activity and poetic craft reveals labour not merely as economic function but as embodied praxis, inscribed with memory, dignity, and collective struggle.

Such practices enact what Nowak (2020) terms "social poetics": a mode of cultural production in which workers become theorists of their own conditions, challenging both capitalist modes of representation and the entrenched separation of physical and intellectual labour. In this sense, poetics operates as counter-hegemony, offering a means of narrating the workplace from below and of reclaiming interpretive authority from managerial or technocratic discourses. This tradition provides a crucial precondition for BICW, which similarly positions workers as narrators of industrial life, capable of transforming both the symbolic and affective economies of the workplace.

Flow, well-being and creative work

The concept of flow offers a psychological anchor for understanding the emancipatory potential of creative activity in industrial contexts. Flow denotes a state of deep absorption and optimal experience achieved when skill and challenge are momentarily aligned (Csikszentmihályi, 1990). Within the workplace, entering a flow state has been associated with heightened engagement, reduced stress, and the emergence of positive social dynamics among workers.

Importantly, flow is not merely an individual psychological benefit but a relational and political one: it temporarily suspends the alienation characteristic of routinised labour and creates openings for agency, pleasure, and self-directed meaning-making. When embedded within collective creative practices – such as

narrative workshops or poetic reflection – flow becomes a mechanism through which workers reclaim temporalities, affects, and interpretive spaces otherwise disciplined by industrial rationalities. This psychosocial dimension reinforces the claim that creative writing in the workplace is neither ornamental nor therapeutic in a reductive sense, but a potentially subversive practice that interrupts the commodification of time and attention.

From Industrial Creative Writing to Biocentric Industrial Creative Writing (BICW)

Biocentric Industrial Creative Writing (BICW) expands earlier formulations of Industrial Creative Writing by aligning them with posthumanist and ecocritical theory. BICW is conceptualised as a pedagogical and artistic intervention that invites workers to represent industrial processes through creative forms – poems, stories, metaphors, narrative fragments – while explicitly adopting more-than-human points of view. It thus operates within the ontological terrain mapped by Haraway's (2016) call to "make kin," Tsing's (2015) multispecies ethnography, and Barad's (2007) agential realism, which collectively challenge the stability of the human as the sole locus of agency.

From this perspective, factories and supply chains are not neutral infrastructures but material-semiotic assemblages (Haraway), meshworks (Ingold), or ecologies of practice (Tsing) in which human, non-human, and technological actors co-constitute one another. BICW leverages creative writing to make these entanglements narratively legible. By encouraging workers to imagine themselves as rivers, machines, algae, or atmospheric components, BICW disrupts the anthropocentric habitus that underpins industrial modernity and foregrounds the ethical stakes of ecological entanglement.

Conceptually, BICW contributes to what Plumwood (1993) describes as the "decolonisation of the human," unsettling extractivist ontologies that render

nature inert and workers interchangeable. It resonates with Braidotti's (2013) posthuman ethics, which emphasises relationality and the redistribution of agency across human and non-human domains, and with Alaimo's (2016) concept of "trans-corporeality," which underscores the permeability of bodies and environments. Through this lens, industrial labour becomes a site of multispecies co-presence rather than mechanistic production.

Functionally, BICW aims to catalyse Industrial Transformation: a shift from anthropocentric optimisation logics toward an operational ethic grounded in ecological viability, human dignity, and multispecies justice. Creative writing here operates as a critical literacy – capable of exposing greenwashing, reconfiguring institutional imaginaries, and enabling workers to articulate ecological and ethical concerns that may otherwise remain invisible within managerial discourse. In this way, BICW acts simultaneously as a narrative methodology and as a political pedagogy, capable of generating new vocabularies and new subject positions from which to rethink industrial futures.

BICW, critical pedagogy and education policy

This subsection elaborates the broader implications of BICW for critical pedagogy and education policy. Critical educators have long emphasised the need to interrogate how educational practices – formal, informal, or workplace-based – are shaped by neoliberal rationalities (Apple, 2013; Hill, 2003). Within contemporary labour markets, "education" is often subordinated to upskilling agendas, productivity metrics, and competency-based models aligned with Industry 4.0 and corporate governance (Schwab, 2016). These frameworks conceptualise learning as an instrument for economic optimisation rather than a relational, emancipatory, or ecological practice.

BICW offers a counter-narrative to this neoliberalisation of workplace education. By foregrounding creative expression, multispecies ethics, and

workers' experiential knowledge, it challenges dominant policy discourses that privilege managerial expertise and human-capital theory. Instead, it aligns with Freire's (2018) conception of education as *conscientização*: a dialogic process through which subjects recognise and contest the socio-ecological structures shaping their lives.

Furthermore, BICW intersects with debates on sustainability literacy and the environmental responsibilities of industrial organisations. While contemporary ESG frameworks often reduce ecological education to compliance training or managerial reporting (Köhler et al., 2019), workers' responses in this study indicate a desire for authentic, participatory ecological learning. This positions BICW as a pedagogical intervention capable of reframing sustainability not as corporate performance but as situated, worker-generated ecological praxis.

In policy terms, BICW suggests the need for expanded models of vocational and workplace learning that integrate critical ecological literacy, creative practice, and democratic participation. Rather than reinforcing neoliberal skills frameworks, such models could support worker autonomy, collective enquiry, and multispecies forms of responsibility. In this way, BICW contributes to an emerging paradigm of post-anthropocentric education policy (Alaimo, 2016; Haraway, 2016) that reorients training and organisational learning toward justice, interdependence, and ecological survivability.

Methodology

Research design

We employed an exploratory, concurrent mixed-methods design situated within a critical–emancipatory paradigm. The study combined quantitative items measuring attitudes toward Biocentric Industrial Creative Writing (BICW) with qualitative prompts that elicited narrative and metaphorical representations of industrial life, treating story as a legitimate mode of inquiry (Riessman, 2008).

This design aligns with traditions of critical pedagogy (Freire, 2018) and workers' inquiry while maintaining the analytical rigour necessary for examining ecological and multispecies dimensions of industrial practice.

Participants

The sample consisted of N = 219 Greek adult volunteers from diverse "industrial ecosystems," including frontline workers, engineers, managers, logistics personnel, and smaller groups of community members, ecologists, and artists. Experience ranged from 0–5 to 20+ years; approximately 54% held supervisory roles. Educational backgrounds spanned STEM and non-STEM university degrees as well as non-tertiary pathways. Participants were recruited through professional networks and social channels. All participation was voluntary and anonymous, following standard research ethics. This heterogeneity was deliberate in order to capture multiple positionalities within industrial culture; however, subgroup sizes are uneven and this reduces statistical power for between-group comparisons. Accordingly, the quantitative results are reported as descriptive and exploratory rather than inferential.

Instrument: The BICW integrated questionnaire

The custom questionnaire combined five theory-informed clusters:

1. **Likert items (1–5)** examining (a) the meaningfulness of artistic representations of industrial processes, (b) organisational consideration of non-human entities' intrinsic value, (c) the importance of ecological ethics in optimisation, and (d) links between creative writing, well-being, innovation, and sustainability culture.
2. **Binary/triadic items** assessing narrative reframing, environmental risk perception, greenwashing awareness, workshop participation, time for

reflection, access to ecological/industrial data, managerial support, and willingness to produce BICW artefacts or join co-writing labs.

3. **Metaphor and form selections**, capturing participants' industrial imaginaries (machine/organism/ecosystem/story/battlefield) and preferred creative modes (poem/story/theatre/screenplay).
4. **Ecosystem role identification**, prompting workers to assign themselves a position within a narrated industrial ecosystem.
5. **Open-text rationales**, providing brief justifications feeding the thematic analysis.

Data collection procedure

The survey was administered online (Google Forms). A landing page clarified purpose, voluntariness, and anonymity. Conditional branching reduced participant burden (e.g., open-text prompts appearing only when relevant). Responses were stored securely and exported for analysis.

Data analysis

Descriptive statistics (means, SDs, and frequencies) were computed for quantitative items, supplemented by non-inferential cross-tabulations (role, education, experience). Given the exploratory aims and heterogeneous subgroup sizes, we did not conduct inferential hypothesis testing; apparent patterns are treated as indicative and interpreted cautiously. Qualitative data were analysed using inductive thematic analysis (Braun & Clarke, 2006), informed by narrative inquiry (Riessman, 2008). Codes such as non-human identification, well-being/flow, innovation potential, and authenticity vs. greenwashing were iteratively developed and clustered. Metaphors and ecosystem roles were interpreted as indicators of underlying industrial worldviews (mechanistic vs. biocentric; anthropocentric vs. multispecies).

Methodological limitations and trade-offs

While the mixed-methods design offered a broad and analytically productive corpus of data, it also exposes the structural limits of doing research *within* and *about* industrial systems marked by hierarchy, surveillance, and asymmetrical power relations. From a Freirean standpoint, any instrument designed by researchers and completed individually by workers inevitably risks reproducing the "banking model" of knowledge production (Freire, 2018), even when its explicit aim is emancipatory. The very form of the survey – fixed questions, unidirectional transmission, absence of collective deliberation – reflects the epistemic constraints of capitalist workplaces, where workers' voices are routinely fragmented, individualised, and de-contextualised (Harney & Moten, 2013). Thus, the methodological form does not simply carry limitations; it *materialises* the contradictions between emancipatory intent and managerial-industrial structure.

A specific trade-off concerns the sample's breadth. Including frontline workers, engineers, supervisors, managers, and smaller groups of ecologists and artists strengthens the study's capacity to map diverse industrial imaginaries, but it also fragments the sample into uneven subgroups. This limits statistical power and makes fine-grained group comparisons (e.g., role-based differences) unreliable in an exploratory survey of this size. We therefore refrain from strong claims about subgroup effects and prioritise patterns that are consistent across the dataset.

Relatedly, the questionnaire can only open partial 'windows' onto institutional constraints and emergent possibilities for biocentric reimagining. Items on reflection time, access to ecological/industrial data, and perceived managerial support elicit respondents' perceptions of organisational affordances; the open-ended metaphor and ecosystem-role prompts capture imaginative positioning

rather than direct observation of organisational change. The design therefore supports an analysis of receptivity, imaginaries, and perceived constraints—but not a definitive account of what an organisation would permit or enact in practice.

These tensions are further complicated by **self-selection bias** and **social desirability pressures**. Participants with ecological or creative sympathies may be more likely to respond, while others may temper their critique due to fear of organisational repercussions – even in anonymous formats. As Burawoy (1979) notes, labour processes generate patterned forms of consent and self-monitoring that shape how workers articulate their experiences. Even voluntary responses cannot be fully separated from the disciplinary environment of contemporary production regimes. Similarly, respondents' strong endorsement of ecological ethics or narrative practices may reflect an aspirational horizon rather than conditions they feel genuinely empowered to pursue within existing workplace constraints.

Nevertheless, the survey's narrative and metaphorical prompts activated a degree of **critical reflexivity** that exceeds the conventional limits of questionnaire-based research. When workers described themselves as rivers, algae, or atmospheric elements, they enacted what Plumwood (1993) calls "the decolonisation of the human", momentarily suspending capitalist anthropocentrism and imagining ecological entanglements blocked by managerial discourse. This suggests that even modest creative interventions can destabilise the ontological boundaries through which capital organises labour, nature, and value. In this sense, the instrument functioned as a *minor* emancipatory event, aligning with Federici's (2004) and Moore's (2015) insistence that small-scale cultural practices can illuminate the invisible terrains of exploitation and ecological dispossession.

Yet such sparks of critical awareness remain constrained by the non-dialogic form of the instrument. True participatory inquiry – as envisioned by Freire or by the autonomous Marxist tradition of workers' inquiry (Haider & Mohandesi, 2013; Marx, 1880) – requires collective spaces where workers co-produce the research questions, analyse the results, and articulate demands. A survey, by contrast, cannot dismantle managerial hierarchies; at best, it can reveal their contours. For BICW to realise its transformative potential, methodological practice must shift toward **co-writing laboratories, participatory action research, and collectivised reflection**, where workers' voices are not merely captured but structurally empowered.

In sum, this study offers valuable insight into workers' ecological imaginaries and creative dispositions, but its emancipatory impact remains partial. Its greatest contribution lies in highlighting the political stakes of methodology itself: without confronting the organisational conditions that shape who speaks, who listens, and who decides, no critical pedagogy – however well intentioned – can be fully realised.

Findings

This section reports the study's descriptive results. We first summarise quantitative response patterns from the BICW questionnaire and then present qualitative themes and ecosystem-role identifications from the open-ended prompts.

Quantitative results: Engagement, perceptions, and openness to BICW

Table 1 summarises responses to the six Likert-scale items. Mean scores are high across all items (M = 3.94–4.24), with substantial agreement for each

statement (67.6%–84.0%), indicating broad receptivity to the core premises of BICW.

Table 1. Descriptive statistics for Likert-scale items (N = 219)

Item	Mean	SD	% Agree
Industrial processes can be meaningfully represented via literary forms	**4.08**	**1.02**	**70.3%**
Organisation considers intrinsic value of non-human entities	**3.94**	**0.99**	**67.6%**
Embedding ecological ethics into optimisation (importance)	**4.24**	**0.94**	**84.0%**
Creative writing can improve worker well-being	**4.09**	**1.00**	**74.4%**
Creative writing can spur innovation in design	**4.13**	**0.92**	**77.2%**
Creative writing can strengthen sustainability culture	**4.10**	**0.95**	**76.3%**

Source: BICW Questionnaire (2025). Note: Percentages may not sum to 100 due to rounding.

The highest endorsement concerns embedding ecological ethics into optimisation (M = 4.24; 84.0% agree). High agreement is also observed for items linking creative writing to worker well-being, innovation, and sustainability culture (Table 1).

Table 2. Frequencies and percentages for binary and triadic items (N = 219)

Item	Yes (n, %)	No (n, %)	Maybe (n, %)
Participated in creative writing workshop (past 12 mo)	84 (38.4%)	135 (61.6%)	–
Team has ≥2 hours/week reflection time	140 (63.9%)	79 (36.1%)	–
Has access to eco/industrial data for narrative use	131 (59.8%)	88 (40.2%)	–
Line manager supportive of creative approaches	173 (79.0%)	46 (21.0%)	–
Believes narrative reframing improves decisions	204 (93.2%)	15 (6.8%)	–
Believes BICW could reduce environmental risk	171 (78.1%)	48 (21.9%)	–
Perceives corporate storytelling as "greenwashing"	125 (57.1%)	94 (42.9%)	–
Would commit at least one BICW narrative artefact	152 (69.4%)	67 (30.6%)	–
Supports BICW in sustainability/ESG strategy	199 (90.9%)	20 (9.1%)	–
Willing to participate in co-writing lab	159 (72.6%)	6 (2.7%)	54 (24.7%)
Would accept ≤2% output loss for ecological gains	169 (77.2%)	50 (22.8%)	–
Would join BICW if colleagues do	201 (91.8%)	18 (8.2%)	–

Source: BICW Questionnaire (2025).

Binary and triadic items (Table 2) further indicate openness to organisational adoption. Most respondents support integrating BICW into sustainability/ESG strategies, believe narrative reframing can improve decisions, and report

willingness to participate in co-writing initiatives or produce at least one BICW narrative artefact. A majority would accept a small (≤2%) reduction in output if it delivered ecological gains.

Industrial metaphors (Table 3a) are distributed across mechanistic, organismic and ecosystemic framings. 'A living organism' is the most frequently selected metaphor (28.8%), followed by 'a machine' (25.6%) and 'an ecosystem' (20.5%).

Table 3a. Distribution of industrial metaphors (N = 219)

Metaphor	n	%
A living organism	**63**	**28.8%**
A machine	**56**	**25.6%**
An ecosystem	**45**	**20.5%**
A story	**26**	**11.9%**
A battlefield	**24**	**11.0%**
Other	**5**	**2.3%**

Source: BICW Questionnaire (2025).

Preferred creative forms for narrating industrial life (Table 3b) are varied, with short stories (25.1%), screenplays (23.7%) and theatrical formats (22.4%) most frequently selected, followed by poems (18.7%).

Table 3b. Preferred creative forms to narrate industrial life (N = 219)

Literary form	n	%
Short story	**55**	**25.1%**
Screenplay	**52**	**23.7%**
Theatre	**49**	**22.4%**
Poem	**41**	**18.7%**
Other	**22**	**10.0%**

Source: BICW Questionnaire (2025).

Qualitative results

Open-ended responses were analysed thematically. Table 4 summarises four recurring themes reported by participants: (1) expansion/personal uplift, (2) well-being and stress relief, (3) meaning and workplace satisfaction, and (4) creative-driven operational insight (Table 4). These themes capture how participants described the perceived relevance of BICW for workplace experience and reflection.

Table 4. Themes emerging from qualitative responses with representative quotes (N = 219)

Theme	Definition	Frequency (n, %)	Representative participant quote (≤40 words)
1. Expansion of the spirit/ Personal uplift	Expressions of emotional or intellectual expansion resulting from creative engagement; gestures toward reconceptualising work as more than routine labour.	**71 (32.4%)**	"*Expansion of the spirit – it opens the mind and allows me to see my work differently*".
2. Well-being and stress relief	Perceived psychosocial benefits: reduced stress, improved mood, emotional grounding, and better affective experience of industrial labour.	**42 (19.2%)**	"*Improving employee well-being – it would help us cope with the daily pressure*".
3. Meaning and workplace satisfaction	Indications that creative reflection generates a stronger sense of purpose, belonging, or job satisfaction.	**39 (17.8%)**	"*Satisfaction in the workplace – feeling more connected with what I do every day*".
4. Creative-driven operational insight	Participants articulate that narrative practices may indirectly improve productivity or quality through new perspectives or reflective clarity.	67 (30.6%)	"*Productivity increase and better product quality – creative thinking sparks new ideas for improvement*".

Source: BICW Questionnaire (2025).

Table 5. Self-assigned ecosystem roles in the industrial site (N = 219)

Ecosystem role	n	%
A human being	59	26.9%
A river	42	19.2%
A butterfly	35	16.0%
A whale	30	13.7%
A zebra	15	6.8%
Algae	13	5.9%
Other	25	11.4%

Source: BICW Questionnaire (2025).

Table 5 reports participants' self-assigned ecosystem roles within the narrated industrial site. While 26.9% selected "a human being," the remaining responses include non-human roles such as river (19.2%), butterfly (16.0%), whale (13.7%), zebra (6.8%), algae (5.9%), and other roles (11.4%) (Table 5). Because the prompt explicitly invited non-human roles, these identifications are reported here as responses to the elicitation task.

Open-text comments also referenced perceived operational learning (e.g., new perspectives on problem-solving and process improvement) and concerns about the credibility of corporate sustainability communication. The following Discussion section interprets these descriptive patterns and considers their implications for BICW as a worker-led critical pedagogy.

Discussion

Across both quantitative and narrative strands, the study suggests that Biocentric Industrial Creative Writing (BICW) can function as a worker-led form of critical pedagogy in industrial contexts. Its distinctive promise is not simply 'adding creativity' to sustainability agendas, but creating a shared

language through which labour concerns (alienation, dignity, voice) and ecological concerns (damage, responsibility, more-than-human agency) can be held together and debated. This bridging is central if the Anthropocene is treated as an epochal representation that reorganises how societies narrate responsibility and planetary limits: workplace storytelling becomes one site where that representation can be reproduced, contested, or re-written.

Workers' metaphor choices (e.g., machine, organism, ecosystem, story, battlefield) highlight that industrial life is already narrated through multiple ontologies. BICW can make these narrative frames explicit and open them to collective critique – supporting a shift from purely mechanistic optimisation stories toward relational accounts of interdependence, vulnerability, and repair (Plumwood, 1993; Haraway, 2016).

Similarly, more-than-human identifications can be read as a pedagogical resource rather than an abstract 'attitude'. Because the prompt explicitly invited non-human roles, we treat the prevalence of such identifications as evidence of pedagogical receptivity and imaginative perspective-taking rather than a stable shift in identity. Inviting workers to write from non-human perspectives can render ecological entanglements perceptible at the scale where decisions are made and contested – inside teams, routines, and organisational narratives – thereby connecting multispecies ethics to concrete questions of responsibility and harm (Alaimo, 2016; Braidotti, 2013).

The study also points to psychosocial and organisational potentials. Creative writing practices can support experiences of flow, meaning, and shared reflection in environments where time and attention are often tightly managed (Csikszentmihalyi, 1990). Because BICW links reflection to workplace knowledge – processes, materials, risks, and infrastructures – it can also function as an engine of organisational learning, not only personal expression.

Taken in this way, BICW can be approached as a comparative critical method: it juxtaposes explicit organisational ambitions (e.g., ESG targets, safety claims, efficiency narratives) with worker-produced stories grounded in socio-material conditions. The comparison can surface contradictions (such as green rhetoric alongside harmful routines) and generate worker-led hypotheses for change.

Classed differences and power relations in BICW adoption

Despite these potentials, BICW adoption is shaped by structural asymmetries in the labour process – especially the unequal distribution of time, information, and interpretive authority. Where reflection time is scarce, ecological data are inaccessible, or speech is disciplined by hierarchy and surveillance, worker-led narrative practices risk becoming symbolic rather than transformative.

Differences in organisational position also matter. Supervisory roles may experience stronger pressure to translate BICW into managerial performance language, while frontline workers often hold more embodied knowledge of processes and harms. For BICW to bridge worker empowerment and environmental justice, organisations must treat worker narratives as a form of situated expertise – not as content to be curated for external reputation.

Concerns about ‘greenwashing’ should therefore be treated as a design constraint for any BICW intervention. Participatory governance – co-writing laboratories, worker-controlled dissemination, and transparent access to environmental and operational data – can help prevent appropriation and keep the practice oriented toward accountability and repair.

In sum, BICW’s value lies in its capacity to connect multispecies ethics to workplace democracy. Its transformative impact depends less on narrative technique alone than on whether organisations create material conditions for collective reflection, deliberation, and worker-led ecological critique.

Conclusion

This article advanced Biocentric Industrial Creative Writing (BICW) as a framework for confronting the intertwined problems of labour alienation and ecological degradation in industrial culture. Through an exploratory mixed-methods study, we show that workers are receptive to biocentric narrative practices and can use them to articulate more-than-human perspectives, well-being concerns, and critiques of sustainability communication. Taken together, the study illustrates how BICW can bridge worker empowerment and environmental justice by legitimising workers as narrators and analysts of the socio-ecological entanglements of production.

These results have implications for organisational practice and critical education policy. If the Anthropocene is understood as a dominant representation of planetary change, then shifting workplace narratives is not cosmetic – it is part of how responsibilities, trade-offs, and 'optimisation' are defined. Embedding BICW within workplace learning can support ecological literacy and democratic participation, but only if accompanied by structural commitments: protected time for reflection, access to relevant environmental and operational data, and safeguards that keep worker-generated narratives from being absorbed into managerial branding.

Future research should extend this preliminary inquiry through participatory and action-oriented methods in which workers co-design prompts, co-analyse outputs, and co-govern dissemination. Longitudinal and sector-comparative studies could examine whether sustained BICW practice reshapes organisational decision-making, environmental accountability, and worker well-being over time.

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