

Bridging Bibliotherapy and Education for Sustainable Development: A Pedagogical Framework for Card-Based Literacy

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ABSTRACT

Adolescent literacy education requires pedagogical approaches that connect reflective reading with social, emotional, and sustainability-oriented learning. This study developed and content-validated a pedagogical framework integrating didactic bibliotherapy, Education for Sustainable Development (ESD), and card-based reflective literacy. Using a qualitative Design and Development Research approach, 45 candidate fiction and non-fiction titles were screened through a three-phase curation protocol based on adolescent appropriateness, reflective narrative potential, and substantive relevance to the Sustainable Development Goals (SDGs). Seventeen titles were analyzed to generate reflective trigger words and three levels of prompt: affective/self-resonance, critical/social perspective, and sustainability-oriented deliberation and response. The resulting literature curation matrix, prompting framework, and card architecture were evaluated by six independent experts representing bibliotherapy/ literacy, ESD/curriculum, adolescent education, and instructional media. All 11 validation dimensions met the predefined I-CVI threshold of .83. Six dimensions achieved I-CVI = 1.00, five achieved I-CVI = .83, and the overall S-CVI/ Ave was .92, with a mean expert rating of 3.41/4.00. The findings support the framework as a conceptually coherent and content-valid model for structuring reflective literacy around sustainability issues. However, expert validation does not establish classroom effectiveness. Subsequent usability and intervention studies are required to examine learner engagement, reflective literacy, sustainability reasoning, and implementation feasibility.

Keywords: Didactic Bibliotherapy, Education for Sustainable Development, card-based literacy, adolescent literature, reflective literacy.

INTRODUCTION

The 21st-century educational paradigm shift positions transformative literacy and environmental awareness as fundamental pillars of global learning. Digital-era challenges compel educational institutions to redesign reading activities, moving beyond passive text decoding toward fostering critical reflection and actionable engagement with sustainability issues (OECD, 2023). However, Schüller-Zwierlein et al (2022) contend that pervasive attentional distractions and screen fatigue among adolescents jeopardize the deep reading capacity required to comprehend complex socio-ecological concepts. Addressing this urgency, Hasanova and Safarli (2024) advocate for integrating pedagogical models that harmonize emotional well-being, reading proficiency, and ecological responsibility to nurture socially conscious generations. This phenomenon provides a vital empirical foundation to explore interactive literacy approaches capable of bridging students' emotional comprehension with sustainable development principles.

Within this landscape, three core concepts-didactic bibliotherapy, education for sustainable Development (ESD), and card-based literacy-intersect to form a transformative pedagogical framework. Didactic bibliotherapy involves the structured application of selected literature to foster self-awareness, emotional regulation, and moral intelligence through narrative identification (Agustina, 2026). When integrated with ESD, reading extends beyond personal introspection to cultivate critical consciousness regarding ecological responsibility, social equity, and global justice (Griffiths, 2021). Meanwhile, manipulative card media facilitates interactive dialogue

and visual stimulation, enabling adolescent readers to translate abstract ideas into scaffolded reflective inquiries (Setyawan & Susilo, 2023). Theoretically, emotional engagement with literature has been shown to bolster cognitive empathy and Theory of Mind—both essential prerequisites for comprehending complex ESD issues (Kidd & Castano, 2013). The convergence of these three constructs becomes particularly salient given that secondary school reading practices often remain trapped in superficial cognitive comprehension, devoid of affective resonance and environmental consciousness.

Secondary school literacy issues are increasingly compounded by dominant digital screen exposure, which diminishes text retention and deep reading engagement. Paulus et al. (2023) demonstrate that excessive screen media activity induces cognitive fatigue and anxiety, negatively impacting mental health and problem-solving capacities. Furthermore, Bobrytska et al. (2025b) contend that an unguided digital transition threatens to erode social interaction and critical thinking acumen. This gap is further underscored by adolescents' declining motivation to engage with long-form texts, leaving students alienated from surrounding socio-environmental issues (Zalukhu & Zalukhu, 2024). Concurrently, despite national curricula promoting sustainability values, educators encounter significant hurdles in curating relevant reading materials and delivering engaging instructional media (Nugraheny & Vioeza, 2025). Consequently, institutional efforts to optimize school literacy cultures frequently fail to foster students' reflective consciousness toward real-world challenges (Nabilla et al., 2026). This systemic crisis underscores the imperative for innovative media and instructional frameworks that revitalize interactive reading practices.

Prior literature has documented the efficacy of bibliotherapy (McCulliss & Chamberlain, 2013); (Shechtman, 2008), ESD (Hulyatuzzahroh & Al Musafiri, 2023; Pratiwi et al., 2025; Rahmat et al., 2021; Salam & Hamdu, 2022; Souisa et al., 2022; Zulfah et al., 2024), and interactive learning media (Fitria & Putra, 2025; Lukman et al., 2023). However, these variables have largely been investigated in isolation. Earlier bibliotherapy studies primarily focused on reducing anxiety, managing aggression, and fostering emotional empathy within clinical counseling contexts. Meanwhile, ESD research has predominantly centered on integrating environmental topics through project- and science-based learning (Salam & Hamdu, 2022; Pratiwi et al., 2025; Zulfah et al., 2024). Similarly, investigations into card-based media demonstrate its effectiveness in enhancing cognitive learning outcomes and classroom engagement (Fitria & Putra, 2025; Lukman et al., 2023). Comparatively, existing research confirms that reading interventions and physical media consistently enhance affective and cognitive domains; yet, none have synthesized SDG-themed adolescent literature curation into scaffolded, reflective prompt cards.

Empirical findings across the literature reinforce the premise that reflective reading paired with discussion prompts converts passive learning into a transformative educational experience. The application of didactic bibliotherapy effectively shapes adolescent character and moral awareness through structured narrative identification (Agustina et al., 2025). Furthermore, interactive text-based reading practices stimulate higher-order thinking skills and expand students' critical perspectives (Godoy, 2023). Visual media and reflective tools consistently enhance learners' sense of belonging and active classroom participation (Kahu & Picton, 2020). Emerging 21st-century literacy trends indicate that evolving adolescent reading habits necessitate experiential learning strategies tailored to their social realities (Wang, 2025). Indeed, introducing bibliotherapy into secondary school environments significantly elevates student reading engagement (Supriyanto et al., 2025). Together, these findings highlight that bibliotherapy-grounded reflective card media offers a promising solution for regular classroom literacy practices.

Previous research provides substantial foundations for each component of the proposed model, although these foundations have developed largely in separate pedagogical traditions. Didactic bibliotherapy research demonstrates how selected literature can support identification, emotional engagement, insight, moral reflection, and personal development (McCulliss & Chamberlain, 2013; Souisa et al., 2022; Hulyatuzzahroh & Al Musafiri, 2023; Agustina et al., 2025). ESD scholarship, by comparison, emphasizes the development of sustainability understanding through systems perspectives, values, ethical reasoning, participation, anticipatory thinking, and action-oriented learning (Rieckmann, 2022; Samuelsson & Lindstrom, 2022; Kohl et al., 2024). Curriculum and classroom studies further demonstrate that ESD requires explicit pedagogical integration rather than the addition of sustainability terminology to existing subject content (Fekih Zguir et al., 2021; Salam & Hamdu, 2022; Lamanauskas & Malinauskiene, 2024).

Table 1. Reviewed studies grouped by their relationship to the proposed framework

Relationship to the framework	Representative studies	Main contribution	Limitation relative to the present study
Didactic bibliotherapy and reflective reading	McCulliss & Chamberlain (2013); Souisa et al. (2022); Hulyatuzzahroh & Al Musafiri (2023); Agustina et al. (2025)	Establish literature as a resource for identification, emotional reflection, moral development, and problem exploration	Sustainability competencies and SDG-oriented interpretation are not their principal focus.
ESD competencies and transformative learning	Riekmann (2022); Ssosse et al (2021)	Emphasize systems, values, anticipatory, participatory, and action-oriented dimensions of sustainability learning	Do not specify how narrative identification can initiate these forms of reflection
Ethical and humanistic ESD	Samuelsson & Lindstrom (2022); Kohl et al. (2024); Griffiths (2021)	Highlight ethics, values, pluralism, responsibility, and critical engagement with sustainability	Provide limited operational guidance for literary or card-based reflective pedagogy
Curriculum integration and ESD implementation	Fekih Zguir et al. (2021); Salam & Hamdu (2022); Lamanauskas & Malinauskiene (2024); Zovko & Zovko (2025)	Demonstrate the importance and challenges of embedding ESD into curricula and classroom practice	Focus primarily on curriculum or teacher implementation rather than reader-narrative processes
Experiential and action-oriented ESD	Michelsen & Rieckmann (2015); Alvarez-Vanegas et al (2024); Zulfah et al (2024); Pratiwi et al (2025)	Use problem-, project-, service-, or issue-oriented learning to connect sustainability with participation and action	Usually begin with sustainability problems or projects rather than reflective literary encounters
Subject-specific and language-oriented ESD	Gericke (2025)	Establishes language teaching as a legitimate subject-specific contributor to ESD	Does not specifically operationalize bibliotherapeutic mechanisms or card-based prompts
Card-based instructional media	Setyawan et al. (2023); Lukman et al (2023); Fitria & Putra (2025)	Demonstrate the instructional feasibility of manipulable card media in different learning contexts	Do not establish that cards produce bibliotherapeutic reflection or sustainability competence
Deep reading and digital-learning context	Schuller-Zwierlein et al. (2022); Paulus et al. (2023); Bobrytska et al. (2025); Basch et al. (2025)	Raise concerns about sustained reading, cognitive demands, digital exposure, and technology-related fatigue	Do not directly test physical reflective cards with adolescent readers.

These studies also indicate why the proposed framework should not be justified by simply aggregating evidence from separate fields. Evidence that bibliotherapy supports emotional reflection does not demonstrate that it produces sustainability competence. Similarly, findings showing that project-based or service-learning approaches support ESD do not establish that literary reading can perform the same instructional function. Research demonstrating benefits of card media in other subjects likewise cannot establish that reflective cards improve empathy, sustainability literacy, or deep reading. The unresolved problem is therefore one of pedagogical integration and operationalization: how can the reflective mechanisms associated with literary reading be systematically extended toward social and sustainability-oriented inquiry, and how can this sequence

be translated into a reusable instructional format?

The present study addresses this integration gap by positioning literature as the initial reflective encounter, didactic bibliotherapy as the mechanisms for personal and relational meaning-making, ESD as the framework for expanding interpretation toward sustainability issues, and physical cards as scaffold for organizing the reflective process. The proposed card format is therefore not assumed to be inherently transformative. Its pedagogical value lies in encoding a structured progression of questions that moves from the reader's relationship with the narrative toward broader social, ethical, and sustainability-oriented considerations.

The novelty of this study lies not in the independent use of bibliotherapy, ESD, or card-based media, each of which already has an established research base, but in operationalizing the pedagogical relationship among them. Specifically, the study translates curated literary encounters into a staged reflective sequence moving from affective self-resonance, through critical social perspective, toward sustainability-oriented deliberation and response, and subsequently encodes this sequence within a reusable physical card architecture. Accordingly, the study addresses two research questions:

RQ1. How can adolescent literature be systematically curated and mapped to sustainability issues through a didactic bibliotherapy perspective?

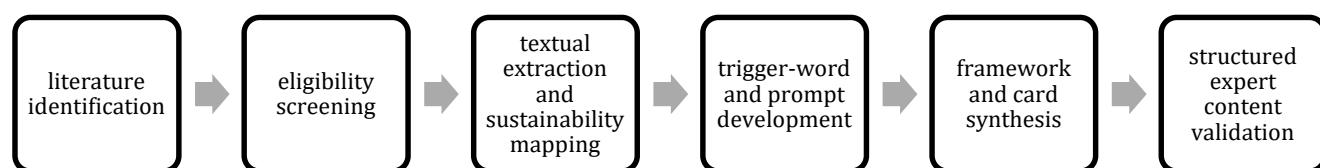
RQ2. How can bibliotherapeutic reflection and ESD be integrated into a structured card-based reflective literacy framework, and to what extent is the resulting framework supported by expert content validation?

METHODOLOGY

Research Approach and Design

This study employed a qualitative Design and Development Research (DDR) approach focused on pedagogical framework development, literature curation, instructional prototyping, and structured expert content validation (Richey & Klein, 2007). The research did not evaluate intervention effectiveness or compare learner outcomes. Instead, it developed and examined the content validity of an instructional framework integrating didactic bibliotherapy, ESD, and card-based reflective literacy. The study proceeded through six sequential stages:

Figure 1. Sequential research design for literature curation, reflective-prompt development, framework synthesis, and expert validation



Qualitative content analysis supported the identification of reflective narrative situations and sustainability-related meanings, while theoretically informed coding guided the interpretation of didactic bibliotherapy and ESD relationships. Theoretical categories served as analytical guides rather than evidence that the proposed relationships were effective in classroom practice.

Corpus Identification and Selection

The initial screening pool consisted of 45 adolescent fiction and non-fiction titles identified through reading collections and commercially available literature considered potentially relevant to secondary-school reflective literacy activities. The study applied four inclusion criteria. A title was retained when:

1. Its content was developmentally appropriate for adolescent readers;
2. It contained emotional, interpersonal, moral, social, or ecological situations with sufficient potential for guided reflection;

3. At least one substantive narrative passage demonstrated explicit or implicit relevance to a sustainability issue represented within the SDG framework; and
4. The relevant passage provided sufficient contextual meaning to support reflective questioning rather than functioning as an isolated statement or keyword.

Books were excluded when their narrative content provided insufficient reflective or sustainability-related material for the intended framework, or when content considered inappropriate for the target adolescent group prevented responsible classroom use. Application of these criteria reduced the initial screening pool from 45 to 17 titles. The selection constituted purposive pedagogical curation, not probabilistic sampling. The final corpus was organized to provide substantive coverage across the 17 Sustainable Development Goals.

Data Sources and Unit of Analysis

The principal qualitative data consisted of selected passages from the 17 retained works. A textual unit was defined as a sentence or connected passage representing a sufficiently complete emotional, interpersonal, moral, social, or ecological situation to support independent interpretation. Three instructional components were subsequently derived from each selected textual unit: a literary excerpt, preserving the contextual narrative situation; a trigger word, representing the central reflective tension of the passage; and a set of structured reflective prompts. Official descriptions of the SDGs and relevant ESD scholarship were used as conceptual references for sustainability mapping. Didactic bibliotherapy literature provided the theoretical basis for interpreting identification, affective resonance, insight, perspective taking, and reflective meaning-making.

Three-Phase Curation Protocol

Phase 1: Literature screening

Each of the 45 candidate titles was reviewed against the predefined eligibility criteria. Screening considered adolescent appropriateness, reflective narrative potential, and substantive sustainability relevance. A screening decision was recorded for each candidate. Titles satisfying the complete eligibility requirements proceeded to textual analysis, resulting in a final corpus of 17 works.

Phase 2: Textual Extraction and Sustainability Mapping

The researcher conducted close reading of the 17 retained works and extracted passages depicting meaningful emotional, social, ethical, or environmental situations. Each passage was examined according to: the central problem or tension; affected individuals or groups; emotional or ethical significance; social or ecological context; and substantive correspondence with an SDG. An SDG was assigned only when the narrative issue demonstrated conceptual alignment with the scope of the goal. Keyword similarity alone was insufficient for classification. Where a passage plausibly related to several sustainability issues, the principal SDG was determined by the issue most central to the selected narrative situation. Additional relationships could be documented as secondary sustainability connections but did not replace the principal classification used for the prototype.

Phase 3: Trigger-Word and Reflective-Prompt Development

A conceptual trigger word was developed from each selected passage. The trigger word had to represent the principal reflective tension rather than simply reproduce a visible noun or keyword. Reflective questions were subsequently developed using a Tripartite Reflective Prompting Framework:

Level 1. Affective/ Self-Resonance. Prompts invite readers to interpret their feelings, personal experiences, or perceived relationship with the character or narrative situation.

Level 2. Critical/ Social Perspective. Prompts broaden reflection toward another person, stakeholder, social relationship, or contextual condition. The aim is to move beyond the reader's initial position rather than simply ask whether the reader feels empathy.

Level 3. Sustainability-oriented Deliberation and Response. Prompts connect the narrative issue with wider sustainability questions by inviting consideration of consequences, responsibilities, alternative possibilities, values, or feasible responses. The three levels represent differences in the scope of reflective inquiry, not empirically established developmental stages.

Prompt-Classification Decision Rules

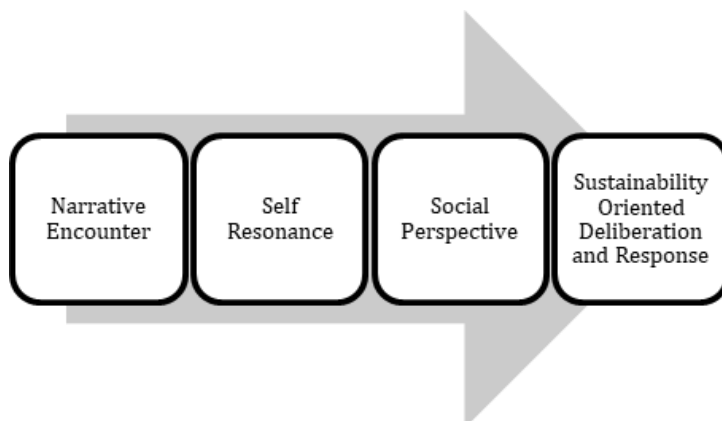
Prompt classification followed explicit decision rules to improve reproducibility. A Level 1 prompt had to require personal, emotional, or self-referential interpretation. Questions limited to factual recall were not accepted. A Level 2 prompt had to introduce perspective differentiation, another affected actor, or a wider social context. Merely asking learners whether they agreed with a character did not automatically satisfy this criterion. A Level 3 prompt had to extend reflection toward a sustainability-related consequence, ethical responsibility, alternative future, collective condition, or feasible response. Generic moral statements such as “What good action should you do?” were not considered sufficient without an explicit connection to the sustainability problem represented in the passage. Prompts that did not clearly meet their intended level were revised before being included in the card architecture.

Pedagogical Framework and Card Architecture

The curated components were synthesized into the following instructional unit:

Card Based Reflective Literacy Unit = Literacy Excerpt + Trigger Word + Level 1 Prompt + Level 2 Prompt + Level 3 Prompt. Conceptually, the sequence can be represented as:

Figure 2. Structured Pedagogical Progression



The physical card functions as a pedagogical scaffold for organizing this reflective sequence. The study did not assume that use of the card itself produces improved empathy, sustainability competence, reading comprehension, or behavior.

Structure Expert Content Validation

The framework, literature-selection criteria, SDG mapping procedure, excerpts, trigger words, prompt levels, and card architecture underwent structured content validation by six independent experts. The panel represented the disciplinary domains integrated within the model: two experts in bibliotherapy, literacy, and library and information science; two experts in ESD and curriculum; one expert in adolescent education or developmental psychology; and one expert in instructional media or learning design. Eligibility criteria included relevant postgraduate qualifications and disciplinary specialization. Experts in bibliotherapy and literacy were required to possess relevant postgraduate qualifications and at least five years of research or professional practice or an established publication record. ESD validators had postgraduate expertise in curriculum or sustainability education; the adolescent development expert possessed appropriate psychology/ education expertise; and the media expert had specialization in educational technology and instructional media design. The experts independently assessed 11 validation dimensions using a four-point relevance scale:

- 1= not relevant/ major revision required
- 2= somewhat relevant/ substantial revision required
- 3=relevant/ minor revision required
- 4= highly relevant/ no substantive revision required.

Ratings of 3 or 4 were classified as content-valid judgments. With six experts, a dimension was retained when at least five experts rated it 3 or 4, resulting in a minimum I-CVI of .83. Overall content validity was summarized using the Scale-Level Content Validity Index/ Average (S-CVI/Ave). The 11 validation dimensions were: 1) theoretical coherence; 2) literature-selection criteria; 3) book-SDG alignment; 4) excerpt relevance; 5) trigger-word representativeness; 6) Level 1 prompt alignment; 7) Level 2 prompt alignment; 8) Level 3 prompt alignment; 9) adolescent appropriateness; 10) card-architecture clarity; and (11) prospective classroom feasibility. Expert validation was interpreted as evidence of content relevance and conceptual appropriateness, not intervention effectiveness.

RESULTS

RQ 1: How can adolescent literature be systematically curated and mapped to sustainability issues through a didactic bibliotherapy perspective?

The curation process identified 17 works from an initial pool of 45 candidate adolescent fiction and non-fiction titles. The retained works contained narrative situations that could be systematically connected with reflective and sustainability-oriented inquiry. Each selected work contributed at least one substantive passage that met the combined criteria of adolescent appropriateness, reflective potential, and conceptual relevance to a sustainability issue. The final corpus provided representation across the 17 Sustainable Development Goals (SDGs). The curated works covered a broad range of human and sustainability concerns rather than environmental topics alone. The selected narrative situations included personal and emotional well-being, family, and interpersonal relationships, education, poverty and inequality, gender, work and livelihood, social responsibility, consumption, environmental degradation, climate-related concerns, biodiversity, justice, and collective responsibility. This breadth allowed sustainability issues to be approached through situations involving characters, lived experiences, moral tensions, and socio-environmental conditions rather than through decontextualized SDG terminology.

Each retained work was represented in the curation matrix through four linked elements: the selected literary work, a contextualized narrative excerpt, a conceptual trigger, and its principal SDG mapping. The trigger concepts condensed the central reflective tension of each passage, while the SDG mapping identified the sustainability domain most directly related to that tension. For example, passages concerned with psychological or relational distress were linked to Good Health and Well-Being, consumption and production, and narratives concerning climate-related uncertainty or environmental change were associated with Climate Action. These mapping functioned as pedagogical reference points rather than as claims that a literary work belonged exclusively to a single SDG.

Table 2. summarize the final curated corpus and shows how the selected literary passages were translated into a structured content base for the subsequent reflective prompting framework. The result of RQ1 was therefore not evidence of instructional effectiveness, but a curated and analytically structured literature corpus in which narrative situations, reflective concepts, and sustainability issues were explicitly connected.

Table 2. Curated adolescent literature, selected narrative excerpts, trigger concepts, and SDG mappings.

No	SDG	Curated literary work	Selected Narrative Excerpt	Trigger Concept	Principal Sustainability Connection
1	SDG 1: No Poverty	Dompet Ayah Sepatu Ibu	Zenna sold boiled corn at school to help her	Mindset, Creativity, Critical Thinking	Poverty, access to resources, vulnerability

			family while walking in tattered shoes.		
2	SDG 2: Zero Hunger	Kotaro Lives Alone	Kotaro eats tissue paper to endure loneliness and hunger.	Critical Thinking, Awakeness, Mindset, Creativity, Honesty	Food insecurity, basic needs, access to nutrition
3	SDG 3: Good Health and Well-being	Berani Tidak Disukai	"Self-acceptance is the vital first step... the courage to be normal"	Mindset, Honesty, Awakeness, Critical Thinking, Creativity	Mental/emotional well-being, health, relational distress
4	SDG 4: Quality Education	Guru Aini	Idealistic teacher Desi helps Aini, a poor student, dream of becoming a doctor.	Critical Thinking, Mindset, Awakeness, Creativity, Honesty	Educational access, learning opportunities, aspiration
5	SDG 5: Gender Equality	Perempuan yang Menangis kepada Bulan Hitam	Magi Diela kidnapped and tamed like an animal through 'kawin tangkap'.	Awakeness, Critical Thinking, Mindset, Creativity, Honesty	Gender roles, discrimination, equality
6	SDG 6: Clean Water and Sanitation	Pedoman Sanitasi Lingkungan	"Sanitation is not just technical... it is about dignity"	Critical Thinking, Mindset, Awakeness, Honesty, Creativity	Water access, sanitation, environmental health
7	SDG 7: Affordable and Clean Energy	Menuju Kesehatan Industri Telematika di Indonesia	Designing a healthy digital ecosystem including the use of clean energy in telematics.	Mindset	Energy access, resource use, clean energy
8	SDG 8: Decent Work and Economic Growth	Pasta Kacang Merah	Sentaro, an ex-convict, struggles for employment.	Awakeness, Mindset, Critical Thinking, Creativity, Honesty	Work, livelihood, dignity, economic opportunity
9	SDG 9: Industry, Innovation, and Infrastructure	Infrastruktur untuk Negeri	"Infrastructure is not just building roads, but building human connectivity"	Creativity, Critical Thinking, Mindset, Awakeness, Honesty	Innovation, technology, infrastructure, access
10	SDG 10: Reduced Inequalities	Charlie Si Jenius Dungu	"No one in this room thinks of me as a person—a human"	Honesty, Awakeness, Critical Thinking, Mindset, Creativity	Social exclusion, unequal opportunity, marginalization
11	SDG 11: Sustainable Cities and Communities	Lelaki Harimau	Margio's damp, leaking home reflects how slum conditions impact psychological health.	Critical Thinking, Creativity, Mindset, Awakeness, Honesty	Community, urban environment, belonging, resilience

12	SDG 12: Responsible Consumption and Production	The Lorax	Once-ler destroys the ecosystem to produce 'Thneeds'.	Critical Thinking, Creativity, Mindset, Awakeness, Honesty	Consumption, waste, sufficiency, responsibility
13	SDG 13: Climate Action	Dunia Anna	Anna sees the destruction of the earth's ecosystem through dreams of the future.	Critical Thinking, Creativity, Mindset, Awakeness, Honesty	Climate change, environmental uncertainty, responsibility
14	SDG 14: Life Below Water	Petualangan Anak Natuna	Prohibiting trash in the sea to protect Natuna's ecosystem.	Awakeness, Critical Thinking, Creativity, Mindset, Honesty	Marine ecosystems, pollution, aquatic life
15	SDG 15: Life on Land	Api, Awan, Asap	Smoke from forest fires is a sign of earth's wounds.	Critical Thinking, Creativity, Mindset, Awakeness, Honesty	Forests, biodiversity, terrestrial ecosystems
16	SDG 16: Peace, Justice, and Strong Institutions	Animal Farm	"Power is slowly taken over by the pigs who twist the rules"	Creativity, Critical Thinking, Mindset, Awakeness, Honesty	Justice, rights, conflict, integrity, institutions
17	SDG 17: Partnerships for the Goals	Tiga Matahari di Bawah Langit Jakarta	Scavenger children create change through small collaborations.	Awakeness, Critical Thinking, Creativity, Mindset, Honesty	Cooperation, collective responsibility, partnership

RQ2: How can bibliotherapeutic reflection and ESD be integrated into a structured card-based reflective literacy framework, and to what extent is the resulting framework supported by expert content validation?

Structured expert evaluation supported the overall content validity of the Bibliotherapy-ESD framework. Mean ratings across the 11 dimensions ranged from 3.00 to 3.83 on the four-point scale, with an overall mean rating of 3.41. All 11 dimensions met the predefined minimum content-validity criterion of I-CVI $\geq$.83, producing an overall S-CVI/Ave of .92.

Table 3. Expert content validation of the Bibliotherapy-ESD pedagogical framework.

Validation dimension	Mean score	Experts rating 3–4	I-CVI	Decision
Theoretical Coherence	3.83	6-Jun	1	Retain
Literature-Selection Criteria	3.33	6-Jun	1	Retain
Book–SDG Alignment	3	6-May	0.83	Retain
Excerpt Relevance	3.33	6-Jun	1	Retain
Trigger-Word Representativeness	3.5	6-May	0.83	Retain
Level 1 Prompt Alignment	3.83	6-Jun	1	Retain
Level 2 Prompt Alignment	3.17	6-May	0.83	Retain
Level 3 Prompt Alignment	3.17	6-May	0.83	Retain
Adolescent Appropriateness	3.67	6-Jun	1	Retain

Card-Architecture Clarity	3.17	6-May	0.83	Retain
Prospective Classroom Feasibility	3.5	6-Jun	1	Retain
Overall	3.41		S-CVI/Ave = .92	Strong content validity

Six dimensions achieved complete content-valid agreement (I-CVI=1.00): theoretical coherence, literature-selection criteria, excerpt relevance, Level 1 prompt alignment, adolescent appropriateness, and prospective classroom feasibility. Theoretical coherence and Level 1 prompt alignment received the highest mean scores (M=3.83), followed by adolescent appropriateness (M=3.67). Five dimensions achieved an I-CVI of .83: book-SDG alignment, trigger-word representativeness, Level 2 prompt alignment, Level 3 prompt alignment, and card-architecture clarity. Although all five satisfied the predefined acceptance criterion, the pattern indicates greater expert uncertainty regarding the operational translation of the framework than regarding its overall theoretical rationale.

In particular, the media-design expert assigned lower ratings to several components related to book-SDG alignment, trigger-word representation, higher-level prompting, and card architecture. The variation did not invalidate these dimensions, but it identified them as priority areas for further refinement and usability testing before large-scale classroom implementation. The expert findings therefore support the proposed model as a content-valid and pedagogical plausible framework, while stopping short of demonstrating effectiveness with adolescent learners.

DISCUSSION

Integrating Bibliotherapy and ESD without Collapsing Their Distinct Functions

The principal contribution of this study lies in specifying a pedagogical bridge between didactic bibliotherapy and ESD rather than claiming that the two approaches are theoretically equivalent. Bibliotherapy provides mechanisms for engagement with narrative experience through identification, emotional resonance, insight, and reflective meaning-making (McCullis & Chamberlain, 2013; Agustina et al. 2025). ESD, by contrast extends educational attention toward sustainability relationships, ethical judgment, future consequences, participation, and possible responses (Rieckmann, 2022).

The proposed framework links these functions through a staged change in the scope of reflection. Level 1 remains closest to the established strengths of didactic bibliotherapy by asking how readers interpret their own emotions and relationships with the narrative. Level 2 shifts interpretation toward other people and wider social circumstances. Level 3 introduces sustainability-oriented questions concerning consequences, values, responsibility, alternatives, and response. This distinction avoids a casual assumption that bibliotherapeutic engagement automatically produces ESD competencies. Instead, bibliotherapy provides a reflective point of departure whose pedagogical scope may be expanded through deliberately constructed prompts.

Positioning the Framework within Existing ESD Pedagogies

The framework should also be distinguished from established experiential ESD approaches. Service-learning, project-based learning, problem-based learning, and issue-oriented sustainability education provide learners with opportunities to investigate or respond to concrete sustainability problems (Michelsen & Rieckmann, 2015; Alvarez-Vanegas et al., 2024; Zulfah et al., 2024; Pratiwi et al, 2025). Their strength lies in situated inquiry, participation, and, in some cases, direct action.

The present model occupies an earlier part of the pedagogical process. It functions primarily as a pre-action reflective scaffold. Students are invited to explore why a problem matters, who experiences it differently, what values are involved, what consequences might follow, and what responses could be considered before moving into an action-oriented learning activity.

This distinction is particularly important for the revised Level 3. The original label Transformative/ ESD Action

implied behavioral outcomes that were not examined empirically. The revised label-Sustainability Oriented Deliberation and Response, better represents the evidence available from this study. It captures preparation for possible action without claiming that reflective prompts alone result in sustainable behavior.

Literature as a Subject-Specific Entry Point to ESD

The proposed framework also contributes to the growing recognition that ESD cannot remain confined to science or environmental education. Gericke (2025) argues that subject-specific education, including language teaching, can contribute distinct resources to sustainability learning. Literature is particularly relevant because sustainability problems are not interpreted only through factual information; they also involve human experiences, values, conflict, identity, responsibility, and competing perspectives.

A literary narrative can therefore humanize a sustainability problem without reducing ESD to emotional response. The pedagogical task is to preserve the narrative encounter while systematically widening the questions asked of it.

This positioning also answers a limitation in existing ESD implementation literature. Studies of curriculum integration show continuing challenges in translating broad sustainability commitments into pedagogically meaningful classroom practices (Fekih Zguir et al., 2021; Salam & Hamdu, 2022; Lamanauskas & Malinauskiene, 2024). The present study offers one operational response for literacy contexts: a transparent procedure for moving from text selection to sustainability mapping and then to staged reflective questions.

Why Level 2 Is a Critical Bridge

The second level of the framework is theoretically central because it prevents reflective reading from remaining exclusively personal. The movement from self-resonance to social perspective requires learners to consider how the narrative situation may be experienced differently by another character, group, or stakeholder. This shift is particularly relevant to the humanistic and ethical dimensions of ESD. Sustainability problems frequently involve competing interests, unequal exposure to harm, different interpretations of responsibility, and disagreements about desirable outcomes (Samuelsson & Lindstrom, 2022; Kohl et al., 2024).

For this reason, Level 2 prompts should not merely ask whether learners empathize with a character. They should introduce questions such as: Who else is affected? Whose perspective is absent? Why might another person interpret this situation differently? Who has greater or lesser power in this problem? The relatively lower expert agreement for Level 2 prompt alignment (I-CVI = .83) is therefore informative rather than problematic. It suggests that the movement from self-oriented reflection toward critical social perspective requires more careful prompt construction than the initial affective level.

Sustainability-Oriented Deliberation Rather Than Prescribed Moral Action

The same caution applies to Level 3. Sustainability education involves value and ethical choices, but an effective prompt should not predetermine the morally correct answer.

Samuelsson and Lindstrom (2022) emphasize that ESD necessarily involves ethical questions, while Kohl et al. (2024) draw attention to the humanistic assumptions underlying sustainability education. These perspectives support a Level 3 structure that asks learners to deliberate rather than comply. Questions such as *What should be protected*, *Who is responsible?*, *What might happen if this situation continues?*, *Which response could create another problem?*, and *What could different actors realistically do?*. Provide more analytical depth than asking learners simply to state a sustainable action.

The I-CVI of .83 for Level 3 therefore identifies an important design challenge: the prompt must move beyond personal opinion while avoiding an overly prescriptive or simplistic action orientation.

Interpreting the Expert Validation Critically

The overall S-CVI/Ave of .92 provides strong evidence that specialists considered the proposed framework relevant and conceptually coherent. However, the validation pattern is more informative than the overall index alone. The strongest agreement concerned theoretical coherence, Level 1 prompt alignment, adolescent appropriateness, and prospective classroom feasibility. This pattern indicates that the overall rationale of linking literature, bibliotherapy, and ESD was well supported by the multidisciplinary expert panel.

By contrast, five operational dimensions obtained I-CVI = .83 rather than complete agreement: book-SDG alignment, trigger-word representativeness, Level 2 and 3 prompt alignment, and card-architecture clarity.

This distinction suggests that the model's theoretical integration is currently more stable than its instructional translation. Book-SDG alignment illustrates this issue clearly. Literary texts rarely represent social and ecological problems as isolated policy categories. Assigning one SDG therefore requires interpretive judgment. The selected SDG should consequently function as a pedagogical reference rather than as an exclusive or inherent property of the book.

Trigger words involve a similar reduction. A single word can help focus attention but can also oversimplify a complex passage. Trigger words should therefore remain subordinate to the literary excerpt rather than replace contextual interpretation.

Finally, the lower agreement concerning card-architecture clarity reinforces the status of the physical card as a prototype instructional representation, not a fully tested learning product. Its visual hierarchy, readability, amount of text, sequencing, manipulability, and classroom workflow still require user-centered testing with teachers and adolescent learners.

Card-Based Media as a Scaffold rather than the Mechanism of Change

Previous studies provide reasonable support for cards as manipulable educational media (Setyawan et al., 2023; Lukman et al., 2023; Fitria & Putra, 2025). However, findings from mathematics, elementary science, or other disciplinary contexts cannot be transferred directly to reflective sustainability literacy. The novelty of the proposed cards therefore does not lie in their physical form. It lies in what the cards pedagogically encode: Literary excerpt -Trigger word -Self resonance- Social perspective -Sustainability oriented deliberation and response. The card makes this reflective sequence visible and reusable. Whether this format produces stronger engagement or reflection than conventional worksheets, teacher-led discussion, or digital prompts remains an empirical question.

Reframing the Digital and Screen-Fatigue Argument

The physical card format also requires careful positioning in relation to digital-learning concerns. Higher-level reading research has emphasized the educational importance of sustained, reflective reading in contemporary media environments (Schuller-Zwierlein et al., 2022). Other studies report associations between intensive digital activity and cognitive, psychosocial, or fatigue-related concerns in specific populations and settings (Paulus et al., 2023; Bobrytska et al., 2025; Basch et al., 2025).

These studies justify exploring screen-independent instructional alternatives, but they do not demonstrate that the proposed cards reduce adolescent screen fatigue. Accordingly, the defensible claim is that physical cards provide a screen-independent format for structured reflective literacy. Any effect on fatigue, attention, reading persistence, or cognitive load requires direct comparative investigation.

Pedagogical Implications

The framework provides a practical structure that teachers and school librarians may use to design reflective literary activities around adolescent literature and sustainability. Rather than asking only:

Which SDG is represented in this text?

Facilitators can organize discussion through progressively broader questions:

What does this experience mean to you?

Who might experience it differently?

What wider social or environmental issue is connected to it?

What values or responsibilities are involved?

What consequences or possible responses should be considered?

The curation and prompting procedures may therefore assist teachers and librarians in moving sustainability literacy beyond thematic labelling toward structured reflective inquiry. At the present stage, however, these implications remain prospective pedagogical applications, not demonstrated classroom outcomes.

LIMITATIONS AND FUTURE RESEARCH

This study has several limitations that define the appropriate scope of its conclusions. First, the final framework was developed from 17 titles selected from an initial pool of 45 candidate works. Although the selection procedure was structured, the resulting corpus cannot represent the full thematic, cultural, genre, or linguistic diversity of adolescent literature. Future studies should test the curation criteria with larger and more diverse corpora, including regional literature and translated works. Second, literature selection, excerpt identification, trigger-word generation, and SDG mapping contain interpretive judgment. Explicit decision rules and multidisciplinary expert review improve transparency, but alternative interpretations remain possible. Future research could examine how different facilitators apply the curation protocol and where interpretive differences emerge. Third, the structured expert validation established content validity rather than empirical effectiveness. All 11 dimensions met the predefined content-validity threshold and the S-CVI/ Ave reached .92, but five dimensions obtained I-CVI = .83 rather than complete agreement. Book-SDG alignment, trigger-word representation, higher level prompts, and card architecture therefore remain priority areas for refinement. Fourth, the present study did not involve classroom implementation with adolescent learners. It cannot establish whether the framework improves reading engagement, empathy, reflective literacy, sustainability competencies, or behavioral outcomes. Fifth, the physical card format has not been compared with alternative delivery formats. Claims concerning improved attention or reduces screen fatigue are therefore outside the evidence generated by this study. Future research should proceed in stages. An initial usability and feasibility study should examine clarity, readability, age appropriateness, facilitator workflow, and adolescent responses to the three prompt levels. A subsequent classroom pilot can investigate the quality of reflective responses and preliminary changes in perspective taking, systems-oriented reasoning, and sustainability related deliberation. Later comparative studies may evaluate the card format against teacher led discussion, worksheets, or digital prompts and examine outcomes such as reflective literacy, reading engagement, sustainability competencies, and perceived digital fatigue where appropriate.

CONCLUSION

This study developed a Bibliotherapy-ESD pedagogical framework for card-based reflective literacy that integrates curated literary excerpts, reflective trigger words, and a three-level prompting sequence comprising

affective/ self-resonance. The framework contributes an operational bridge among didactic bibliotherapy, sustainability education, and card-based literacy rather than introducing new theories within any these fields.

Structured evaluation by six multidisciplinary experts supported the content validity of the framework. All 11 validation dimensions met the predefined I-CVI threshold, with six dimensions achieving I-CVI = 1.00, five achieving I-CVI = .83, and an overall S-CVI/ Ave of .92. The validation pattern showed particularly strong support for theoretical coherence, Level 1 prompt alignment, adolescent appropriateness, and prospective classroom feasibility, while identifying book-SDG mapping, trigger-word selection, higher level prompts, and card architecture as areas requiring continued refinement. The resulting framework should therefore be interpreted as a content-valid and pedagogical plausible instructional model, not as an empirically proven

intervention. Its effectiveness for adolescent reflective literacy and ESD learning remains to be established through subsequent usability, classroom, and comparative studies.

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