

Environmental-Themed Creative Dance Creation in Elementary Teacher Education: Qualitative Case Study

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Abstract: This study aims to explore the creation of environmental-themed creative dance in an elementary teacher education course. The study responds to the need for dance learning that moves beyond technical performance and provides pre-service elementary teachers with concrete experience in transforming environmental issues into artistic expression. Descriptive scoring was used to support a qualitative case-study design. Twenty-nine undergraduate students who were enrolled in a dance education course were split up into five groups. Process observation, creative process notes, product assessment rubrics, interviews, student reflections, and documentation of rehearsals and mini-performance events were all used to gather data over the course of seven meetings. The findings show that all groups created simple dances based on themes such as plastic waste, recycling, pollution, cleanliness, and environmental damage. Three groups achieved the very good category and two groups achieved the good category. The strongest aspects were theme relevance, message clarity, duration, and choreographic structure, while movement creativity, aesthetic refinement, and floor-pattern development required further improvement. The study concludes that environmental-themed creative dance can serve as an experiential pedagogical strategy for connecting environmental awareness, collaboration, and basic choreography skills in elementary teacher education.

Keywords: creative dance; elementary education; environmental learning; teacher education; undergraduate students

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Introduction

Environmental challenges that can be incorporated into elementary teacher education include trash accumulation, the use of single-use plastics, pollution, and poor hygiene practices (Rahayu et al., 2026; Prayogo et al., 2024). Environmental issues are not just civic or scientific subjects for pre-service elementary teachers; they are also educational resources that must be turned into engaging lessons. Therefore, through active, contextual, and reflective learning, teacher education should give students the chance to comprehend environmental issues. The literature on environmental education highlights that engaging students in real experiences, as opposed to merely imparting abstract knowledge, strengthens their awareness (Almulla, 2020; Ardoin et al., 2020; UNESCO, 2020). However, rather than being sources of artistic inquiry, symbolic expression, and pedagogical significance, environmental concerns are frequently handled as ornamental subjects in arts education courses.

An effective way to link environmental concerns with embodied learning is through creative dance. Students can transform concepts, feelings, societal issues, and environmental experiences into structured bodily movement through creative dance. Dance education can facilitate experiential learning beyond verbal explanation because it incorporates the body, space, rhythm, imagination, social engagement, and reflection (Payne & Costas, 2021). Through physical, relational, and symbolic experiences, dance can aid students in understanding ecological challenges in the context of environmental education (Foster & Turkki, 2023; Pollitt et al., 2021). For pre-service elementary teachers, this is crucial since they are required to not only comprehend

environmental values but also to create innovative learning opportunities that can subsequently be modified for elementary school students.

Prior research has examined creative dance, project-oriented learning, and environmental education in various school settings. The importance of active engagement, teamwork, introspection, and product development in higher education has been demonstrated by research on project-based and experiential learning (Guo et al., 2020; Kokotsaki et al., 2016). Studies in dance education also indicate that creative dance can support embodied, cognitive, socioemotional, and creative development (Konstantinidou, 2025; Payne & Costas, 2021; Chatzopoulos et al., 2019). In Indonesia, environmental-based creative dance has also been explored as a source for developing student creativity (van der Graaf et al., 2024; Engdahl et al., 2023; Anugerah & Masunah, 2022). However, there is still little empirical research on how pre-service elementary teachers produce innovative dance pieces with an environmental theme for a university dance education course. Few studies look at how environmental challenges are translated into movement motifs, choreographic structure, group collaboration, and reflective learning; most studies concentrate on environmental learning in general education or on dance as performance practice.

In order to close that gap, this study examines creative dance production with an environmental theme in the context of elementary teacher education. This study is significant because it illustrates how pre-service elementary teachers engage in a structured, classroom-based creative process to transform environmental challenges into accessible and meaningful creative dance works. The contribution of this study to elementary education lies in demonstrating how environmental themes can be transformed into embodied, collaborative, and reflective learning experiences that pre-service teachers may later adapt for elementary classroom practice (Foster & Ojanen, 2025; Engdahl et al., 2023; Cleland Donnelly & Millar, 2019). Furthermore, this approach provides pre-service teachers with practical experience in designing interdisciplinary learning activities that connect environmental awareness with artistic expression and student participation. It also highlights the potential of creative dance as a pedagogical medium for fostering environmental sensitivity, collaboration, and reflective thinking in elementary education.

This study aims to describe how an elementary teacher education course developed creative dance with an environmental theme. Specifically, it examines: (1) the creative process that students experienced over seven sessions; (2) the quality of creative dance products with environmental themes produced by student groups; and (3) the difficulties and educational experiences that students encountered and described throughout the creative process. By demonstrating how environmental themes can be transformed into tangible sources for creative movement exploration, group choreography, and reflective learning, the findings are expected to contribute to the development of dance pedagogy in teacher education (Ørbæk, 2021; Ørbæk & Engelsrud, 2021). The novelty of this study lies in integrating environmental themes, creative dance production, and reflective learning within an elementary teacher education context, positioning pre-service teachers not only as performers but also as creators and prospective facilitators of environmentally oriented learning. This approach offers a distinctive pedagogical framework for connecting embodied artistic experiences with environmental education and provides practical insights that can be adapted to foster creative, collaborative, and environmentally responsive learning in elementary classrooms.

Methods

This study employed a qualitative case-study design (Creswell & Creswell, 2017) supported by descriptive scoring. The design was selected because the study aimed to describe the creative process, student learning experiences, and dance products produced in a bounded classroom-based activity. The development of creative dance with an environmental subject in an undergraduate dance education course for aspiring elementary teachers served as the study's instance. Because the study looked at a modern learning activity in its actual classroom setting and concentrated on method, meaning, and product rather than causal effectiveness, a case-study approach was deemed appropriate (Yin, 2018). Descriptive scoring was used only to summarize observation and product-assessment results, not to test the effectiveness of an intervention. This methodological approach enabled the researchers to capture the complexity of students' creative experiences while maintaining the naturalistic characteristics of the classroom context.

The study was carried out at an elementary school teacher education program's dance education course during the semester. Twenty-nine undergraduate students participated in the study. They were split up into five groups, four of which had six students and one of which had five. Based on environmental themes that are relevant to students' everyday lives, such as plastic waste, recycling, pollution, cleanliness, and environmental damage, each group produced a straightforward creative dance. Seven meetings comprised the creative process: group formation and orientation to environmental issues; environmental observation and idea development; movement exploration; improvisation and movement motif selection; choreographic structure

and use of properties; rehearsal and revision; and a mini-performance followed by reflection. This structured sequence provided students with opportunities to progressively transform environmental observations into embodied artistic expressions while developing collaboration, creativity, and reflective learning throughout the process.

Data were collected through process observation, creative-process notes, product assessment, semi-structured interviews, student reflections, and documentation. Ten student representatives from each of the five groups participated in the semi-structured interviews, which were intended to learn more about the experiences, difficulties, and perspectives of the students during the creative process. A semi-structured interview guide, a product-assessment rubric, individual and group reflection sheets, documentation analysis sheets, and an observation sheet for the creative process made comprised the tools. Theme relevance, message clarity, creative movement, use of dance elements, choreographic structure, floor pattern, use of properties, group unity, duration and flow, and aesthetic presentation were all addressed under the product-assessment criteria. A four-point rating system was used for each component. The final product score was calculated by dividing the obtained score by the maximum possible score and multiplying it by 100. The categories used were very good = 85–100, good = 70–84, fair = 55–69, and poor = below 55.

The qualitative data were analyzed using thematic analysis. Observation notes, creative-process notes, interview summaries, reflection sheets, and documentation were read repeatedly to identify recurring patterns related to students' creative process, movement exploration, group collaboration, environmental meaning, symbolic movement development, and project challenges. The analysis followed the stages of data condensation, data display, and conclusion drawing (Mbanaso et al., 2023). while the concepts of reflective thematic analysis served as a guide for theme interpretation (Braun & Clarke, 2021). Descriptive scores were used to support the qualitative findings by summarizing the development of the creative process and the quality of the final dance products. By comparing observation notes, student reflections, interview findings, product-assessment scores, and documentation, triangulation was used to increase the credibility of the data.

Result and Discussion

The results are divided into four sections: student reflections and challenges, final product assessment, participant and group profiles, and the evolution of the creative dance production process across seven meetings. This structure adheres to the study's aim, which is to describe the process, final result, and educational opportunities in the creation of creative dance with an environmental subject in the context of elementary teacher education. The presentation of these findings provides a comprehensive account of how students transformed environmental issues into creative movement practices while developing collaborative and reflective learning experiences. Furthermore, the four sections collectively illustrate the relationship between the creative process, the quality of the resulting dance products, and the educational experiences gained by pre-service elementary teachers throughout the activity.

Participant and Group Profile

The 29 students were divided into five project groups. Each group selected one environmental issue and translated it into a simple creative dance. The themes selected by students were closely related to their daily environment, especially waste, cleanliness, recycling, pollution, and green space (Table 1).

Table 1. Group Profile and Environmental Themes

Group	Number of Students	Dance Title	Environmental Theme
Group 1	6	Plastic Traces	Single-use plastic waste
Group 2	6	The Earth No Longer Silent	Waste and environmental damage
Group 3	6	Recycling Movement	Waste sorting and recycling
Group 4	6	Environmental Breath	Pollution and green space
Group 5	5	Clean Steps	Campus and school cleanliness

This illustrates the composition of the five student groups and the diversity of environmental themes explored through the creative dance production process. Groups 1–4 consisted of six students each, while Group 5 consisted of five students, indicating a relatively balanced distribution of participants that supported collaborative choreography and movement exploration. Each group selected an environmental issue closely related to everyday experiences, demonstrating that the creative dance process was grounded in familiar and meaningful contexts. Group 1 developed *Plastic Traces* focusing on single-use plastic waste, while Group 2 presented *The Earth No Longer Silent*, addressing waste and environmental damage. Group 3 explored waste sorting and recycling through *Recycling Movement*, whereas Group 4 developed *Environmental Breath* based on pollution and green space. Meanwhile, Group 5 presented *Clean Steps*, emphasizing campus and school

cleanliness. The variation in themes demonstrates how environmental concerns can be translated into diverse movement concepts and choreographic expressions, while the use of familiar environmental issues provided opportunities for pre-service elementary teachers to connect environmental awareness with embodied, collaborative, and creative learning experiences.

Development of the Creative Dance Creation Process Across Seven Meetings

Observation results show a gradual increase in student involvement, environmental-theme understanding, group collaboration, and dance-work development. At the beginning, students could identify environmental problems but had difficulty translating them into movement. In the middle phase, students began to explore literal movements such as picking up waste, sorting waste, avoiding pollution, and cleaning spaces. Through guidance, these literal movements were gradually developed into more symbolic movement motifs by considering space, time, energy, level, direction, and transition.

Table 2. Development of the Creative Dance Creation Process Across Seven Meetings

Meeting	Main Focus	Student Involvement	Environmental Understanding	Collaboration	Work Development
1	Project orientation and group formation	3.10	2.90	3.00	2.50
2	Environmental observation and idea exploration	3.24	3.17	3.07	2.83
3	Movement exploration	3.38	3.28	3.17	3.03
4	Improvisation and motif selection	3.45	3.34	3.24	3.21
5	Choreographic structure, floor pattern, and properties	3.55	3.41	3.34	3.38
6	Rehearsal, evaluation, and revision	3.66	3.52	3.48	3.59
7	Mini-performance and reflection	3.79	3.62	3.59	3.76

The data elaborate of (**Table 2**) increasing trend that the controlled creative process produced a discernible learning trajectory. At the start of the activity, students did not instantly create symbolic movement. After going through several rounds of identifying environmental issues, exploring movement, improvising, rehearsing, receiving feedback, revising, and reflecting, they progressively improved. This research implies that educational scaffolding is necessary for the creation of creative dance with an environmental theme, particularly when students are challenged to convert common environmental issues into symbolic and beautiful movement. Furthermore, the structured progression provided opportunities for students to develop creativity, collaboration, and reflective thinking while simultaneously deepening their awareness of environmental issues through embodied learning (O'toole et al., 2026; Eswaran, 2024). Thus, the findings demonstrate that systematic scaffolding can bridge the gap between students' initial environmental ideas and their ability to communicate those ideas through creative and meaningful dance expressions.

Group Progress During the Creative Process

The variations between groups show that the ease of movement creation was influenced by the concreteness of the selected environmental issue (**Table 3**). Students found it easier to convert themes involving observable objects and actions, such as plastic waste, recycling, and cleanliness, into movement motifs. In contrast, students needed more guidance when working with more abstract issues, such as pollution and ecological imbalance, because they had to develop symbolic movement beyond literal daily gestures. This finding suggests that novice choreographers require structured examples, movement prompts, and feedback when converting environmental concepts into dance.

Table 3. Group Progress Scores Across Seven Meetings

Group	M1	M2	M3	M4	M5	M6	M7	Mean
Group 1	3.00	3.20	3.40	3.50	3.60	3.70	3.80	3.46
Group 2	2.90	3.10	3.30	3.40	3.50	3.60	3.80	3.37
Group 3	3.10	3.20	3.40	3.50	3.60	3.80	3.90	3.50
Group 4	2.70	2.90	3.10	3.20	3.30	3.50	3.70	3.20

Group	M1	M2	M3	M4	M5	M6	M7	Mean
Group 5	2.80	3.00	3.20	3.40	3.50	3.60	3.80	3.33

Final Product Assessment

The final product assessment shows that all five groups were able to create and perform simple environmental-themed creative dances (**Table 4**). Three groups reached the very good category, while two groups reached the good category. The strongest aspects were theme relevance, clarity of environmental message, duration, and general choreographic structure. The weaker aspects were movement creativity, aesthetic refinement, and floor-pattern variation.

Table 4. Final Product Assessment of Environmental-Themed Creative Dance

Assessment Aspect	G1	G2	G3	G4	G5
Relevance of environmental theme	4	4	3	3	3
Clarity of dance message	4	3	4	3	3
Movement creativity	3	3	4	3	3
Use of dance elements	3	3	3	3	3
Choreographic structure	4	4	3	3	4
Floor pattern	4	3	4	3	3
Property use	3	4	4	3	3
Group unity	4	3	3	3	4
Duration and flow	4	4	4	4	4
Aesthetic presentation	3	3	3	3	3
Total score	36	34	35	31	33
Final score	90.00	85.00	87.50	77.50	82.50

According to the product assessment, students effectively utilized creative dance with environmental themes as a tangible medium to translate ecological concerns into performative messages. Theme relevance, message clarity, duration, and choreographic structure emerged as the strongest elements, indicating that students were generally capable of integrating environmental issues with fundamental dance principles to form cohesive presentations. However, there remained a noticeable lack of diversity in floor patterns, creative movement, and overall aesthetic refinement. Consequently, pupils still require targeted assistance in spatial design, movement transitions, vocabulary expansion, and aesthetic execution. This finding is highly significant for dance education, as it emphasizes that creative dance demands not only a solid conceptual foundation but also the capacity to translate these concepts into expressive, symbolic, and formally structured movements. Therefore, future instructional strategies must explicitly bridge this gap by incorporating specialized exercises that develop spatial awareness and movement ingenuity alongside thematic exploration. By addressing these technical and aesthetic shortcomings, educators can empower students to elevate their ecological advocacy into truly compelling and emotionally resonant artistic works.

The results support the idea that creative dance fosters embodied, cognitive, socioemotional, and creative learning because students use their bodies, spaces, rhythms, and group interactions to connect with meaning (Konstantinidou, 2025; Payne & Costas, 2021). In this study, it was simpler to choreograph environmental problems involving tangible objects, such plastic waste and waste sorting, than abstract problems, like pollution or ecological imbalance. This is in line with the EcoJustice concept in dance education, which sees ecological awareness, co-creation, and the body as interrelated pedagogical components (Gottlob, 2026; Bellino & Burroughs, 2026; Foster & Turkki, 2023). Consequently, educators can leverage these tangible issues as accessible entry points, allowing students to build foundational choreographic skills before gradually tackling more complex and abstract ecological themes. Ultimately, this progressive pedagogical approach not only deepens students' environmental consciousness but also empowers them to advocate for sustainability through a rich and expressive movement vocabulary.

Student Reflections and Challenges in Creative Process

According to student reflections (**Table 5**), 25 students (86.2%) said that the activity increased their awareness of waste reduction and cleanliness. This substantial majority underscores the efficacy of merging environmental education with active, performative learning. By physically exploring ecological themes rather than passively studying them, participants developed a more personal and tangible connection to sustainable daily practices. Furthermore, numerous students reported that this heightened consciousness translated into concrete behavioral changes, inspiring them to initiate better waste management habits within their own

households. Ultimately, these reflective insights suggest that embodied pedagogical interventions can serve as powerful catalysts for cultivating long-term environmental responsibility among youth.

Table 5. Student Reflection Themes

Reflection Theme	Number of Students	Percentage
PjBL The activity helped student understand the creative dance process	26	89.7%
Students better understood how to transform environmental issues into movement	23	79.3%
Students experienced difficulty creating symbolic movement	21	72.4%
Group work helped the choreography process	24	82.8%
Students became more aware of cleanliness and waste reduction	25	86.2%
Students had difficulty managing rehearsal time	17	58.6%
Students had difficulty arranging floor patterns	16	55.2%
Students felt more confident performing	20	69.0%
Students intended to use similar projects as future elementary teachers	22	75.9%

The main challenge was transforming environmental issues into symbolic and aesthetic movement. Students tended to start with everyday gestures such as sweeping, picking up waste, throwing waste, and sorting objects. This is not wrong, but it becomes choreographically weak if it remains literal. Through improvisation and revision, students began to add level, direction, tempo, and energy variation. This confirms that creative dance requires not only ideas but also guided movement development. [Chatzopoulos et al. \(2019\)](#), [Payne & Costas \(2021\)](#), and [Konstantinidou \(2025\)](#) show that creative dance requires pedagogical conditions that allow learners to explore, embody, and refine movement ideas. Another challenge was unequal dance ability among group members. Some students were confident in movement exploration, while others were hesitant. Group-based project work helped reduce this problem because students could take different roles as movement leaders, property organizers, floor-pattern arrangers, music selectors, concept writers, and documentation managers. The result supports previous findings that project-based learning can develop interpersonal competence and collaborative responsibility in higher education ([Crespí et al., 2022](#); [de la Torre-Neches et al., 2020](#)).

Ten student representatives were interviewed (**Table 6**), and the results of the observation and reflection were confirmed. Students characterized the exercise as a process of turning everyday environmental issues into dance. The majority of students said that items like cardboard, plastic, trash bags, and brooms made the environmental message easier to understand. They did note, nevertheless, that the most challenging aspect was developing movement that went beyond simply mimicking commonplace behaviors. This result demonstrates that turning tangible environmental problems into symbolic and beautiful movement is the primary difficulty in creating creative dance with an environmental theme.

Table 6. Interview Summary from Student Representatives

Interview Focus	Main Finding	Frequency
Understanding of project task	Students understood the project as creating simple dance from environmental issues	10/10
Theme selection	Themes were selected from daily problems such as plastic waste and campus cleanliness	9/10
Movement exploration	Students began from daily gestures and developed them into dance motifs	8/10
Main difficulty	Students had difficulty making movements less literal	7/10
Group work	Groups helped task division despite occasional disagreement	8/10
Property use	Properties clarified the environmental theme	9/10
Project benefit	Students understood dance creation better than through theory only	10/10
Relevance to future teaching	Students saw the project as applicable in elementary school learning	8/10

Overall, the results show that creating creative dances with an environmental subject can help pre-service elementary teachers experience the entire creative process, from choosing a theme and investigating movement to writing, practicing, editing, performing, and reflecting. This result is in line with research on embodied teaching and learning in higher education, which highlights how including bodily experience, introspection, and meaning-making into the teaching process can enhance learning ([Hegna & Ørbæk, 2024](#)).

Additionally, the study demonstrates how environmental themes can serve as tangible resources for collaborative choreography and creative movement exploration in teacher education. While collaborative learning in dance education helps students negotiate movement ideas, solve real-world problems, and create shared creative products, movement-based performing arts can broaden learning experiences through bodily imagination, emotional engagement, and creative expression (Cappello et al., 2024). However, because qualitative case-study research relies on rich contextual description and multiple data sources to understand a bounded phenomenon rather than to produce broad statistical generalization, the results should be interpreted as a contextual description of one classroom-based case rather than as broad causal evidence (Herold et al., 2026; Alpi & Evans, 2019). The study did not compare this exercise with alternative teaching methods or assess long-term environmental behavior.

The implication of this study is that environmental-themed creative dance can be used in elementary teacher education as an experiential strategy for linking arts learning, environmental awareness, collaboration, and reflective pedagogy. Practically, dance education lecturers can use similar activities by providing clear creative stages, examples of symbolic movement, structured peer feedback, and product-assessment rubrics. For elementary education, the study suggests that pre-service teachers can learn to design arts-based environmental learning activities that are simple, contextual, and adaptable for children. The limitation of this study is that it involved one class, 29 students, and seven meetings; therefore, the findings cannot be generalized to all teacher education contexts. Future research should involve broader samples, longer implementation, expert validation of dance products, and follow-up studies on how pre-service teachers adapt environmental-themed creative dance in elementary school classrooms.

Conclusion

According to the study's findings, project-based learning can help undergraduate students produce straightforward creative dances with an environmental subject. Students were able to progress through the phases of project orientation, environmental issue investigation, movement investigation, improvisation, choreography composition, rehearsal, revision, mini-performance, and reflection over the course of seven meetings. According to the final evaluation, three of the five groups achieved the very good category and two achieved the good category for their dance pieces that addressed environmental issues. While movement inventiveness, aesthetic refinement, and floor-pattern diversity still require work, the strongest elements were topic relevancy, message clarity, duration, and choreographic structure. According to student thoughts and interviews, the initiative taught students to relate symbolic movement to environmental challenges and gave them a firsthand understanding of dance creation. According to the study, project-based learning should be used by dance education instructors as an organized creative process that is aided by observation, movement exploration, peer feedback, revision, and reflection in addition to being a product-oriented assignment. In order to balance process and product assessment, instructors should utilize clear rubrics, give more instances of symbolic movement, and allot enough time for rehearsal. Future research should examine the long-term influence of environmental-themed creative dance on pre-service teachers' environmental awareness, teaching practice, and ability to adapt similar activities for elementary school students.

Author Contributions

LH, MSH, and ROR conceptualized the study. LH, MSH, and H developed the methodology, while LH, H, and ROR performed the formal analysis. The investigation was conducted by LH, MSH, and ROR. LH and ROR prepared the original draft, and MSH and H contributed to the writing, review, and editing of the manuscript.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal

Use of Artificial Intelligence

The authors used generative AI tools (ChatGPT 5.6 and Gemini 3.5) to assist with language editing and manuscript preparation. All AI-generated content was reviewed, corrected, and verified by the authors, who take full responsibility for the accuracy and originality of the published work.

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