

## **GREEN EMOTIONAL CLASS AS A LEARNING ENVIRONMENT THAT SUPPORTS LEARNERS' CREATIVITY**

**Maryam Ibrahim<sup>1\*</sup> and Suhong Park<sup>2</sup>**

<sup>1,2</sup>Pusan National University, South Korea.

ibromaryama@pusan.ac.kr<sup>1</sup> and suhongpark@pusan.ac.kr<sup>2</sup>

\*correspondence: Ibrahim Maryam (ibromaryama@pusan.ac.kr)

<https://doi.org/10.24071/ijiet.v8i2.8591>

received 17 April 2024; accepted 26 June 2024

### **Abstract**

Creativity is involved whenever we try something new, so it is an inherent part of learning. Scholars and educators have acknowledged the importance of the learning environment, especially the creative learning environment, on student creativity. Promoting positive emotions as a teaching strategy is increasingly gaining recognition as one of the most effective techniques for imparting knowledge and enhancing creativity in learners. In this paper, an attempt was made to unravel the strength of this technique by examining the green emotional class environment as a creative learning environment. The green emotional class was designed to foster creativity while promoting positive emotions and nature awareness in a fun learning environment for young learners. Previous studies focused on general aspects of learning but only a few concentrated on the creativity fostered through green emotions in the class environment. Rhode's framework for teaching creativity provided theoretical explanations for the study. The learning environment was assessed using observation and survey methods based on the physical environment, learning climate, and learners' engagement. Quantitative data collected during and after the education intervention from students and observers were analyzed. Results showed that the teacher's cheerful disposition and guidance made learners comfortable expressing creativity and exploring nature, so students are more likely to develop creative skills and professional knowledge in a green emotion learning environment. It was also found that a green emotions class environment fosters creative ideas, motivation, interest, collaboration, mutual respect, and knowledge sharing among learners. Recommendations were made for the institutionalization of the effective use of emotion-based teaching inside and outside the classrooms by educators, policymakers, and other relevant stakeholders in the education sector.

**Keywords:** creative education, green emotion, Indonesian classroom, learning environment, teaching

### **Introduction**

Creativity refers to the entire process of generating and developing valuable ideas. Perceived as the capacity to produce ideas and products that are both novel and useful or appropriate, it is considered a crucial competence in the 21st century



and vital for a nation's social and economic innovation, development, and individual well-being (Glăveanu, 2018; Lian et al., 2018; Lin, 2011). Recently, researchers and educators have been striving to identify predictors that facilitate student creativity (Fan & Cai, 2020), and one such predictor is the learning environment. Many scholars have suggested that student creativity can be nurtured by educators who focus more significant effort on building a learning environment that highlights the value of creativity, which can be achieved by designing creative learning spaces and pedagogy (Davies et al., 2013; Lin, 2011; Richardson & Mishra, 2018). Another strategy to boost creativity in the classroom is using emotions to influence students' class atmosphere and learning experiences of students (Nael, 2019; Robina-Ramírez et al., 2020).

Emotions are contagious as they can be passed on among people; this is true, especially in a classroom, where both teacher and learner share not just knowledge, skills, and memories but also share and experience different emotions (Pekrun, 2014). In their research on the role emotions play in transforming students' environmental behavior, Robina-Ramirez et al. (2020) noted the importance of teaching sustainable practices through positive emotional education. The authors opined that knowledge and emotional experiences can lead individuals to be more respectful and generous with nature beyond their self-interest and transform society. Since interaction between teacher and students is a vital part of the learning activity (Jonathan & Recard, 2021), a teacher with positive emotions can promote students' joy of learning within the classroom and leave long-lasting effects on students' perceived value. Therefore, the green emotion class environment was designed to provide a conducive environment where students engage in creative thinking challenges while boosting green emotions in the class and improving awareness of their natural environment.

In this paper, the researchers introduced and presented a learning environment that emphasizes the emotional experiences of learners to foster creativity. The environment was assessed based on three critical parts of a creative learning environment: physical environment, learning climate, and learners' engagement. Subsequently, the paper presented a theoretical background on nurturing a creative learning environment, the green emotion learning environment, study methods, results, and a conclusion.

### **Theoretical Review**

Considering today's rapidly changing society, educators are expected to prepare learners for the workforce and prepare them to respond to the fast-paced development in their society. Learners must have the required knowledge and capacity crucial to the survival and transformation of their community (Khakzad et al., 2018). Promoting Creative education could increase people's entrepreneurship rate, technological and industry advances, and socioeconomic progress, leading to improved living conditions (Amponsah et al., 2019). As noted by Lin (2011), creativity is amenable to teaching since all individuals have the potential to be creative. Creative learning in schools represents a specific form of learning involving creative expression in academic learning (Beghetto, 2021). Fostering creativity in elementary education becomes more critical because, even though children are naturally creative, this can only be recovered with a favorable environment. So, questions such as how to foster creativity in our classroom dwell

in the minds of educators. Teaching creativity involves recognizing students' creative talents, nurturing their creativity, and guiding the learners to apply their abilities to solve real problems (Khakzad et al., 2018).

One of the oldest frameworks for teaching creativity was postulated by Rhodes in 1971, offering a way of focusing on different aspects of creativity to reveal how creativity happens, to whom, with which environmental influences, and to what end (Rhodes, 1961). The four areas identified by Rhodes, namely, the creative person, the creative process, the creative product, and the creative environment or press, interact with each other because a creative person uses a creative process to develop a new product in an environment that supports creativity. As opposed to the other parts of Rhodes' framework, the press is the aspect in which the teacher has control of variables that affect learners. So, this study focused more on the press (learning environment), which includes the social, psychological, pedagogical, and physical factors of any place where learning occurs (Kember & Leung, 2009). Research shows that the press, which refers to the environment and climate where the person works, can be conducive to or inhibit creativity (Blackburn & Hewitt, 2020; Rhodes, 1961). So, various scholars have emphasized the importance of establishing a creative learning environment as a significant part of the concept of creative education.

### ***Creative learning environment***

From a conducive physical environment to a fun learning climate where learners are engaged actively and empowered to express creativity, ensuring a conducive learning environment can foster creativity in the classroom (Fan & Cai, 2020; Richardson & Mishra, 2018). Environment refers to the set-up and design of the physical space, the relationships one has, and the available resources and supports (Kaufman & Beghetto, 2009). Evidence from research indicates that creative learning environments have an impact on the academic progress of learners, increased confidence and resilience, enhanced motivation and involvement; development of social, emotional, and thinking skills as well as improved school attendance (Davies et al., 2013; Kaplan, 2019; Katre, 2020; Kiswanto, 2017).

In their review of creative learning environments, Davies et al. (2013) identified several critical characteristics of the environment and conditions best suited to support children's and young people's creativity. These include the physical environment, availability of resources/materials, use of the outdoor environment, pedagogical environment, use of other learning spaces beyond the school, play-based learning, practical and flexible use of time, and relationships between teachers and learners, which the authors classified into three themes namely the physical environment, the pedagogical environment and the role of partnerships beyond the school. Additionally, Richardson and Mishra (2018) posited that the physical environment, learning climate, and learners' engagement must be considered in any learning environment that supports creativity. So, the three-dimensional structure of a creative learning environment adopted for this study focuses on the physical environment, learning climate, and learners' engagement.

Items related to the physical space of the learning environment, like the furniture, working tools, and materials, are included in the physical environment.

Solid evidence suggests that a classroom or space's setting should be adaptable enough to foster students' creativity (Davies et al., 2013; Lian et al., 2018; Richardson & Mishra, 2018). Open areas with adaptable furniture that enable small groups of students to work together in various settings, with access to a wide range of appropriate materials and other resources, can stimulate creativity.

The learning climate includes the classroom atmosphere, learner interactions, and teacher-student relationships. The ideal atmosphere for encouraging creativity is one where students can freely interact, accept, and discuss new ideas, have respect for each other, and are comfortable taking risks (Davies et al., 2013). The nature of the interaction between instructors and students is a crucial enabling element of the creative learning environment for which there is much research backing (Khoiriyah & Husamah, 2018; Kiswanto, 2017; Nael, 2019; Robina-Ramírez et al., 2020). The teacher's role is critical in creating a healthy atmosphere in which a child feels free to express their creativity, explore it, and comprehend its significance. Collaboration and good communication between students and facilitators are considered a necessary pre-condition for creativity and innovation because if the classroom climate is hostile, the learner's motivation for learning and interest in expressing ideas may dwindle (Katre, 2020; Lian et al., 2018). Students learn new knowledge better if they trust the person offering new knowledge or if they believe that their recent experiences will not harm them (Nael, 2019). To improve the climate in the classroom, Pekrun (2014) emphasized the importance of promoting positive emotions in the classroom. Emotions affect personality development and are part of a student's identity, attention, and motivation; hence, they can enhance the creative person. The author recommended that teachers share positive emotions and enthusiasm with their students, which can ripple down to the students because emotions are contagious. Therefore, promoting green emotions in class can foster a creative environment since social and emotional aspects are crucial for enhancing a person's sense of ability, self-esteem, self-expression, and creative thinking. Students who feel comfortable with their teachers and peers are more willing to engage with challenging materials and persist in complex learning tasks (Beghetto, 2021).

Learner engagement refers to the pedagogic environment, which includes tasks and activities that students complete and the creative learning process. It refers to the willingness of students to actively participate in the learning process and demonstrate sustained involvement and a positive emotional tone toward learning experiences (Jonathan & Recard, 2021). Students can learn better in an engaging environment, so activities that foster creativity entailing active learning and discovery where everyone in the setting is viewed as a co-learner and co-teacher and where the process rather than the outcome is stressed (Richardson & Mishra, 2018). When given the opportunity, children are well-versed in exploring new concepts and creatively finding ways to share what was learned. When teachers combine creativity and pedagogy, an innovative approach to teaching is formed to give room for creativity in students, and this is called creative pedagogy. Creative pedagogy then describes a practice that enhances the development of creativity through three main elements, namely, creative teaching, creative learning, and teaching for creativity (Khoiriyah & Husamah, 2018; Kiswanto, 2017; Lin, 2011). Creative pedagogy involves the teaching practices, environment, and strategies that facilitate creative learning and actively engage learners. From Lin's framework, it

can be deduced that the teacher is the central actor in fostering students' creativity in the classroom. A teacher takes on the role of a facilitator, stands back and guides learners in the creative process, recognizes and profiles learners' agency, as well as provides the space for developing the potential since every child possesses the ability to be creative, which can manifest itself in a variety of ways. The teacher has to incorporate creativity in teaching practices, from using innovative approaches to make learning enjoyable to identifying and nurturing students' creative ability while providing space for learners to express and develop their creativity (Amponsah et al., 2019). In a study by Kaplan (2019), participating teachers applied creative theories in lesson design and project designs to boost students' creative skills. For example, the teachers employed strategies like open assignments, building upon past knowledge in developing new experiences, encouraging dynamic thinking through varying scenarios, showcasing multiple solutions, and considering mind-expansive concepts. Furthermore, Pekrun (2014) noted that task-related activities could be employed to activate green emotions, such as the enjoyment of learning in learners.

Research indicates that creative learning environments impact learners' academic progress, increased confidence and resilience, enhanced motivation and involvement, and the development of social, emotional, and thinking skills, as well as improved school attendance (Blackburn & Hewitt, 2020; Davies et al., 2013; Richardson & Mishra, 2018). Hence, this study aims to add to the knowledge body by leveraging green emotions to cultivate and ensure a creative learning environment.

### ***Creative learning environments in Indonesia***

Recognizing the need to develop creative and critical thinking skills, the Indonesian government has made efforts to support the development of creativity in education. Government regulation of the Republic of Indonesia, number 57 of 2021, regarding national standards of education Article 12, paragraph 1 emphasizes the importance of creating an interactive, fun, and active learning atmosphere that supports creativity and innovation for the physical and psychological development of learners (Indonesian government, 2021, p.9).

Aside from the government, school administrators and teachers are also trying to incorporate creativity in the classroom in Indonesia, as evidenced by the study on the friendly school program in SD Negeri 109 Palembang (Lian et al., 2018). The friendly school program is an open school concept where a safe, fun, and conducive environment is provided for students to stimulate creativity. It is similar to the green emotional program, requiring teachers to have a pleasant teaching ambiance. In addition to the school's physical environment, a good communication pattern was built between teachers, students, and other employees. Student Active Learning (SAL) and Contextual Teaching and Learning (CTL) were common teaching methods used in the school. Another example of creativity in education is seen in Malang, where teachers implemented problem-based learning (PBL) to improve seventh-grade students' creative thinking skills, problem-solving skills, and learning outcomes (Khoiriyah & Husamah, 2018).

The following section discussed the GEC learning environment in Indonesia, covering the structure and strategies employed to support creativity and achieve the class's learning objectives.

### ***Green emotional class environment***

The Green Emotional Class (GEC) is a class for elementary Schoolers designed to create a fun, secure space where learners can feel at home, collaborate, and explore their natural environment. The aim is to promote a sustainable community through the collaborative effort of members and the awareness and appreciation of their natural environment while promoting the pleasant exchange of positive (green) emotions like excitement, happiness, gratitude, and confidence. It focuses on the teacher's green emotional disposition expressed in the teaching process to foster creativity, self-development, sustainability, awareness of nature, and sustainable living in learners.

Guzmán (2020) stated that teaching tools do not matter as much as how teachers use them to keep students engaged and motivated. In achieving green emotions in the classroom, it can be said that a happy teacher can make learners more comfortable since emotions are contagious and said to be directly related to the learning process (Pekrun, 2014). Glăveanu (2018) argues that creativity is disruptive and may not be likable to most people; hence, where a creative teacher is denied room for flexibility, the efforts may not yield good results. In the GEC, the teacher is the leading actor and agent for fostering creativity in the classroom; the focus is on how the teacher manages the available resources and tools. Promoting creativity in the classroom is an essential aspect of the teacher-student relationship, encompassing factors such as varying expectations, mutual respect, creative behavior, flexibility, and discussion (Apak et al., 2021). It is essential to mention that the extent to which a teacher can foster creativity in students also depends on the support and conditions of the environment, especially as it relates to other members of the educational setting- colleagues, students, and administrators, as well as the vision of the school (Richardson & Mishra, 2018). When designing learning experiences, teachers can plan and frame curriculum and provide tools that give students options, voice, and choice to enable them to be creative. As such, the GEC allows for flexibility and innovation in the curricular and pedagogical structuring, thereby giving the teacher space for creativity and support in the classroom. The GEC environment is discussed in relation to the three critical aspects of a creative learning environment from previous research.

### ***Class environment***

The global pandemic has made the adoption of technology in education more rapid as digital environments have been adopted by many educational settings (Park & Ibrahim, 2022; Tanjung & Utomo, 2021). Due to the Covid-19 situation and geographical distance, a hybrid learning environment was adopted. The class was blended with the leading teacher being online, and students (elementary grade) were in a class viewing from a large screen in the company of their homeroom teachers. The digital educational environment used in this program consists of a giant projected screen alongside computers, printers, and mics, among other devices. Learners gather in a classroom and connect via a single Zoom device. Zhu and Bergom (2010) defined lecture capture as recording class activities for later use and stated that it benefited the students due to its convenience, flexibility, and accessibility. The GEC class sessions were recorded and made available electronically. Regarding the physical environment, simple changes were made, such as movable desks allowing students to work in small groups and creating

ample space for game time. Also, flexible open spaces like the school compound were used for learning in addition to the classroom.

### ***Learning climate***

Creativity can thrive in a community, care, and cooperation climate, emphasizing positive student and teacher relationships. In the GEC, teacher emotions matter a lot because emotions are contagious, whether positive (e.g., enjoyment, excitement, and pride during teaching) or negative (e.g., anger, anxiety, or frustration). Teachers are urged to show positive emotions about teaching and passion for the topic and ensure they share positive emotions (e.g., admiration, gratitude, compassion, connectedness, sympathy, and enthusiasm) with their students to achieve a green emotional atmosphere. This call is because positive teacher emotions can foster students' enjoyment of the learning process within the classroom and can have long-lasting effects on students' perceived value (Pekrun, 2014). Creative classrooms are student-centered, and as expressed by the popular maxim, teachers take on the role of a guide or facilitator, allowing learners to acquire knowledge and be the source of knowledge (Lin, 2011). Since creative education should be student-centered, success is not defined by the extent to which the teacher has covered a lesson; rather, it should be the extent to which the students are engaged in the learning process (Lian et al., 2018). That is to say, teachers should be flexible enough to recognize the many forms students are creative and must factor in their characteristics when assessing them. Every product of the creative process is appreciated, and further discussion is encouraged by the teacher through questions after the presentation. In the GEC class, students were not evaluated based on the final product but rather on their involvement in carrying out given tasks and cooperation with others. Take, for instance, when students were tasked with visiting the lake in the area and drawing their memory; distinctions were seen in the submissions. Although they visited the same place, their depiction and representations of the lake were quite different, and students could learn from each other while presenting and discussing in class (Beghetto, 2021).

### ***Learners' engagement***

Learning is more than just knowledge and skill acquisition; learners must also understand and actively participate in the creative process. Khakzad et al. (2018) used the cooperative learning method to improve creative thinking in sixth graders, as children need to learn creative thinking to solve daily life challenges or even improve their daily routines. Since it is an active learning method where learners work together in groups, adopting this method in the green emotion class was suitable and in line with the principle of collaboration. Working together to complete tasks, solve a problem, or create something can boost creativity, maintain motivation, encourage learners to share and express themselves, and allow students to work on their emotional and social skills. Students were also given home tasks requiring visits to strategic locations to explore their natural environments. Since they have to make presentations, groups also meet outside school to complete given assignments, encouraging communal bonds among the students and their guardians.

Helping students to value learning is as essential as promoting students' interest in learning. One way to promote interest in learning and encourage real-life application is by using tasks relating to students' everyday lives. Since creativity

can stimulate imaginative thinking capability in students, the CTL method, where the curriculum is designed to reflect daily life, was employed during the curriculum design. Students were engaged using many strategies like open assignments to allow students to express their ideas and be a new source of information; creative team-building activities like a group project to encourage collaboration among students; brainstorming to promote critical thinking; presentations to build soft skills; drawing and painting to support and nurture the artistic talent and idea representation; crafting using natural materials; singing to develop vocabulary, dancing to promote physical activities through actions, and games to ensure a friendly fun climate that is as relaxing as nature. Each class session lasted for 50 minutes, and the class was held once a week as an extracurricular activity.

Figure 1 describes the teaching procedure:

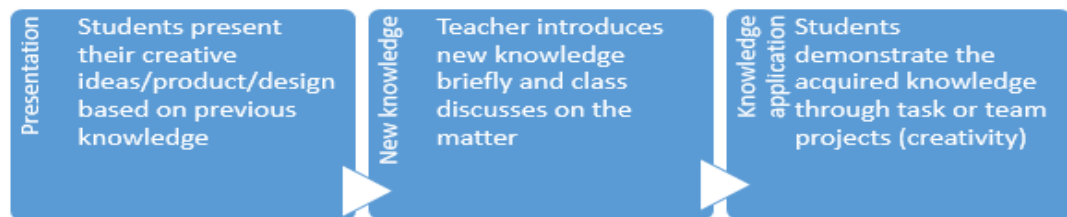


Figure 1. Teaching procedure

## Method

This study aimed to present the GEC as a creative learning environment and add to the existing research on promoting emotions to improve creative skills in the classroom. As this study is a pioneer study, primary quantitative data were collected using observation and survey methods to present the GEC class as a creative learning environment. The observation method was used during the educational activity, and the survey method was used after applying the designed strategy. Using the observation method enables a researcher to gather data on the physical, human, and interactional settings (Kawulich, 2005). It could be designed in various forms such as structured or unstructured, participant or non-participant, qualitative or quantitative. Structured observation is used to test some casual hypotheses where the focus is on certain aspects, and there are observational categories. In non-participant observation, the observer takes a vantage point with the slightest disturbance to the study group. Mercatoris and Craighead (1974) used the non-participant observation method to assess the interaction between a teacher and students. The non-participant observation design was chosen since this study centered on these interactions. Five (5) non-participating teachers were given a rubric to fill out for each class session.

In order to obtain reliable information from the study participants, existing measures with established validity and reliability from previous literature were selected. Furthermore, to ensure the validity and reliability of the instruments, all the tools used for this study were reviewed by two education experts and professors of Pusan National University's Department of Education for relevance, appropriateness, and ethical compliance. The rubric used the scale tool that Richardson and Mishra (2018) designed to examine creative learning environments to get the observers' perceptions of the GEC learning environment. The scale tool measured the creative environment using 14 items and had a reliability score of



0.91. Observers were expected to mark each item using a 4-point Likert scale (0-3; 0 denoting poor and 3 denoting excellent) as suggested by tool developers. The same items were given to the students in a survey questionnaire. The survey items were to get their perceptions of the GEC environment as users of the environment, as Fan and Cai (2020) did.

The data collected from 15 participants were analyzed using simple descriptive statistics, a method chosen due to the small sample size. This approach, which included calculating descriptive statistics such as means, medians, modes, and standard deviations, provided a comprehensive overview of the participants' responses (Cooksey, 2020). The analysis not only summarized the main features of the data but also highlighted key trends and patterns within the data, providing a deeper understanding of the study's findings. The following section delved into the insights gained from this comprehensive analysis.

### Findings and Discussion

The creative learning environment should ensure a spacious, open, and flexible physical environment that supports various class activities in cooperative learning. It should also have an atmosphere conducive to good relationships among members and packed with activities that keep learners engaged. The data collected from participants were analyzed using simple descriptive statistics to present the GEC environment as a creative one. Table 1 shows the statistics.

Table 1. Scale tool result

Component	Item	Teachers (n=5)		Students (n=10)	
		M	SD	M	SD
Physical environment	1	1.8	0.4	2.3	0.7
	2	2.4	0.5	2.8	0.4
	3	2.4	0.5	2.6	0.5
	4	3	0.0	3	0.0
Learning climate	5	3	0.0	2.6	0.5
	6	2.8	0.4	2.8	0.4
	7	3	0.0	3	0.0
	8	2.8	0.4	3	0.0
Learner's engagement	9	2.6	0.5	2.6	0.5
	10	2.6	0.5	2.9	0.3
	11	2.6	0.5	2.8	0.4
	12	2.4	0.5	2.5	0.5
	13	2.4	0.5	2.5	0.5
	14	2	0.7	1.9	0.6

The GEC class focused on building a fun, friendly, and creative learning environment by promoting positive emotions and nature awareness. For the physical environment, using flexible furniture and open spaces for learning provided an opportunity and support for learners to move and explore their ideas. With a minimum mean value of 1.8 for items 1-4, the physical environment of the GEC can support students' creativity, which, according to the scale rating, is an excellent creative learning environment. This result further confirms that the physical environment can be used to foster creativity, as reported earlier by (Davies et al., 2013; Lian et al., 2018). Additionally, displaying students' work around the

class boosted their green emotions and motivated them to express more creativity. This result follows the research of Pekrun (2014) and Richardson and Mishra (2018), which states that learning becomes enjoyable when students are adequately motivated.

The learning climate consists of the relationship between teacher and student, the relationship among students, and the overall atmosphere of a classroom. Items 5-8 showed that the GEC had a conducive learning climate, proving that the teacher's cheerful disposition and creative self can foster creativity by providing a conducive space for learners to express themselves without any restrictions or fear, in line with research conducted by Pekrun (2014). From mutual respect and emotional exchanges between members of the classroom to the green disposition of the teacher in managing class, the GEC can be concluded to have provided an atmosphere of friendliness and collaboration which can stimulate students' creativity, as stated by other researchers (Lian et al., 2018; Nael, 2019; Richardson & Mishra, 2018) and further validating the result reported by (Lian et al., 2018) on the friendly school program in Indonesia.

Learner-centered activities support intrinsic motivation and interest and, in turn, do much to support creativity; therefore, the learners' engagement is crucial in a creative environment. In the creative environment, class members are seen as co-learners and co-teachers, emphasizing the process and not just the product. Items 9-14 assessed the degree of students' engagement in class, and results showed that in the GEC environment, learners were engaged in the learning activities. This finding aligns with the literature on keeping students engaged through creative pedagogy (Amponsah et al., 2019; Kaplan, 2019; Khakzad et al., 2018; Khoiriyah & Husamah, 2018). This study proved the study by Jonathan and Recard (2021) that using fun activities like games leads to an increase in the engagement of students. When learners are engaged, they can express their creativity actively during learning. Additionally, by employing activities like presentations, learners share their ideas with others, which is a form of creative learning, as stated by Beghetto (2021) and Rhodes (1961).

Generally, the results of the assessment of the GEC showed that the class environment is conducive to fostering creativity. Moreover, promoting teachers' green emotions in the classroom and adopting creative pedagogies resulted in a fun learning atmosphere that allowed learners to express themselves creatively. This finding reinforced those of Apak et al. (2021) and Fan and Cai (2020) that trust and teachers' creative personalities influenced creativity cultivation in the classroom.

On the whole, the research has found that students are more likely to develop their skills and professional knowledge when studying in a creative learning environment at school. In a creative learning environment, ideas are valued, and students are encouraged to take sensible risks and make mistakes during the learning process. Specifically, teachers can encourage students to learn and think creatively (e.g., taking risks, building free and open communication channels, supporting creative ideas, and allowing more freedom and choice while students complete their assignments).

## **Conclusion**

This study introduced the GEC learning environment in an Indonesian elementary class and assessed it based on three essential aspects of the creative

learning environment using observation and survey methods. Thus, the study has established that the GEC environment was a creative learning environment in which students' motivation and interest, collaboration, mutual respect, and knowledge sharing were enhanced through green emotions promotion by the teacher, which boosted their creative disposition as observed. The manifest implication of this study lies in the revelation that when educators consciously try to build a learning environment that is friendly, collaborative, and helpful by promoting green emotions, the learners can have an open space and opportunities to express and explore their ideas and foster their creative skills. It is recommended that policymakers formulate guidelines for the effective use of emotion-based teaching inside and outside the classrooms so that the use of emotion-based teaching and learning will become institutionalized. The teaching procedure designed and used by the GEC may benefit other educators interested in adopting creative emotional pedagogies in education.

### References

- Amponsah, S., Kwesi, A. B., & Ernest, A. (2019). Lin's creative pedagogy framework as a strategy for fostering creative learning in Ghanaian schools. *Thinking Skills and Creativity*, 31, 11–18. <https://doi.org/10.1016/j.tsc.2018.09.002>.
- Apak, J., Taat, M. S., & Suki, N. M. (2021). Measuring teacher creativity-nurturing behavior and readiness for 21st-century classroom management. *International Journal of Information and Communication Technology Education (IJICTE)*, 17(3), 52-67. <https://doi.org/10.4018/IJICTE.20210701.oa4>.
- Beghetto, R. A. (2021). Creative learning in education. In M.L. Kern & M.L. Wehmeyer (Eds.), *The Palgrave handbook of positive education* (pp. 473-491). Cham: Springer International Publishing. [https://doi.org/10.1007/978-3-030-64537-3\\_19](https://doi.org/10.1007/978-3-030-64537-3_19)
- Blackburn, A., & Hewitt, D. (2020). Fostering creativity and collaboration in a fully online tertiary music program. *International Journal on Innovations in Online Education*, 4(2), 1-14. <http://dx.doi.org/10.1615/IntJInnovOnlineEdu.2020035099>
- Cooksey, R.W. (2020). *Illustrating statistical procedures: Finding meaning in quantitative data* (3<sup>rd</sup> ed.). Singapore: Springer. [https://doi.org/10.1007/978-981-15-2537-7\\_5](https://doi.org/10.1007/978-981-15-2537-7_5)
- Davies, D., Jindal-Snape, D., Collier, C., Digby, R., Hay, P., & Howe, A. (2013). Creative learning environments in education-A systematic literature review. *Thinking Skills and Creativity*, 8(1), 80–91. <https://doi.org/10.1016/j.tsc.2012.07.004>.
- Fan, M., & Cai, W. (2020). How does a creative learning environment foster student creativity? An examination on multiple explanatory mechanisms. *Current Psychology*, 41(7), 4667–4676. <https://doi.org/10.1007/s12144-020-00974-z>.
- Glăveanu, V. P. (2018). Educating which creativity? *Thinking Skills and Creativity*, 27, 25–32. <https://doi.org/10.1016/j.tsc.2017.11.006>.
- Guzmán, A. D. M. (2020). An exploratory study of the student's learning experience by applying different tools for e-learning and e-teaching. *Journal of Educational and Pedagogical Sciences*, 14(10), 982–986.

- Indonesian Government. (2021). Peraturan pemerintah Republik Indonesia nomor 57 tentang standar nasional pendidikan. *Standar Nasional Pendidikan, 102501*, 1–49. Retrieved from [https://jdih.kemdikbud.go.id/arsip/Salinan\\_PP\\_Nomor57Tahun\\_2021.pdf](https://jdih.kemdikbud.go.id/arsip/Salinan_PP_Nomor57Tahun_2021.pdf).
- Jonathan, F. C., & Recard, M. (2021). The implementation of gamification concept inside online classroom activities to promote students' engagement. *IJIET (International Journal of Indonesian Education and Teaching)*, 5(2), 176–184. <https://doi.org/10.24071/ijiet.v5i2.3461>.
- Kaplan, D. E. (2019). Creativity in education: Teaching for creativity development. *Psychology*, 10(02), 140–147. <https://doi.org/10.4236/psych.2019.102012>.
- Katre, A. (2020). Creative economy teaching and learning—A collaborative online international learning case. *International Education Studies*, 13(7), 145–155. <https://doi.org/10.5539/ies.v13n7p145>.
- Kaufman, J. C., & Beghetto, R. A. (2009). Beyond big and little: The four C model of creativity. *Review of General Psychology*, 13(1), 1–12. <https://doi.org/10.1037/a0013688>.
- Kawulich, B. B. (2005). Participant observation as a data collection method. *Forum: Qualitative Social Research*, 6(2), 43.
- Kember, D., & Leung, D. Y. P. (2009). Development of a questionnaire for assessing students' perceptions of the teaching and learning environment and its use in quality assurance. *Learning Environments Research*, 12(1), 15–29. <https://doi.org/10.1007/s10984-008-9050-7>.
- Khakzad, F., Dehghani, M., & Hejazi, E. (2018). Investigation of the effect of teaching a thinking and research lesson by cooperative and traditional methods on the creativity of sixth grade students. *International Journal of Educational and Pedagogical Sciences*, 12(6), 866–870.
- Khoiriyah, A. J., & Husamah, H. (2018). Problem-based learning: Creative thinking skills, problem-solving skills, and learning outcome of seventh grade students. *Jurnal Pendidikan Biologi Indonesia*, 4(2), 151–160. <https://doi.org/10.22219/jpbi.v4i2.5804>.
- Kiswanto, A. (2017). The effect of learning methods and the ability of students to think logically to the learning outcomes on natural sciences of grade IV students. *Advances in Social Science, Education, and Humanities Research*, 118, 1040–1046. <https://doi.org/10.2991/icset-17.2017.168>.
- Lian, B., Kristiawan, M., & Fitriya, R. (2018). Giving creativity room to students through the friendly school's program. *International Journal of Scientific and Technology Research*, 7(7), 1–7.
- Lin, Y.-S. (2011). Fostering creativity through education – A conceptual framework of creative pedagogy. *Creative Education*, 02(03), 149–155. <https://doi.org/10.4236/ce.2011.23021>.
- Mercatoris, M., & Craighead, W. E. (1974). Effects of nonparticipant observation on teacher and pupil classroom behavior. *Journal of Educational Psychology*, 66(4), 512–519. <https://doi.org/10.1037/h0036755>.
- Nael, M. M. (2019). The effects of the emotion happy as induced by colors on the performance of grade 1 pupils in addition. *Southeast Asia Early Childhood Journal*, 8(2), 1–15. <http://dx.doi.org/10.37134/saecj.vol8.no2.1.2019>.
- Park, S., & Ibrahim, M. (2022). Success stories of ICT adoption by Nigerian SMES during the Covid-19 pandemic. *International Journal of Business and*

*Management*, 03(1), 1–20.

- Pekrun, R. (2014). Emotions and learning (Educational Practices Series, Vol. 24). *International Academy of Education (IAE) and International Bureau of Education (IBE) of the United Nations Educational, Scientific and Cultural Organization (UNESCO)*, Geneva, Switzerland.
- Rhodes, M. (1961). An analysis of creativity. *The Phi Delta Kappan*, 42(7), 305–310.
- Richardson, C., & Mishra, P. (2018). Learning environments that support student creativity: Developing the SCALE. *Thinking Skills and Creativity*, 27, 45–54. <https://doi.org/10.1016/j.tsc.2017.11.004>.
- Robina-Ramírez, R., Medina Merodio, J. A., & McCallum, S. (2020). What role do emotions play in transforming students' environmental behavior at school? *Journal of Cleaner Production*, 258, 120638. <https://doi.org/10.1016/j.jclepro.2020.120638>.
- Tanjung, F. Z., & Utomo, A. (2021). Investigating EFL students' perception on online learning amidst COVID-19 Pandemic. *IJIET (International Journal of Indonesian Education and Teaching)*, 5(1), 102-115. <https://doi.org/10.24071/ijiet.v5i1.3053>
- Zhu, E., & Bergom, I. (2010). Lecture Capture: A guide for effective use. *CRLT Occasional Papers*, 27.