Academic Environment as an Effort to Support Critical Thinking and Student Creativity

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DOI: https://dx.doi.org/10.47772/IJRISS.2025.903SEDU0398

Received: 28 June 2025; Accepted: 08 July 2025; Published: 12 August 2025

ABSTRACT

The academic environment in higher education is shaped not only by institutional policies but also by the active contributions of students to the learning process. This research aims to describe the critical thinking skills and creativity of students who play a role in shaping a reflective, collaborative, and innovative academic environment. This study employs a qualitative approach, utilizing a case study method, with the primary subject being students from the Faculty of Education at the State University of Surabaya, who are selected purposively. Data collection techniques were carried out through in-depth interviews, participatory observations, and documentation. The results of the study show that critical thinking, including independent thinking and reflective problem-solving, as well as creativity and intrinsic motivation, and skills in certain areas, significantly contribute to creating an active and participatory academic ecosystem.

Keywords: Critical thinking, creativity, academic environment.

INTRODUCTION

Higher education is a strategic space in shaping a resilient and adaptive intellectual generation in the midst of global challenges (van Kessel et al., 2022). The academic environment in higher education is not only a place for knowledge transfer, but also a space for the growth of critical thinking values and student creativity. According to Karmagatri (2024) Students who are active in critical thinking and show creativity will encourage the creation of a dynamic, collaborative, and innovative learning atmosphere. Optimal utilization of individual potential in the campus ecosystem will strengthen the quality of academic interaction and self-development. Therefore, critical thinking skills and creativity are important elements that contribute to shaping a progressive academic environment.

Although the academic environment has great potential for supporting student self-development, in practice, many higher education institutions still fail to facilitate the growth of critical thinking and creativity fully. Classroom interactions are still dominated by a one-way approach, with an emphasis on delivering material rather than creating reflective and exploratory discussions (Duran & Jacknick, 2020). Students are not fully positioned as active subjects in the participatory and collaborative learning process. In addition, studies that specifically explore the role of students' critical thinking skills and creativity in shaping the academic environment are also still limited. A study by Z Hauzel et al. (2024) shows that student non-involvement in the academic process can hinder the development of an adaptive and inclusive learning culture. This condition highlights conceptual and empirical gaps that require further research to address, particularly in understanding the dynamics of students' roles in creating an academic atmosphere that fosters intellectual and innovative growth.

According to Brackenbury & Ludy (2024), Critical thinking is an important skill that allows students to analyze information in depth, evaluate arguments objectively, and make decisions based on logic and rational values. In the academic context, students who can think critically will be more actively involved in class discussions, convey sharp ideas, and dare to question unfounded assumptions. Critical *Thinking Framework Theory* by Paul & Elder (2006) explains that critical thinking is a conscious and structured process to improve the quality of

thinking. Other research has also shown that these skills have a positive impact on environmental awareness and reflective problem-solving (Wibowo et al., 2024). Thus, critical thinking is not only essential for individual development, but also contributes to creating a lively and progressive academic environment (Vincent-Lancrin, 2024).

In addition to critical thinking, creativity also plays an important role in shaping an inspiring and innovative academic environment. Creative students tend to have the ability to generate new ideas, dare to express ideas, and can solve problems with unusual approaches (Islam et al., 2022). According to *the Componential Theory of Creativity* by Amabile (2012), Creativity is born from a combination of intrinsic motivation, skills in a particular field, and a creative thinking process. Findings from Chen et al. (2023) and Cromwell et al. (2023) show that cognitive flexibility and divergent thinking driven by internal motivation significantly contribute to the development of creativity. In this context, student creativity is the driving force that encourages the creation of an academic atmosphere more open to differences, exploration, and innovation.

This research is important because students' critical thinking skills and creativity have great potential in shaping an active, reflective, and collaborative academic environment. Ecological systems theory, put forward by Bronfenbrenner (2005), explains that the behavior and development of individuals, including students, are influenced by environmental systems that are interconnected and affect each other. However, in many studies, students are still often positioned as objects in the learning process, rather than as subjects that help create academic dynamics. This study offers novelty by viewing students as active actors who shape the academic atmosphere through their intellectual and creative contributions. A recent study by Selvakumar et al. (2025) It shows that students' active participation in the learning process contributes to the creation of an open and innovative academic environment. Meanwhile, research by Gao et al. (2025) affirms that student creativity plays a role in shaping more productive social interactions in the classroom, which in turn creates an academic culture that supports exploration and collaboration. Therefore, this study aims to describe how students' critical thinking skills and creativity contribute to creating a conducive academic environment through a qualitative case study approach.

METHOD

This study employs a qualitative approach, utilizing a case study method, which aims to explore in depth the contributions of students' critical thinking skills and creativity in shaping the academic environment. The subjects of the study were 20 students from the Faculty of Education at the State University of Surabaya, who were selected through purposive sampling based on their active involvement in academic and organizational activities. The primary instrument in this study is a set of interview guidelines compiled based on indicators of critical thinking and creativity. Open-ended questions were developed to explore aspects of independent thinking, reflective problem-solving, intrinsic motivation, and skills in a particular field. Observation records and documentation are used as complementary data. Data collection techniques include in-depth interviews, participatory observations, and documentation of learning activities. Data analysis is carried out through the process of data reduction, data presentation, and conclusion drawn, according to the interactive analysis model of Miles & Huberman (1994). This research focuses on the subjective meanings and experiences of students in shaping the dynamics of their academic environment.

RESULT

The study's results show that students play an active role in creating a conducive academic environment through the development of critical thinking skills and creativity. Based on data from interviews and observations, students often demonstrate independence in expressing their opinions, even when their views differ from the majority. In addition, they are also able to solve problems reflectively, especially in the context of group work and learning projects.

Overall, two main categories were identified that formed the basis for the academic environment, namely critical thinking and creativity. Each category has specific indicators that are identified through the experience of informants and analyzed thematically. Activities such as class discussions, reflective writing, and collaborative projects are important media for students to express critical thinking and actualize creative ideas. These findings confirm that students are not only recipients of the academic atmosphere, but also active participants who make a significant contribution to shaping a productive, participatory, and inspiring learning environment.

These findings also demonstrate that the dynamics of academic environment formation are not solely determined by the role of lecturers or institutional policies, but also by the active participation of students in the learning process. Students who can think critically and be creative not only improve the quality of their own learning experience, but also encourage their friends to be more active and open in discussions. The interactions formed in classrooms, study groups, and organizational activities reflect a vibrant academic ecosystem where students' intellectual contributions and creativity are the main forces in creating a reflective and innovative learning atmosphere.

DISCUSSION

Independence in Thinking

Research findings indicate that students who exhibit independent thinking tend to be more confident in expressing their opinions, even when those opinions differ from those of lecturers or classmates. This indicates a strong capacity for reflection and maturity in managing personal opinions. According to Paul & Elder (2001), Independent thinking is an essential aspect of the critical thinking process because it allows individuals not to submit to external pressures or authority, but rather to adhere to logical reasoning that is independent.

Studies from King (2021) reinforce this view by stating that critical thinking includes not only cognitive abilities, but also intellectual traits such as honesty, responsibility, and the courage to take a different position rationally. Based on interviews, some students reported feeling freer to express their ideas when lecturers provided an open, non-judgmental discussion space. Spaces like this serve as an arena for dialogue that respects diversity of opinions, and encourages the formation of an inclusive and supportive academic atmosphere. Some of the speakers' quotes that reflect the category of independent thinking include:

"I am used to expressing opinions even though they are different, because I believe that logical opinions still need to be voiced."

(Informant 1, male, semester 6)

"I have conveyed a point of view that is contrary to the lecturer's, but politely and using data. The lecturer actually appreciated."

(Informant 4, female, semester 5)

"At first I was scared, but after a few exercises in class, I dared to refute an argument that I thought was not strong."

(Informant 7, female, semester 4)

This statement reflects the growth of intellectual courage as part of an autonomous critical thinking practice in an academic setting. According to Árvai et al. (2024), Independence of thinking is closely related to open-mindedness, which is openness in considering various points of view before making decisions. In the context of

a learning environment, this attitude enables students to develop into more reflective and tolerant individuals who appreciate differences. When classrooms cultivate freedom of thought, students feel psychologically safe to express their opinions, which ultimately strengthens their participation in the academic process.

Research by Skalicky et al. (2020) revealed that institutions that actively develop a culture of open discussion will encourage the emergence of intellectual leadership among students. This means that independent thinking not only has an impact on the development of individual capacity but also shapes the collective character of the academic environment. Students who are accustomed to thinking independently and critically act as driving agents in creating a democratic, reflective, and participatory academic culture, where dialogue and the exchange of ideas become an integral part of the learning process.

Reflective Problem-Solving

Students demonstrate reflective thinking skills when faced with real problems, especially in case study-based activities and group projects. In this context, problem solving is no longer interpreted as an attempt to find an instant solution, but rather as an analytical process that considers the context, consequences, and alternative actions in depth. Students do not rush to make decisions; instead, they weigh various options based on critical and reflective situational analysis. Some of the speakers' quotes that reflect the category of problem solving reflectively include:

"If there is a conflict during a group discussion, I usually do not make a decision right away. I invite the team to evaluate what the cause is first."

(Informant 3, female, semester 4)

"I prefer to formulate alternative solutions first, then choose them together. So do not immediately impose your own ideas."

(Informant 6, male, semester 6)

During the case study assignment, I first studied the background of the problem. Only then do we discuss possible solutions."

(Informant 10, female, semester 5)

This approach supports the view López-Cuello et al. (2024) that reflection is the core of the transformation of higher education. When students are given space to reflect, they not only improve the quality of thinking but also form a more patient, dialogical, and reasoning classroom atmosphere. The results of classroom observations show that this pattern encourages the formation of more substantial academic interactions, where students are more careful in responding, consider diverse points of view, and evaluate information in depth before concluding.

Figure 1. Students are discussing a case study in a group.

This activity demonstrates the active involvement of students in the reflective problem-solving process. Group discussions become a space for critical dialogue that encourages the formation of a participatory academic ecosystem. The reflective ability is also closely related to the elements of evaluation and synthesis in critical thinking, as stated by Paul & Elder (2001). By weighing alternatives and consequences, students not only solve problems, but also actively engage in academic dialogue, evaluate arguments, and avoid erroneous reasoning (Hanscomb, 2023). Research by Li et al. (2023) showed that students involved in problem-based learning (PBL) are better able to identify the root of the problem and direct the group to think strategically. This process helps strengthen the learning ecosystem that supports *deep learning*, a type of learning that is both deep and continuous.

High Intrinsic Motivation

Students who are highly intrinsically motivated show active involvement in the learning process, even without external encouragement. This motivation creates a *contagious effect* on classmates, as their enthusiasm and initiative add a positive tone to the class dynamics. Gottfried (2023) It found that students with strong intrinsic motivation tended to have higher academic competence, leadership, and educational success rates. These findings are in line with the *Componential Theory of Creativity* Amabile (2012), which puts intrinsic motivation at the heart of the creative process. When students are motivated from within, they are more exploratory, active in discussions, and create an inspiring learning environment (Ryan et al., 2023). Some of the speakers' quotes that reflect the category of intrinsic motivation include:

"I participated in the discussion not because I was told, but because I was interested in the topic. So I am more excited."

(Informant 5, male, semester 5)

"I am active in the organization because I want to learn new things, not because of obligations. That makes me enthusiastic about participating in academic activities."

(Informant 2, female, semester 6)

"If the assignment is interesting, I like to explore ideas on my own without waiting for instructions from the lecturer."

(Informant 8, male, semester 4)

Figure 2. Documentation of student participation in the presentation forum.

This documentation shows how students take an active role in academic forums. Public presentations foster intellectual courage, effective argumentation, and contribute to class dynamics. Intrinsic motivation can also

thrive in environments that provide autonomy, social connection, and intellectual challenges (Kruse et al., 2024). Observations indicate that students with freedom of expression and access to open discussions are more motivated to convey ideas beyond the lecture material and are actively involved in various academic activities. Research by Vilca & Yucra (2025) It also emphasizes that intrinsically motivated students are active in student organization activities, which strengthens the collaborative learning ecosystem outside of the formal classroom. Thus, students attend not only to fulfill academic obligations, but also because of curiosity and enthusiasm for learning. This condition fosters the creation of a more dynamic, enthusiastic, and focused academic atmosphere for collective self-development.

Figure 3. Students participate in student organization activities, reflecting their contribution to the collaborative learning ecosystem.

Skills in a Specific Area

Students who have skills in a specific field, such as design, writing, or communication, make a concrete contribution to classroom dynamics. They are not only active in academic tasks, but also a source of inspiration and a driving force for productive discussions. These skills reflect the element of "domain-relevant skills" in the *Componential Theory of Creativity* by Amabile (2012), which states that technical ability and mastery of materials in a field are important foundations in expressing creativity effectively. Without this mastery, innovative ideas will be challenging to realize optimally.

Figure 4. Students develop projects that utilize design and communication skills, applying creativity in various fields.

Active involvement in formal learning reflects the intrinsic motivation and discipline of students, which reinforces a conducive academic atmosphere. The results of the documentation show that students with special skills can convey ideas through a variety of interesting media and presentation techniques, and are more involved in the design of group projects. They facilitate their colleagues' understanding of concepts, formulation of ideas, and solution of problems with a creative approach. This fosters a more engaging learning environment, promotes two-way interaction, and facilitates meaningful collaboration.

Figure 5. Students conduct presentation activities in interactive classroom forums.

This activity shows the courage of students to express themselves and convey ideas openly, as a form of creativity and development of communication skills. In the context of ecological theory of development by Bronfenbrenner (1979), this contribution can be understood through the microsystem dimension, which is the immediate environment of individuals, including classrooms that make up the direct learning experience. The interaction that occurs between students with exceptional skills and their peers encourages the formation of *peer learning*, enriching the learning environment and increasing collective confidence. Some of the speakers' quotes that reflect the contribution of skills in a particular field include:

"I usually help the group with poster design or presentations. Friends are more enthusiastic because they look attractive."

(Informant 9, male, semester 6)

"I love writing. So if there is a group assignment, I write the script. It makes me feel like I have a real contribution."

(Informant 1, female, semester 5)

"I am used to being a moderator in organizations, which helps me be more confident during class discussions."

(Informant 6, male, semester 5)

Research by Lassig (2021) shows that skills that are integrated with the creative process can give rise to a form of local creativity or *mini-C creativity*, which is meaningful innovation in a limited context, such as the classroom or student community. This is reinforced by Lin et al. (2024), which emphasizes that when creative students are given space to express themselves, they encourage the emergence of social innovation, namely changes in patterns of interaction, values, and cooperation in the academic environment. Thus, the presence of creatively competent students not only enhances the quality of learning but also fosters a dynamic, collaborative, and mutually inspiring academic ecosystem. While these findings provide an in-depth picture of the contribution of students to shaping the academic environment, the context of the research, limited to a single faculty with a small number of participants, needs to be considered. Therefore, follow-up studies with quantitative or mixed approaches at more diverse institutions are needed to test the relevance of these findings more broadly. These findings are also in line with a study by Cai & Wu (2025) in Germany, which shows that students' active involvement in class discussions and collaborative projects has a positive impact on the formation of a critical and reflective academic culture. Similarly, Hooshyar et al. (2023) in the context of South Korean universities found that student agency is the key to encouraging learning innovation in the campus environment.

CONCLUSION

This research demonstrates that students' critical thinking skills and creativity play a crucial role in fostering an active, reflective, and collaborative academic environment. Students who think independently and can solve problems reflexively help create a healthy and reasoned dialogue space. Meanwhile, students with intrinsic motivation and skills in certain fields encourage the formation of an innovative and participatory learning environment.

These results confirm that students are not only objects in the learning system, but also subjects that play an active role in creating academic dynamics. Through class discussions, reflective writing, collaborative projects, and involvement in organizational activities, students become the driving force in building a living, open, and empowering learning ecosystem. It is essential for higher education institutions to provide spaces that foster students' critical thinking and creativity, thereby enhancing the quality of the academic environment.

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