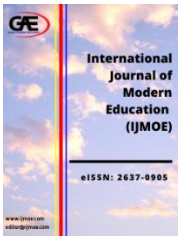
International Journal of Modern Education
EISSN: 2637-0905
Volume: 8 Issue: 30 (June 2026) PP. 214-226



INTERNATIONAL JOURNAL OF MODERN EDUCATION (IJMOE)
www.gaexcellence.com/ijmoe

COLLABORATIVE STUDIO AS EDUCATIONAL SQUARE: SOCIO-SPATIAL APPROACH IN INDONESIA

Grace Mulyono[1,] *, Mohd Shahrizal Dolah [2]

[1]Department of Industrial Design, Universiti Putra Malaysia, Serdang, Selangor, Malaysia
Department of Interior Design, Petra Christian University, Surabaya, Indonesia
gracem@petra.ac.id https://orcid.org/0000-0003-4943-729X
[2] Department of Industrial Design, Universiti Putra Malaysia, Serdang, Selangor, Malaysia
shahrizal@upm.edu.my https://orcid.org/0009-0004-5932-7398
*Corresponding Author

Article Info:

Article history:
Received date: 11.02.2026
Revised date: 10.03.2026
Accepted date: 16.04.2026
Published date: 10.06.2026

To cite this document:

Mulyono, G., & Dolah, M. S. (2026). Collaborative Studio as Educational Square: Socio-Spatial Approach in Indonesia. *International Journal of Modern Education, 8*(30), 214-226.

Abstract:

In the landscape of contemporary design education, the physical environment plays a pivotal role in shaping pedagogy. However, discussions on learning spaces often rely heavily on Western paradigms, overlooking the potential of local cultural wisdom. This study reimagines the collaborative studio as an "Educational Square," drawing a theoretical parallel to the Javanese Alun-alun, a central open public plaza historically known for social inclusivity. Utilizing a descriptive qualitative method with a socio-spatial observation approach, this research investigates the dialectic relationship between spatial configuration and social behavior within an Indonesian higher education design studio. The study focuses on mapping daily activities, spontaneous interactions, and movement patterns to determine how open plan designs influence learning communities. Results indicate that barrier-free, flexible studio environments successfully mimic the Alun-alun's role as a shared learning space. This spatial openness facilitates unplanned encounters between students and lecturers, reduces rigid hierarchical distance, and fosters peer-to-peer knowledge exchange. Consequently, the studio extends beyond a production space into a shared learning environment where academic interaction and informal social exchange coexist. Conclusively, this research highlights that spatial planning is not passive but active in educational outcomes. By adopting the socio-spatial qualities of the Alun-alun, design studios can significantly enhance student engagement, psychological well-being, and a profound sense of belonging to the academic community, validating the necessity of culturally resonant spatial strategies in modern academic architecture.

International Journal of Modern Education
EISSN: 2637-0905
IJMOE
Volume: 8 Issue: 30 (June 2026) PP. 214-226

DOI: 10.35631/IJMOE.830015

Keyword:
Collaborative Learning, Collaborative Studio, Educational Square, Learning Space, Socio-Spatial Observation.

Introduction

The evolution of modern educational paradigms emphasizes the importance of collaboration and active interaction in the learning process . Numerous studies have shown that collaborative learning can enhance students' understanding and social skills (Johnson et al., 1998) . Concurrently, the physical learning environment significantly influences interaction patterns and learning outcomes (Ayuningtyas et al., 2018; Barrett et al., 2013; Cleveland & Fisher, 2014) . In architectural and design education, studio-0based learning has long been central to the curriculum, considered effective in building competencies through interactions between students and instructors (Schön, 1987) . Traditional design studios in education are typically open spaces where students work side by side, discuss, and critique each other's work, thus forming distinct learning communities (Emam et al., 2019; Webster, 2005).

In contemporary times, the concept of collaborative learning spaces evolves alongside the shift from classical lecture-based pedagogy toward student-centered active pedagogies . Consequently, educational space designs have transitioned from conventional enclosed classrooms to open, flexible, and adaptable learning environments (Imms et al., 2016). The term Innovative Learning Environments (ILE) describes learning environments physically and pedagogically supporting collaboration, flexibility, and multidisciplinary interaction (Lai et al., 2020; Sigurðardóttir et al., 2021) . Field studies indicate that open and comfortable spatial designs increase student engagement and learning satisfaction, fostering a sense of community among students (DeFrain & Hong, 2020; Salih et al., 2024).

In Indonesia, communal spaces such as the square (alun-alun) are deeply embedded culturally as social interaction hubs . City squares in Java are inclusive open spaces centrally located, accessible by all community members, hosting diverse events from ceremonial activities to everyday gatherings (Ashadi, 2017). The square unifies residents and builds community identity through shared social interactions. The square’s open, multifunctional, publicly-owned characteristics are analogized in this study to an educational context, namely an educational square within a campus. The collaborative studio is assumed to serve as an "educational square," a gathering center for learning communities fostering informal academic and social interactions.

Existing studies on learning spaces and collaborative studio environments have largely been framed through Western spatial theories, particularly those emphasizing flexibility, openness, and student-centered pedagogies. While these studies have significantly advanced understanding of how physical space shapes learning behavior, they provide limited attention

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 30 (June 2026) PP. 214-226

to how indigenous socio-spatial concepts may also inform educational environments in non-Western contexts. In the Indonesian context, this omission is academically important because learning space is not only a functional setting but also a culturally embedded social environment. As a result, there remains a gap in explaining collaborative studio space through locally grounded socio-spatial frameworks, particularly those derived from Javanese spatial philosophy such as the alun-alun.

This study aims to examine how the socio-spatial principles of the Javanese alun-alun can inform the understanding of collaborative studio environments in higher education in Indonesia. Specifically, it investigates how spatial openness, flexibility, and shared accessibility shape interaction patterns, social learning practices, and the formation of learning communities among students and lecturers. The research question guiding this study is: How do the socio-spatial characteristics of a collaborative studio support interactions and learning communities among students and lecturers? Through this analogy, the study seeks to understand the role of open space design in supporting education and collaborative learning processes. Findings from this study aim to contribute to designing more humanistic and effective learning environments, offering insights for educational institutions to create innovative collaborative spaces .

Literature Review

Alun-alun as Traditional Public Space in Java

In Javanese cosmology, alun-alun occupies a central position both physically and symbolically. Physically, the northern alun-alun is typically located in front of the palace, surrounded by the grand mosque and market, representing the concept of Catur Gatra Tunggal. This arrangement reflects a philosophy of balance among power, religion, people's economy, and public space (Aliyah et al., 2016; Haryono & Suhardi, 2021). According to Javanese culture strongly emphasizes social harmony and centralized hierarchy . Routinely, alun-alun is used for official royal ceremonies, allowing various social layers to gather and witness royal presence(Ashadi, 2017; Wiryomartono, 2016) . Alun-alun also facilitates daily activities, fostering communal harmony under equitable authority . As a communal space, alun-alun embodies the spirit of gotong royong, highly valued in Javanese culture (Wiryomartono, 2016).

A Socio-Spatial Approach to the Design Studio

The socio-spatial approach is based on the idea that space is not physical, but rather a product of social interactions imbued with cultural meaning (Merrifield, 2002; Soja, 1980) . Design education has long used the studio as a central learning model . Traditionally, the design studio is viewed as a "laboratory" where students practice designing under the guidance of lecturers through simulated projects (Schön, 1987) . The studio is not merely an individual workspace . The studio has a distinctive communal culture that is considered important for developing designers' competencies (Salama, 2015) . An ideal studio should become a learning community where collaboration, dialogue, and mutual learning among students are facilitated (Boyer & Mitgang, 1996) . By working together in the studio, students learn through observing and participating in a practice environment, thereby forming a community of practice (Lave & Wenger, 1991; Pacione, 2021).

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 30 (June 2026) PP. 214-226

Physically, studio spatial layouts influence interaction patterns . A study by Abdullah et al . (2011) in Malaysia emphasizes the need for studio space design to be flexible and holistic to support a design-learning culture . Studios consisting solely of rows of individual desks tend to compartmentalize students within their own tasks . Arranging studio desks in groups can encourage more spontaneous collaboration . The physical environment of campuses and studios can become a hidden curriculum that influences student attitudes and behaviors (Abdullah et al., 2011). A studio accommodating informal interactions will foster a mutual learning culture more effectively than closed and rigid studios. Cooperative learning in higher education enhances academic achievement, interpersonal relationships, and supportive attitudes compared to competitive individual learning (Johnson et al., 1998; Laal & Ghodsi, 2012).

Based on the literature above, it is conceptualized that the "educational square" is a paradigm in which studio spaces are treated similarly to a town square—open, inclusive, democratic, and fostering community (Shafar & Sari, 2021) . The studio as an educational square must give students a sense of ownership: they feel safe, proud, and free to express themselves within it, just as city residents take pride in their town square(Yan et al., 2022) . The socio-spatial approach helps ensure that spatial and social aspects align closely . Just as ideal urban public spaces must involve citizens in their design educational studio design should also involve students and lecturers as stakeholders. This study positions the Javanese alun-alun not merely as a cultural analogy, but as a culturally grounded socio-spatial framework for understanding collaborative studio environments in Indonesian higher education. In this sense, the concept of educational square offers a culturally grounded model that connects indigenous spatial philosophy with contemporary design pedagogy.

Methodology

This study employed a descriptive qualitative design using a socio-spatial observation approach to examine how spatial configuration influenced interaction and learning practices within a collaborative studio setting. The research was conducted in an open-plan collaborative studio in the Interior Design program of a private university in Surabaya, Indonesia. The study involved 60 students enrolled in Furniture Design Studio and Final Project Studio during the even semester of the 2024/2025 academic year. Data were collected over 14 weeks through direct observation, behavioral mapping, field notes, spatial documentation, and activity-based recording of student movement, group formation, and furniture use across peak and off-peak periods. The observations focused on three aspects: (1) mobility patterns, (2) spontaneous group formation, and (3) the use of furniture zones. Data were then analyzed thematically by identifying recurring socio-spatial patterns and interpreting them in relation to the characteristics of the Javanese alun-alun.

Data analysis involved describing observational findings, identifying key themes, mapping studio areas, and comparing them qualitatively with alun-alun concepts. To enhance trustworthiness, observational findings were triangulated through informal conversations with students, photographic documentation, and comparison with relevant socio-spatial literature (DeFrain & Hong, 2020).

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 30 (June 2026) PP. 214-226

Analysis and Findings

Description of Collaborative Studio Space The observed collaborative studio is an open space measuring 485.37 m², accommodating 120 students. The studio layout is designed without permanent partitions, featuring an exposed structural ceiling that provides a spacious and open impression . Based on observations and documentation, the studio is flexibly divided into several functional zones (see Figure 1) . At the center are large tables used communally; this area is where students gather for group discussions or consultations with lecturers. On one side of the space, individual desks are arranged as personal work areas typically used by students for independent tasks while remaining within the studio environment . Another edge of the room is equipped with several modular desks, easily rearranged to meet different activity needs. Desk configurations can be arranged in circles, squares, or scattered separately for small group work.

Figure 1: Communal Table Area in the Collaborative Studio

Source: Author (2025)

In one corner of the studio, there is a lounge area equipped with bean bags and small working tables . This area offers a relaxed atmosphere, typically used by students for short breaks, informal discussions, or working in more relaxed postures (Figure 2). Lecturer or instructor desks are not fixed to a specific spot . Studio instructors typically move throughout the room during sessions, approaching various student groups . Overall, there is no rigid spatial hierarchy. Furniture and zoning arrangements change dynamically as needed . The studio is connected by large glass windows on three sides, providing natural lighting and exterior views, contributing to a bright and open ambiance.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 30 (June 2026) PP. 214-226

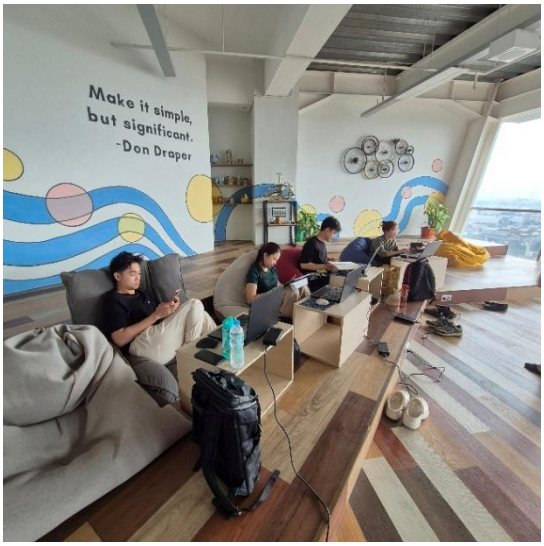


Figure 2: Bean Bag Lounge Area in The Collaborative Studio.
Source: Author (2025)

Patterns of Activity and Interaction

Observations reveal diverse patterns of space utilization and social interaction within the collaborative studio . Firstly, the studio functions throughout the day as a learning place, unbound by formal class schedules. Outside structured class hours, students continue to visit the studio for project work, consultation, or simply gathering . This positions the studio as a central learning space for students, perceived not only as a place for completing academic tasks but also as a consistently accessible environment for study, discussion, and informal exchange. The studio atmosphere is almost always lively. Mornings to afternoons typically feature guided or formal studio classes, while afternoons to evenings often see students engaged in independent work or peer discussions.

Secondly, interactions are multi-directional and spontaneous . Unlike traditional classrooms where interactions are primarily unidirectional from teacher to student, communication in this collaborative studio occurs flexibly . Students discuss with peers to provide mutual feedback . Student groups present ideas and receive feedback from adjacent groups, while instructors circulate to give brief guidance from one table to another . Lecturers do not have podiums or fixed desks in front of the class . Instead, they move around and frequently sit among students, facilitating smooth interactions . Students appear more comfortable asking questions or sharing opinions in this informal setting. Several times, the researcher observed moments when a student struggling with their task spontaneously initiated a discussion with nearby peers, expanding the conversation to involve multiple participants. This type of interaction occurs naturally as students share the same unrestricted space.

In several observed sessions, students moved between tables not only to consult with lecturers but also to observe peers' work, ask brief questions, or respond to ongoing discussion. This movement pattern indicates that the studio's open configuration enabled interaction to emerge through proximity and visibility rather than through scheduled discussion alone.

Observational records showed that spontaneous peer interaction occurred repeatedly across the studio, particularly around the communal and modular table areas. Across repeated observation sessions, these zones consistently supported brief peer consultations, shared discussion, and

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 30 (June 2026) PP. 214-226

collaborative viewing of work in progress. During peak studio hours, several small-group discussions often took place simultaneously within the same open-plan setting, while students working individually remained visually connected to nearby activities and were occasionally drawn into short exchanges. The lounge corner and central communal tables appeared to be the most actively used zones for informal consultation, peer feedback, and shared laptop-based discussion. These observations suggest that the open-plan setting did not merely accommodate planned studio work, but also generated recurring opportunities for incidental academic exchange.

Thirdly, various activities occur simultaneously in the studio . For instance, at one particular time, the researcher noted a group of students discussing design concepts at modular tables . Meanwhile, in the lounge corner, two students sat on bean bags exchanging ideas using laptops together . Elsewhere, several students worked diligently individually with headphones on. Although activities varied, they all occurred within the shared space . Interestingly, even students working individually reported enjoying doing so in the studio because they "feel a productive atmosphere" surrounded by peers . This aligns with findings by DeFrain and Hong (2020) that many students prefer independent study in communal spaces because the social atmosphere motivates them, despite remaining focused on their tasks.

Fourthly, noise and crowd levels in the studio fluctuate depending on time and occupancy . During busy periods approaching deadlines, the studio becomes crowded with parallel discussions . Nevertheless, students exhibit adaptation mechanisms . Those requiring higher concentration move to quieter corners or use headphones . There is a collective tolerance for noise, viewed as part of studio culture . When the atmosphere becomes too quiet, some students softly play music on laptops as background noise to enliven the space . This demonstrates studio occupants' sense of ownership and comfort regarding the space.

Fifthly, the collaborative studio also hosts semi-formal events such as mini-exhibitions and open discussions . During observation, student project displays were exhibited around the studio for collective viewing and discussion . Students from other cohorts and lecturers attended, momentarily transforming the studio into a gallery-like community meeting place . These events highlight the studio's flexibility in accommodating functions beyond class activities, similar to how a city square sometimes serves markets or special events.

Overall, the observations indicate that the collaborative studio functions as a shared learning space that supports both structured academic activity and informal peer interaction. The open physical space allows diverse educational and social activities to coexist, fostering a culture of sharing and collaboration . Students do not merely attend to fulfill academic tasks but integrate the studio into their community life. The studio serves as a setting for learning, discussion, creative production, and everyday social exchange.

Collaborative Studio as Educational Square

Based on the findings, the analogy of an educational square within the collaborative studio context can be explained through several similarities between traditional city squares and collaborative studios in higher education. City squares are physically open spaces without barriers, accessible from multiple directions, and open to everyone . Similarly, collaborative studios are designed as open and accessible learning spaces that enable students and lecturers to occupy the same environment without rigid spatial separation. . All users share the same

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 30 (June 2026) PP. 214-226

space, creating a sense of equality and togetherness . There are no "closed doors" limiting interactions between different groups . This inclusive atmosphere facilitates spontaneous cross-group interaction, much like a public square that enables people from different backgrounds to encounter one another in a shared setting (Oldenburg, 1999). In the observed studio, such interaction frequently emerged when students noticed peers' work at adjacent tables, responded to ongoing discussion, or joined short exchanges without formal invitation. This suggests that openness and shared visibility played an active role in generating low-threshold social and academic contact.

Symbolically, a square is the center of a town or village, surrounded by important buildings such as palaces, mosques, and markets, serving as an orientation point for community activities. Similarly, collaborative studios within study programs function as centers of learning communities: all students identify the studio as the heart of their academic activities . The studio becomes a central learning space where announcements circulate, departmental discussions take place, and everyday academic culture is continuously formed. In other words, the collaborative studio provides a strong sense of place for the student community and reinforces a collective identity centered on shared participation in the studio environment. This sense of ownership is reflected in how students maintain and utilize the space throughout the day . This sense of belonging among students aligns with the findings of DeFrain & Hong that communal campus spaces can enhance students' attachment to their academic environment (DeFrain & Hong, 2020).

Squares serve various purposes and are multifunctional (Ashadi, 2017) . Collaborative studios similarly exhibit multifunctionality . Within the same space, formal educational activities (lectures, mentoring), independent work, student organizational meetings, and exhibitions or general discussions occur. The flexible furniture layout supports rapid transformation of space functions . For example, during presentations, modular tables are moved aside, and the central area becomes a presentation "stage." Afterward, this area can revert to a group workspace . This spatial adaptability is advantageous because education requires spaces capable of accommodating increasingly diverse learning activities (Niemi, 2021) . In architectural and design terminology, such a collaborative studio can be viewed as a socio-spatial assemblage capable of supporting various pedagogical scenarios (Dovey & Fisher, 2014).

One primary function of a square is to encourage spontaneous social interactions . People can meet, converse, exchange news, or express aspirations in this public space (Oldenburg, 1999). Collaborative studios fulfill a similar function academically . When everyone gathers in the same space simultaneously, opportunities for interaction significantly increase . Observations frequently noted spontaneous discussions and conversations among students across groups . For instance, a student noticing a friend's project at another table might approach and comment, triggering a brief discussion . These spontaneous interactions enrich the learning process, as students receive input not only from lecturers but also from peers, supporting peer learning, which is vital in higher education . Furthermore, academic social networks become stronger. In this way, the studio develops into a social learning environment in which people, practices, and shared activities are brought into closer relationship.

Squares in Javanese history are often seen as symbols of local democracy, where the people's voices can be heard . In collaborative studios, democratization is evident from the reduced formal distance between lecturers and students. Lecturers act as facilitators rather than authority figures . Students feel freer to express their opinions without hesitation due to the

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 30 (June 2026) PP. 214-226

casual discussion atmosphere . This egalitarian atmosphere is believed to boost students' self-confidence and active participation in learning processes (Emam et al., 2019) . Individuals feel their voices are heard, just as in squares where everyone is free to express ideas.

In addition to these similarities, there are differences between squares and collaborative studios, primarily regarding community scope and nature . Squares are broadly public and heterogeneous (entire community), while collaborative studios are limited to the academic community of related study programs . However, this does not diminish the analogy's relevance; instead, it underscores the necessity of a central space that unites community members at the academic community scale.

This study's findings align with literature on innovative learning spaces . For instance, Sigurðardóttir et al . (2021) found that open spaces encourage collaboration and closer teacher-student relationships . Lai et al . (2020) also emphasized that social practices and space shape each other (co-becoming) . Collaborative culture thrives when supported by conducive spaces . Conversely, collaboratively designed spaces demand behavioral adaptation to optimize their use. In this case, the inherently collaborative design studio culture (Schön, 1987) finds its ideal physical space, thus reinforcing each other.

From a pedagogical perspective, communal spaces like collaborative studios support contextual and social learning approaches aligned with communities of practice (Lave & Wenger, 1991). Students learn not only from formal instruction but also from everyday interactions within their practice community . Ideas and knowledge circulate informally in the studio . Students learn new techniques from observing peers or gain design inspiration from casual conversations . This situation extends learning beyond formal curriculum, making it more holistic, resonating with Oldenburg's (1999) concept of third place . The studio acts as a "third place" for students, apart from home and formal classrooms, where substantive informal learning occurs. The findings suggest that spatial openness increased the visibility of peers' activities, which in turn encouraged unplanned observation, brief conversation, and feedback exchange. Rather than functioning only as a workspace, the studio supported repeated low-threshold interaction that strengthened students' participation in a shared learning environment.

Design Implications and Recommendations

These findings have several significant implications. First, from an educational space design perspective, open and flexible collaborative studios positively influence learning dynamics . Therefore, educational facility planners are encouraged to provide at least one communal space per study program or learning group, accessible to students throughout the day. Such spaces should be designed with principles of flexibility, comfort, and supporting technology, like adequate Wi-Fi and projectors . Aesthetic aspects and ambiance are also important . Natural lighting, warm colors, and student-produced decorative elements can enhance user ownership. Second, institutional support and policies are crucial for collaborative studios to truly become educational square. Policies allowing flexible access hours (e.g., keeping studios open late) optimize student utilization. Additionally, a collective culture and agreement on space usage, such as cleanliness, equipment security, and noise tolerance, should be established.

Third, not all lecturers or students automatically adapt to open-space formats . Pedagogical support and adaptation are necessary, particularly for lecturers, aligning teaching methods with collaborative studio environments (Niemi, 2021) . Lecturers may require facilitation skills

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 30 (June 2026) PP. 214-226

rather than traditional lecturing . Lecturers may need to develop facilitation skills rather than rely on conventional lecturing methods . Students also need guidance on utilizing spatial freedom productively, including effective time and task management within a relaxed atmosphere. Gislason (2018) emphasizes that pedagogical transformation accompanying spatial changes requires time and commitment; therefore, faculties should encourage dialogue and training regarding the use of innovative spaces (Gislason, 2018).

Fourth, although the findings of this study underscore numerous benefits of collaborative studios, challenges such as noise or potential distractions must still be anticipated . Design solutions such as providing small breakout rooms or quiet corners around the studio can balance the need for high concentration. Acoustic furniture or regulated usage hours could be implemented as needed without compromising the openness of the space. By maintaining a balance between quiet zones and interaction zones, collaborative spaces can cater to diverse learning preferences (DeFrain & Hong, 2020).

Fifth, it is essential to consider replicating this concept in other academic disciplines. This study focuses on design education, traditionally studio-based . However, the educational square-space principle can be applied more broadly. Further research could explore the implementation of collaborative spaces within different disciplinary contexts and their impacts on specific learning outcomes.

Conclusion

This research concludes that collaborative studios can function effectively as an educational square, serving as central learning spaces that support interaction and the formation of learning communities in higher education. Through a socio-spatial observational approach, it was revealed that the open, flexible, and inclusive design of studio spaces fosters rich and dynamic collaborative learning experiences . The examined collaborative studio exhibited characteristics akin to a public square: it is open to everyone, central to various activities, accommodates diverse functions, and spontaneously facilitates social and academic interactions. Within this environment, students and lecturers cultivate a more egalitarian academic culture, where formal instruction is extended through everyday interaction, informal exchange, and shared participation.

These findings have implications for multiple stakeholders. For designers and architects, the study highlights the importance of spatial openness, flexible furniture arrangements, and shared-access zones in fostering collaborative learning behavior. For universities, the findings emphasize that studio environments should be treated not merely as instructional rooms, but as socially productive learning infrastructures that support belonging, interaction, and informal knowledge exchange. For policymakers and institutional planners, this study suggests that investment in collaborative learning spaces should be aligned with pedagogical goals, cultural context, and long-term student engagement rather than only physical capacity or efficiency.

Theoretically, this study contributes a culturally grounded socio-spatial framework that extends discussion on learning environments beyond dominant Western paradigms by demonstrating how the principles of the Javanese alun-alun can be used to interpret openness, inclusivity, multifunctionality, and relational learning in collaborative studio settings.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 30 (June 2026) PP. 214-226

Although this study is limited to a single studio case, it contributes to a better understanding of how physical space shapes social learning dynamics in higher education. By framing the collaborative studio as an educational square, the study shows that culturally responsive spatial design can support openness, belonging, and interaction within learning communities, particularly in non-Western contexts such as Indonesia. Future research may extend this work by examining similar collaborative environments across disciplines and by exploring their relationship to measurable learning outcomes.

Acknowledgements: The authors would like to express their sincere gratitude to Universiti Putra Malaysia and Petra Christian University for their support and assistance throughout the course of this research. Special appreciation is also extended to all participants, colleagues, and peers who contributed valuable insights and constructive feedback, which greatly enhanced the quality of this paper.

Funding Statement: No Funding

Conflict of Interest Statement: The authors declare that there is no conflict of interest regarding the publication of this paper. All authors have contributed to this work and approved the final version of the manuscript for submission to the International Journal of Modern Education (IJMOE).

Ethics Statement: This study was conducted in accordance with ethical research standards. Informed consent was obtained from all participants prior to data collection. Participation was voluntary, and respondents were assured of confidentiality and anonymity. The data collected were used solely for academic purposes. Ethical approval details will be provided in accordance with institutional requirements.

Author Contribution Statement: Grace Mulyono was responsible for the conceptualization, methodology, data collection, analysis, interpretation of results, and drafting of the manuscript. Mohd Shahrizal bin Dolah contributed to the supervision, critical review, and revision of the manuscript. Both authors read and approved the final version of the manuscript prior to submission.

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume: 8 Issue: 30 (June 2026) PP. 214-226

References

Abdullah, N. A. G., Beh, S. C., Tahir, M. M., Ani, A. I. C., & Tawil, N. M. (2011). Architecture design studio culture and learning spaces: A holistic approach to the design and planning of learning facilities. *Procedia-Social and Behavioral Sciences*, *15*, 27–32. https://doi.org/https://doi.org/10.1016/j.sbspro.2011.03.044

Aliyah, I., Setioko, B., & Pradoto, W. (2016). The Roles of Traditional Markets as the Main Component of Javanese Culture Urban Space (Case Study: The City of Surakarta, Indonesia). *IAFOR Journal of Sustainability, Energy & the Environment*, *3*(1). https://doi.org/https://doi.org/10.22492/ijsee.3.1.06

Ashadi, A. (2017). The Change of Form, Function, and Meaning of The City Open Space (Alun-Alun) in Traditional Cities of Java, Indonesia. *International Seminar and Workshop on Urban Planning and Community Development*, *2*(1).

Ayuningtyas, D., Misnaniarti, M., & Rayhani, M. (2018). Analisis Situasi Kesehatan Mental Pada Masyarakat Di Indonesia Dan Strategi Penanggulangannya. *Jurnal Ilmu Kesehatan Masyarakat*, *9*(1), 1–10. https://doi.org/10.26553/jikm.2018.9.1.1-10

Barrett, P., Zhang, Y., Moffat, J., & Kobbacy, K. (2013). A holistic, multi-level analysis identifying the impact of classroom design on pupils' learning. *Building and Environment*, *59*, 678–689. https://doi.org/https://doi.org/10.1016/j.buildenv.2012.09.016

Boyer, E. L., & Mitgang, L. D. (1996). *Building Community: A New Future for Architecture Education and Practice. A Special Report.* ERIC. https://eric.ed.gov/?id=ED396659

Cleveland, B., & Fisher, K. (2014). The evaluation of physical learning environments: A critical review of the literature. *Learning Environments Research*, *17*, 1–28. https://doi.org/https://doi.org/10.1007/s10984-013-9149-3

DeFrain, E., & Hong, M. (2020). Interiors, affect, and use: How does an academic library's learning commons support students' needs? *Evidence Based Library and Information Practice*, *15*(2), 42–69. https://doi.org/https://doi.org/10.18438/eblip29677

Dovey, K., & Fisher, K. (2014). Designing for adaptation: The school as socio-spatial assemblage. *The Journal of Architecture*, *19*(1), 43–63. https://doi.org/https://doi.org/10.1080/13602365.2014.882376

Emam, M., Taha, D., & ElSayad, Z. (2019). Collaborative pedagogy in architectural design studio: A case study in applying collaborative design. *Alexandria Engineering Journal*, *58*(1), 163–170. https://doi.org/https://doi.org/10.1016/j.aej.2018.03.005

Gislason, N. (2018). The whole school: Planning and evaluating innovative middle and secondary schools. In *School space and its occupation* (pp. 187–201). Brill.

Haryono, T., & Suhardi, D. (2021). Konsep Pengembangan 'Alun-Alun'sebagai Ikon Sejarah dan Budaya Perkotaan, Kasus Studi: Alun-Alun Kota Surabaya. *Seminar Keinsinyuran Program Studi Program Profesi Insinyur*, *1*(1). https://research-report.umm.ac.id/index.php/psppi/article/view/70

Imms, W., Cleveland, B., & Fisher, K. (2016). *Evaluating learning environments: Snapshots of emerging issues, methods and knowledge*. Springer.

Johnson, D. W., Johnson, R. T., & Smith, K. A. (1998). Cooperative learning returns to college what evidence is there that it works? *Change: The Magazine of Higher Learning*, *30*(4), 26–35. https://doi.org/https://doi.org/10.1080/00091389809602629

Laal, M., & Ghodsi, S. M. (2012). Benefits of collaborative learning. *Procedia-Social and Behavioral Sciences*, *31*, 486–490. https://doi.org/https://doi.org/10.1016/j.sbspro.2011.12.091

Lai, C., Huang, Y. X., & Lam, T. (2020). Teachers' socio-spatial practice in innovative learning environments. *Cambridge Journal of Education*, *50*(4), 521–538. https://doi.org/https://doi.org/10.1080/0305764X.2020.1736003

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge university press.

Merrifield, A. (2002). Henri Lefebvre: A socialist in space. In *Thinking space* (pp. 167–182). Routledge. https://doi.org/https://doi.org/10.4324/9780203411148

Niemi, K. (2021). 'The best guess for the future?'Teachers' adaptation to open and flexible learning environments in Finland. *Education Inquiry*, *12*(3), 282–300. https://doi.org/https://doi.org/10.1080/20004508.2020.1816371

Oldenburg, R. (1999). *The great good place: Cafes, coffee shops, bookstores, bars, hair salons, and other hangouts at the heart of a community*. Da Capo Press.

Pacione, M. (2021). *Glasgow: the socio-spatial development of the city*. Routledge. https://doi.org/https://doi.org/10.4324/9781315681665

Salama, A. M. (2015). *Spatial design education*. Ashgate Publishing Limited. https://doi.org/https://doi.org/10.4324/9781315610276

Salih, S. A., Alzamil, W., Ajlan, A., Azmi, A., & Ismail, S. (2024). Typology of Informal Learning Spaces (ILS) in Sustainable Academic Education: A Systematic Literature Review in Architecture and Urban Planning. *Sustainability*, *16*(13), 5623. https://doi.org/https://doi.org/10.3390/su16135623

Schön, D. A. (1987). *Educating the reflective practitioner*.

Shafar, M. U., & Sari, S. R. (2021). Efektivitas Pemanfaatan Alun-Alun Sebagai Ruang Terbuka Publik. *Nature: National Academic Journal of Architecture*, *8*(1), 53–61. https://doi.org/https://doi.org/10.3390/su16135623

Sigurðardóttir, A. K., Hjartarson, T., & Snorrason, A. (2021). Pedagogical walks through open and sheltered spaces: a post-occupancy evaluation of an innovative learning environment. *Buildings*, *11*(11), 503. https://doi.org/https://doi.org/10.3390/buildings11110503

Soja, E. W. (1980). The socio-spatial dialectic. *Annals of the Association of American Geographers*, *70*(2), 207–225. https://doi.org/https://doi.org/10.1111/j.1467-8306.1980.tb01308.x

Webster, H. (2005). The architectural review: A study of ritual, acculturation and reproduction in architectural education. *Arts and Humanities in Higher Education*, *4*(3), 265–282. https://doi.org/https://doi.org/10.1177/1474022205056169

Wiryomartono, B. (2016). *Javanese culture and the meanings of locality: Studies on the Arts, urbanism, polity, and society*. Lexington Books.

Yan, L., Martinez-Maldonado, R., Zhao, L., Deppeler, J., Corrigan, D., & Gasevic, D. (2022). How do teachers use open learning spaces? Mapping from teachers' socio-spatial data to spatial pedagogy. *LAK22: 12th International Learning Analytics and Knowledge Conference*, 87–97. https://doi.org/https://doi.org/10.1145/3506860.3506872