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(IJEPC)**www.ijepec.com**STUDIO-BASED LEARNING IN HIGHER EDUCATION:
A SYSTEMATIC REVIEW OF PEDAGOGICAL APPROACHES
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DOI: 10.35631/IJEPC.1060030**Abstract:**

This systematic analysis summarises the results of 42 peer-reviewed papers that were published between 2000 and 2025 and looks at modern pedagogical approaches in studio-based learning (SBL) in higher education art and design programs. Through iterative creation, critique, and reflection, SBL which is based on constructivist and experiential learning theories promotes creativity, critical thinking, and cooperative problem-solving. Five major topics emerge from the analysis: (1) SBL's instructional features; (2) digital technology integration; (3) multidisciplinary collaboration; (4) inclusivity and learner diversity; and (5) ongoing implementation issues. The results show that while interdisciplinary initiatives improve relevance and employability, digital tools, blended studios, and AI-enhanced methods increase flexibility and global connectivity. But there are still issues like scarce resources, difficult evaluation of creative outputs, institutional restrictions on exploratory learning, and disparities in inclusivity. The review emphasises the necessity for flexible, culturally sensitive, and long-lasting SBL models that strike a balance between the embodied, social, and creative aspects of traditional studio culture and technology innovation. To make sure SBL stays inclusive, future-ready, and in line with changing expectations from the creative industry, recommendations include funding for infrastructure, curriculum change, and educator training.

**Keywords:**

Studio-Based Learning, Pedagogy, Systematic Review, Art and Design Education

Introduction

As a physical and pedagogical place where creative practice, critique, and cooperation meet, studio-based learning has long been the cornerstone of art and design education (Schön, 1984; Hetland et al., 2013). The studio model, which has its roots in constructivist and experiential learning theories, promotes “learning by doing” and reflective practice. Through iterative processes of making and critique, students are encouraged to develop their professional identities, creative autonomy, and problem-solving abilities (Kolb, 1984; Sweeny, 2017). This unique method encourages a community of practice where students, peers, and teachers engage in discussion to co-create knowledge (Lave & Wenger, 1991; Crowther, 2013).

The field of studio pedagogy in higher education has seen substantial change in recent years. Traditional studio procedures have been altered by the incorporation of digital technologies, online platforms, and blended delivery techniques, especially in reaction to the COVID-19 pandemic's worldwide disruptions (Fleischmann, 2025; Brown et al., 2015). The maintenance of the social and material dynamics that are essential to studio learning has come under scrutiny, despite the fact that these developments have expanded access to resources and many forms of creative engagement (Gürsoy, 2021; McIntyre & Henriksen, 2021).

The potential of studio-based education is also being expanded by new pedagogical models, including community-engaged projects, interdisciplinary collaborations, and immersive and adaptive learning environments (Zhang et al., 2025; Douglas & Jaquith, 2009). Nonetheless, there are still issues with resource allocation, assessment procedures, and inclusive classroom environments, especially for pupils from under-represented or marginalised groups (Doheim & Yusof, 2024; Ghosh & Coppola, 2024).

In light of these advancements, it is imperative that studio-based learning in higher education art and design programs undergo a thorough evaluation of modern pedagogical approaches. A review of this kind can reveal patterns, draw attention to enduring issues, and provide chances for creativity, all of which will help create inclusive, adaptable, and future-ready teaching methods. In order to map the changing landscape of studio pedagogy and its consequences for art and design education in the twenty-first century, this paper will synthesise material from recent study.

Literature Review

There are six points discussed in the literature review, such as the definition of studio-based learning, pedagogical foundations and signature practices, technological integration in studio-based learning, interdisciplinary and collaborative approaches, challenges in studio-based pedagogy, and last one is, the evolution of future studio-based learning

Definition of Studio-Based Learning

A teaching approach that emphasises iterative creation, critique, and reflection, studio-based learning (SBL) is typically employed in creative fields like architecture, design, and art (Schön,

1984; Hetland et al., 2013). According to Crowther (2013), the studio functions as a physical and social setting where learning takes place through hands-on interaction with peers, materials, and processes. This method is in line with the experiential learning paradigm, which stresses the creation of knowledge via reflection and active engagement (Kolb, 1984; Douglas & Jaquith, 2009).

Open-ended problem-solving exercises, the blending of theory and practice, and a focus on community are characteristics of SBL (Blythman et al., 2007; Self & Baek, 2017). Because of the studio model's adaptability, teachers can include collaborative and multidisciplinary projects that reflect actual creative work (Mejía et al., 2024).

Pedagogical Foundations and Signature Practices

The studio model's iterative cycle of invention, feedback, and improvement is its defining pedagogy (Shreeve et al., 2010). As a fundamental learning tool, critiques (or "crits") allow students to express their creative intent, get feedback from peers and teachers, and improve their work as necessary (Blythman et al., 2007; Blair, 2006). According to Hetland et al. (2013), this approach fosters professional preparedness, resilience, and critical thinking. Constructivist concepts, which view the instructor as a facilitator rather than a knowledge transmitter, are also the foundation of SBL (Sawyer, 2011; Green & Bonollo, 2003). Peer-to-peer knowledge sharing and community development are promoted through collaborative learning (Lave & Wenger, 1991; Brown et al., 2015).

Technological Integration in Studio-Based Learning

SBL's potential has been greatly increased in recent years by the use of digital technologies. Students can participate in studio activities outside of the physical location thanks to online platforms, digital fabrication tools, and collaborative software (Gürsoy, 2021; Sweeny, 2017). For example, it has been demonstrated that blended learning models, which combine in-person sessions with virtual studios, improve flexibility and resource accessibility (Fleischmann, 2025; Rowe, 2024). Scholars warn, however, that in order to maintain the material, embodied, and tacit elements of studio culture, digital transmission needs to be carefully planned (McIntyre & Henriksen, 2021). The difficulty is striking a balance between the sensory richness of conventional studio settings and the ease of technology (Ishii-Bear, 2024; Hameed & Mimirinis, 2024).

Interdisciplinary and Collaborative Approaches

Higher education is becoming more aware of SBL's transdisciplinary potential (Self & Baek, 2017; Mat et al., 2023). Students are encouraged to expand their creative problem-solving abilities and place their work in a variety of contexts through projects that integrate art and design with disciplines like engineering, science, or social innovation (Bonsu et al., 2024; Zhang et al., 2025). In addition to offering students real-world problems, collaborative studio projects with industry or community partners improve students' employability and social involvement (Mejía et al., 2024; Yusof & Jalil, 2019). These programs are in line with demands for design education that is more culturally aware and socially conscious (Broudy, 2021; Ghosh & Coppola, 2024).

Challenges in Studio-Based Pedagogy

Even with its advantages, SBL still has problems in higher education. The quality of delivery can be impacted by resource limitations, such a lack of studio space, expensive materials, and

time-consuming instruction (Anderson & Milbrandt, 2005; Ismail & Hussin, 2020). There are conflicts between assessing creative processes and finished outputs, making assessment a controversial topic (Doheim & Yusof, 2024; Milbrandt et al., 2018). Critiques have also emphasised the necessity of making studios more inclusive for a variety of students, such as those with disabilities or those from under-represented groups (Ghosh & Coppola, 2024). Integrating cultural themes or working with indigenous groups without the appropriate representation or agreement raises ethical questions as well (Yamada, 2018; Scafidi, 2005).

The Evolution of Future Studio-Based Learning

Hybridised, multidisciplinary, and technologically advanced models that preserve the introspective, cooperative, and creative culture of traditional studios are indicative of the future of SBL in art and design education (Zhang et al., 2025; Fleischmann, 2025). The flexibility of the studio model will be essential to maintaining its relevance and influence as higher education institutions negotiate technological and global changes.

Methodology

This section focuses on the research design, research question, search strategy, exclusion and inclusion criteria, selection and screening process, extraction of data and synthesis, the last one is quality assessment.

Research Design

In order to find, assess, and compile studies on studio-based learning (SBL) in higher education art and design programs, this study used a systematic literature review (SLR) technique. SLR was chosen because it makes it possible to evaluate the body of existing literature in a thorough and transparent manner, guaranteeing the inclusion of relevant, high-quality studies (Booth et al., 2016; Petticrew & Roberts, 2006). To improve scientific rigour, the review procedure adhered to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) standard (Page et al., 2021).

Research Question

The following research questions (RQs) served as the basis for the review:

RQ1: Which pedagogical strategies define studio-based instruction in art and design programs at higher education?

RQ2: How has SBL incorporated inclusion, interdisciplinarity, and technology?

RQ3: What opportunities and difficulties related to SBL implementation have been documented in the literature?

Search Strategy

A thorough search was carried out using scholarly databases such as Google Scholar, Web of Science, ERIC, and Scopus. Several combinations of keywords and Boolean operators were employed, including: AND (“higher education” OR “university”) AND (“art” OR “design”) AND (“teaching” OR “pedagogy”) AND (“studio-based learning” OR “design studio” OR “art studio pedagogy”). Peer-reviewed journal articles published between 2000 and 2025 were the only ones included in the search in order to recognise foundational works and capture current instructional trends.

Exclusion and Inclusion Criteria

Peer-reviewed journal publications or conference papers that addressed pedagogical techniques in a studio-based learning context and/or art and/or design education in higher education met the inclusion criteria for this review. Research had to offer pertinent information about curriculum design, teaching techniques, or instructional tactics in the subject. The exclusion criteria, on the other hand, excluded articles written in languages other than English, research pertaining to primary or secondary education, and papers that did not specifically address pedagogical approaches.

Selection and Screening Process

412 records were found in the first search. 315 articles were left after duplicates ($n = 97$) were eliminated. This number was lowered to 78 papers via abstract and title screening, after which they underwent full-text review for additional evaluation. Forty-two studies were kept for the final synthesis after the inclusion and exclusion criteria were applied.

Extraction of Data and Synthesis

The following information was taken from each study that was included in the Table 1. The results were grouped into key themes that matched the study questions using a thematic analysis approach (Braun & Clarke, 2006). Iterative refining, theme generation, coding, and data familiarisation were all part of this process.

Table 1. Information Taken for Data Extraction

Information taken
The year of publication and the author or authors.
The study's nation or region.
Focus on a certain discipline (art, design, or multidisciplinary).
Pedagogical techniques employed.
Technology integration, inclusion, or interdisciplinarity.
Described difficulties and results.

Quality Assessment

The CASP (Critical Appraisal Skills Programme) checklist for qualitative and mixed-methods research was used to assess each study in order to guarantee robustness (CASP, 2022). The synthesis only includes papers that satisfied at least 70% of the checklist's requirements.

Result and Findings

42 peer-reviewed studies from a variety of geographic contexts, including the United States ($n = 12$), the United Kingdom ($n = 8$), Australia ($n = 6$), Malaysia ($n = 5$), other parts of Asia ($n = 7$), and Europe ($n = 4$), were included in the systematic review. The studies were published between 2000 and 2025. Five main themes emerged from the studies: (1) the pedagogical aspects of studio-based learning (SBL), (2) technological integration, (3) multidisciplinary collaboration, (4) inclusivity and learner diversity, and (5) implementation problems and obstacles.

Pedagogical Characteristics of Studio-Based Learning

SBL was consistently characterised as an experiential and learner-centred approach that prioritises project-based tasks, iterative critique, and reflective practice throughout the evaluated literature (Hetland et al., 2013; Douglas & Jaquith, 2009). According to studies,

formative evaluation through tutor and peer critiques fosters both organised feedback and creative autonomy (Mejía et al., 2024; Nyboer et al., 2024). Open-ended briefs were a defining feature of SBL contexts, encouraging innovation and flexibility (Rolling, 2016).

Technology Integration

Over the past ten years, SBL has undergone a considerable transformation with the introduction of digital tools. In order to improve learning experiences, a number of studies have documented the usage of digital prototyping tools such as Adobe Creative Suite, 3D modelling software, virtual studios, and collaborative design platforms (Hameed & Mimirinis, 2024; Zhang et al., 2025). While hybrid studio methods enhanced flexibility and maintained creative engagement during disturbances like the COVID-19 pandemic, digital platforms provided asynchronous feedback and expanded access for distant learners (Sweeny, 2017). (Ishii-Bear, 2024).

Interdisciplinary Collaboration

Cross-disciplinary techniques in SBL, which include information from business, engineering, and social sciences into art and design education, were covered in over 60% of the research (Mat et al., 2023; Self & Baek, 2017). Through a variety of viewpoints, these partnerships promoted creativity, exposed students to real-world limitations, and improved their problem-solving abilities (Sclater & Lally, 2018).

Learner Diversity and Inclusivity

A number of writers stressed the value of inclusive teaching methods that take socioeconomic, cultural, and gender diversity into account (Bonsu et al., 2024; Denmead, 2018). In order to address structural injustices in design education, feminist and decolonial frameworks were occasionally used (Ishii-Bear, 2024; Bonsu et al., 2024). These studies emphasised the necessity of curriculum that challenge Eurocentric dominance in art and design material and represent a variety of cultural narratives.

Challenges and Barriers

Notwithstanding its pedagogical advantages, Studio-Based Learning (SBL) frequently encounters obstacles that prevent it from reaching its full potential. Resource limitations, such as a lack of studio space, subpar supplies, and restricted access to technology necessary for creative work, are a significant problem (Ismail & Hussin, 2020). The intricacy of evaluation presents another difficulty since standardised rubrics frequently fall short of capturing the breadth and uniqueness of students' work when assessing creative results (Milbrandt et al., 2018). Additionally, it can be challenging to strike a balance between academic rigour and creativity since institutional organisations occasionally enforce stringent frameworks that limit experimental and exploratory learning (McKenna, 2014). Furthermore, both students and teachers may experience burnout as a result of the rigorous workload and strict project deadlines that are a part of SBL contexts (Rowe, 2024). These difficulties demonstrate the necessity of making calculated changes to guarantee the long-term viability and inclusion of SBL in higher education.

Future Directions

The use of AI in design processes (Zhang et al., 2025), the growth of curriculum that emphasise sustainability (Gauntlett & Thomsen, 2013), and international cooperation through virtual exchange programs (Freedman et al., 2015) are examples of emerging potential. These patterns

suggest that SBL can adapt to new problems while keeping its primary focus on creativity, critical thinking, and experiential learning.

Conclusion

The focus on experiential, project-based, and reflective learning makes studio-based learning (SBL) a pillar of art and design education in higher education, according to this systematic study. According to research, SBL is a very successful teaching strategy for preparing students for careers in the creative industries since it encourages creativity, critical thinking, and group problem-solving (Hetland et al., 2013; Douglas & Jaquith, 2009).

The scope and accessibility of SBL have been increased by the incorporation of digital technologies, such as virtual studios, collaborative design software, and cutting-edge tools like artificial intelligence (AI), which has made learning environments more adaptable and internationally connected (Hameed & Mimirinis, 2024; Zhang et al., 2025). Additionally, by exposing students to a variety of viewpoints and real-world problems, multidisciplinary partnerships have enhanced the creative process (Self & Baek, 2017; Mat et al., 2023).

However, the analysis also highlights ongoing issues such the need to strike a balance between academic rigour and artistic inquiry, the difficulty of evaluating creative achievements, and the lack of institutional resources (Milbrandt et al., 2018; McKenna, 2014). Furthermore, to guarantee fair learning settings, concerns about inclusion and cultural representation need constant attention (Bonsu et al., 2024; Ishii-Bear, 2024).

Future SBL development should integrate technical innovation with culturally sensitive teaching, emphasising ethical, inclusive, and sustainable practices. It is recommended that policymakers and educators make investments in curriculum reform, staff training, and infrastructure that promote academic achievement and creative autonomy. In order to prepare students for the quickly evolving creative scene, SBL's progress in art and design education must ultimately uphold its fundamental principles while welcoming new chances.

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