



## Components of Originality in Architecture Education

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### **ABSTRACT**

Originality is a contentious phenomenon that requires analysis in the increasingly homogenized environments and productions of the contemporary world. In disciplines closely associated with originality and creativity, such as architecture, these discussions often begin in educational settings. This study aims to conduct a conceptual analysis of what originality signifies before exploring its pursuit in architectural design studios, which are fundamental to architectural education. In this context, the meta-research conducted in the study establishes a theory-driven qualitative research methodology that includes systematic literature review, bibliometric analysis, findings, and implications. Findings derived in parallel with the methodology reveal the components influencing originality in architectural design studios, the contentious issues, and potential clues for addressing these challenges. The study seeks to establish a significant and original place in the literature by understanding how the topic has been addressed, exploring different interpretations, and identifying areas and issues that warrant further investigation in the future.

**Keywords:** Architecture education, architectural design studios, originality, authenticity, creativity

### **Mimarlık Eğitiminde Özgünlük Bileşenleri**

#### **ÖZET**

Özgünlük, çağdaş dünyanın aynılan ortamlarında ve üretimlerinde, çözümlenmesine ihtiyaç duyulan tartışmalı bir olgudur. Mimarlık gibi özgünlük ve yaratıcılıkla yakından ilişkili disiplinlerde bu tartışmalar eğitim ortamlarında başlar. Çalışma, mimarlık eğitiminin temel sınıfı olan mimari tasarım stüdyolarında özgünlüğün aranmasından önce bu olgunun neyi ifade ettiğine dair kavramsal bir çözümleme yapmayı amaçlar. Bu bağlamda çalışmada gerçekleştirilen meta araştırma çalışmaları, sırasıyla sistematik literatür taraması, bibliyometrik analiz, bulgular ve çıkarımlar adımlarını içeren kurama dayalı nitel araştırma metodolojisini oluşturur. Metodolojiyle paralel çıkarılan sonuçlar mimari tasarım stüdyolarında özgünlüğü etkileyen bileşenleri, tartışmalı konuları ve bu konular için çözüm olabilecek ipuçlarını ortaya çıkarır. Çalışma, konunun literatürde nasıl ele alındığını kavramak, farklı kavrayışları keşfetmek, gelecekte daha fazla araştırılması gereken noktaları ve sorunları belirlemek açısından literatürde önemli ve özgün bir yer edinmeyi hedefler.



**Anahtar Kelimeler:** Mimarlık eğitimi, mimari tasarım stüdyoları, özgünlük, yaratıcılık

## 1. INTRODUCTION

Originality is a flexible concept that necessitates resolution within the homogenized environments and productions of the contemporary world. It can vary depending on numerous factors, including creative mental activities tied to the individual as well as social norms, changes, and advancements. This dynamic phenomenon represents a continuously evolving parameter, especially in production-oriented disciplines such as architecture, where it is either sought or its pursuit is questioned at every stage of production. The quest for originality in architecture emerges throughout the design process, encompassing the creation of ideas, structures, environments, or experiences.

Architectural schools and design studios, as the primary environments for architectural production, mark the starting point of the search for originality. These studios, much like the concept of originality itself, are context-dependent, varying in content and method while being influenced by societal and technological advancements. Consequently, the reflections of contemporary debates on originality, particularly the changes in production methods leading to increasingly similar architectural outcomes, can be observed in these studios. However, the challenges of integrating these developments into architectural education may result in the loss of originality within production processes in studios.

The main idea of this study is the necessity of conducting a conceptual analysis to understand what originality signifies in studio productions where the concept is encountered for the first time in architectural design, before seeking it. In this context, a theory-based qualitative study is conducted to explore the studio components tied to the parameter of originality in architectural design studios and the discussions emerging from these components. This meta-research, which constitutes the study's methodology, aims to determine the current state of the widely debated phenomenon of originality as experienced in studios across various architectural schools worldwide. It also seeks to summarize and synthesize the findings of existing studies on this subject.

The analytical study conducted for this purpose involves the conceptual analysis of data obtained through a systematic literature review and identifies the components influencing originality in design studios. Understanding how the subject is addressed in the literature, uncovering different perspectives, and identifying gaps and issues requiring further research are among the objectives of the synthesis. Thus, the methodology, which consists of a qualitative research synthesis, shapes the core framework, scope, and outcomes of the study. The study progresses in parallel with its methodology, which includes literature review, bibliometric analysis, findings, and inferences. The conclusions are derived during the process from the analyzed data and are interpreted based on the insights gained from these data.

## 2. ABOUT ORIGINALITY, ARCHITECTURE AND ARCHITECTURAL DESIGN STUDIOS

Originality is a polysemous phenomenon defined in many fields such as art, philosophy, education and architecture. The dictionary meaning of the originality is the quality of being special and interesting and not the same as anything or anyone else (Cambridge Dictionary). What is important here is that the phenomenon of originality describes things that are not copies and have only their own unique qualities (TDK). In line with this definition, the concept of originality is addressed mainly in two aspects. The first is the object-oriented meaning corresponding to the concepts of uniqueness, innovation and extraordinariness; the second is the subjectivity that can be associated with concepts such as personalization, self, interpretation and individuality.

Originality, when defined as something uncommon, rare, and unusual (Burnett and Cabra, 2014: 13), refers to a new, extraordinary, and previously unencountered object. Özorhon draws attention to another aspect of the concept by emphasizing that this state, which exists through the search for innovative thinking, also reflects individuality. The concept of



originality, which emerges from the integration of critical and creative thinking, is directly related to the subject's intuition, imagination, and accumulated knowledge (Özorhon, 2009: 91). In addition to this perspective, there are views that human subjectivity is derived from historical, contextual, and cultural phenomena. Sözen and Tanyeli define the term "original" as "all cultural phenomena and attitudes that are not products of imitation" and argue that the concept emerges as a result of the actual conditions of the society in which it is produced (Sözen and Tanyeli, 2011: 234).

In light of the aforementioned perspectives, originality describes reaching a new object through the spontaneous accumulation of the subject, in addition to contextual influences. Therefore, originality can be described as a flexible and abstract paradigm that varies depending on place, time, individuals, societies, and circumstances. For this reason, originality encompasses a conceptual analysis that can be applied to all production processes defined by the relationship between subject and object. The design processes within the discipline of architecture and its education also embody correspondences that can be articulated through this analysis of originality.

The concept of originality in architecture, while widely debated today in the context of increasingly homogenized architectural productions, has become more prominent in this field over the last century. Neagu suggests that prior to the 19th century, originality occupied a relatively minor intellectual space within architecture and, as in other disciplines, represented a different meaning, expression, identity, or interpretation (Neagu, 2006, as cited in Özorhon, 2009: 12). Thus, with the break from tradition and the focus on producing entirely new creations in the modern era, the concept of originality in architecture has become more closely associated with novelty. It has evolved into a phenomenon frequently sought after through objects, processes, and techniques.

At this point, as in other disciplines, debates arise regarding the possibility of producing something entirely new. Güzer argues that when it comes to architecture, it is not easy to speak of a completely original product and suggests that what is actually being debated is a matter of boundaries (Güzer, 2007: 30).

While the degrees or extent of originality can be contested, there are also views that this state can be examined from various perspectives in an architectural work, such as spatial organization, form, material, technology, or site-specificity (Özorhon, 2008: 92).

In the contemporary era, due to the dominance of parameters such as technology and global culture, architectural objects have increasingly been associated with negative terms such as replication, repetition, and imitation, which signify familiarity and ordinariness. One of the primary reasons for this is that originality, which can be explored from various perspectives, has come to be sought exclusively in architectural forms. Particularly in recent architecture, a perception of novelty based on the immediate impact and excitement generated by dynamic forms has emerged (Buchanan, 2015: 5-21). As Tanyeli states, the diminishing ability to explain the rationale behind architectural forms (Tanyeli, 2014, as cited in Güleç, 2017: 73) has led originality to be defined solely through visual aspects. Thus, it can be argued that the understanding of originality in architecture is undergoing another transformation in the contemporary world dominated by digital technologies, much like it did during the modern period.

The discussions surrounding the concept of originality in architecture begin in the design studios, which form the foundation of architectural education. Cranton and Carusetta describe the process of original production in studios as a process of becoming aware of oneself and the context (Cranton and Carusetta, 2004: 288). This process, which emphasizes the direct relationship between originality and the subject, is read through the learner's ability to personalize and interpret within architectural design studios. Definitions that highlight the aspect of originality corresponding to novelty in design refer to a search



aimed at the uniqueness of the productions in the studios. According to Kowaltowski and others, architectural design studios encompass discussions on new and old theories, how beauty is achieved, how originality is preserved, and how reality is supported. The evaluation of creativity, which is closely related to originality in design, primarily corresponds to novelty in design (Kowaltowski et al., 2010: 454).

From all these perspectives, originality is a fundamental concept in the creative process that reveals the author's abilities, encompassing both "authenticity, uniqueness" and "individuality." The pursuit of originality in architectural education plays a significant role in developing the design reflexes, behavioral patterns, decision-making and organizational skills, as well as the professional and individual stances of the learning actors (Türkkan and Erdem, 2016: 190). In this process, the content and importance of studio work are emphasized in the context of teaching how to achieve original designs. As Kreber and others have pointed out, one dimension of originality in education is related to the educators' attention to the subject and their engagement of students in a real dialogue around creative ideas and productions (Kreber et al., 2007: 22).

In conclusion, originality in architectural design studios can be defined as a phenomenon that is primarily sought after in studio productions, which can be addressed through various different concepts and is subject to change depending on the actor, context, or the components that form the studio environment. Originality, which is closely related to both the concept of being original and subjective, as well as creativity, can be interpreted and discussed through different actors, productions, production methods, and processes in design studios. Through a literature review on architectural education, originality, and creativity, the study analyzes and breaks down these concepts into their components.

### **3. METHODOLOGY**

The methodology of the study consists of a two-step qualitative research synthesis involving meta-research methods. This synthesis is based on systematic literature review and data analysis. The meta-research methods used are defined as a fundamental scientific activity that synthesizes evidence transparently, comprehensively, and systematically, in contrast to traditional literature reviews (Mulrow, 1994: 597). The aim here is to determine the current state of existing research, summarize its outputs, and synthesize them. Finfgeld states that meta-analysis and synthesis methods can lead to more qualitative results by producing new and integrative interpretations of findings from individual studies (Finfgeld, 2003: 894). According to Cooper and Hedges, the purpose of these methods is not only to produce useful generalizations but also to identify key research topics and gaps for future studies (Cooper et al., 2019: 5).

This study presents a meta-analysis of research addressing the concept of originality in architectural design studios, identifying the components influencing originality in studios and uncovering gaps in the literature through the synthesis of these components. The methodological framework of the study consists of findings and inferences derived from the synthesis of systematic literature review and bibliometric analysis data. The systematic literature review begins with the selection of databases and keywords, followed by a search based on predefined inclusion criteria. After the content analysis of the articles obtained from the search, bibliometric analysis is performed using the Vosviewer program. Finally, the synthesis phase of the analyses, which includes the derived inferences and interpretations, constitutes the original contribution of the study.

#### **3.1. Systematic Literature Review**

The systematic literature review step of the qualitative research synthesis begins with the selection of keywords for the meta-analysis. The concept of "authenticity," which corresponds to the concept of originality that forms the theoretical basis of the study, along with creativity (a concept closely related to originality) and architectural education, which encompasses architectural design studios in a broader context, have been chosen as



keywords. The search has been conducted in two main languages. The English-language search consists of combinations of the keywords originality, authenticity, creativity, and architectural education, and their Turkish equivalents have also been included in the search. The search has been carried out using databases accessible via EbscoHost, chosen for its ease of access, speed, and interface. Since Ebsco is connected to many databases, it serves as a useful search engine before turning to more specialized databases (Creswell, 2016: 34). [See: Table 1]

Table 1. Keywords and Databases Selected for the Systematic Literature Review

KEYWORDS	DATABASES	
<b>- Authenticity and Architecture Education</b> ( <i>Özgünlük ve Mimarlık Eğitimi</i> )	<b>- Academic Search Ultimate</b> - Applied Science & Business - Periodicals Retrospective: 1913-1983 (H.W. Wilson) - Art Index Retrospective (H.W. Wilson) - Business Periodicals Index - Retrospective: 1913-1982 (H.W. Wilson) - Business Source Ultimate - Central & Eastern	- Humanities & Social Sciences Index Retrospective: 1907-1984 (H.W. Wilson) - Library, Information Science & Technology Abstracts - Masterfile Complete - Masterfile Reference Ebook Collection - Medline - Newspaper Source Plus - Newswires
<b>- Originality and Architecture Education</b> ( <i>Orijinallik ve Mimarlık Eğitimi</i> )	<b>- European Academic Source</b> - Ebook Collection (Ebscohost) - Education Index Retrospective: 1929-1983 (H.W. Wilson)	<b>- Opendissertations</b> - Regional Business News - Social Sciences Index Retrospective: 1907-1983 (H.W. Wilson)
<b>- Creativity and Architecture Education</b> ( <i>Yaratıcılık ve Mimarlık Eğitimi</i> )	<b>- Eric</b> - European Views of The Americas: 1493 To 1750 - Greenfile - Hiperkitap (Ebook Collection)	<b>- Teacher Reference Center</b> - The Belt And Road Initiative Reference Source <b>- Tr Dizin</b> - Web News

In the systematic literature review, after selecting the keywords and databases, the inclusion criteria for the search have been determined. These criteria are as follows:

- To keep the search area broad, "architectural design studio" was not chosen as a keyword, and searches were conducted with the keyword "architectural education."
- In the search criteria, the concepts of architectural education, originality, and authenticity must appear throughout the text, while the concept of creativity is limited to the abstract. (The conceptual search for creativity has been narrowed since the first two searches produced creativity-related results, and both searches include studies that cover creativity.)
- In the first screening, selections were made based on title and subject terms, and in the second screening, studies were filtered by abstract reading and searching for keywords within the full text.
- The selected studies are experimental case studies related to architectural design studios. Activities such as workshops held in various courses or seminars were also considered as experimental cases conducted in architectural design studios.
- The selection was limited to studies conducted between 1996 and 2024, marking a turning point in the content and methods in the historical development of architecture education.
- The keyword search was conducted in both English and Turkish. Conceptual searches of Turkish-language articles were conducted through their English abstracts, ensuring a common language framework.
- Selections are based on studies that are accessible in full text and published in peer-reviewed scientific journals.

As a result of all these criteria, a total of 60 articles have been selected for analysis. [See: Table 2]



Table 2. Number of Articles Searched and Selected Based on Inclusion Criteria and Screening

DATABASE	KEYWORDS	RESULT	ELIMINATION 1	ELIMINATION 2
EBSCOhost (1996- 2024)	- architectural education and authenticity - <i>mimarlık eğitimi ve özgünlük</i>	236	35	<b>17</b>
	- architectural education and originality - <i>mimarlık eğitimi ve orijinallik</i>	240	55	<b>16</b>
	- architectural education and creativity - <i>mimarlık eğitimi ve yaratıcılık</i>	207	64	<b>27</b>

The findings of the content analysis of the 60 selected articles are as follows:

- 7 of the articles are in Turkish, and 53 are in English.
- When examining the distribution of the articles by year, it is observed that the subject has been addressed less in the earlier part of the 1996–2024-time frame, with an increase in the number of articles in recent years.

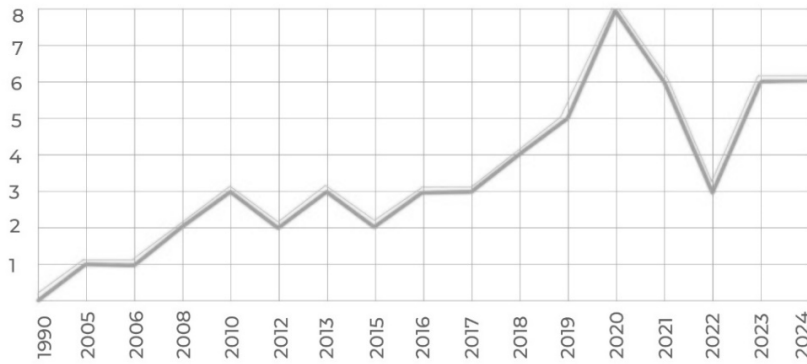


Figure 1. Distribution of articles by year

- Out of the 60 articles, 30 are considered primary related articles as they focus directly on the concepts, while the remaining 30 are considered secondary related articles, as they explore the effects of the selected concepts on architectural education indirectly.
- The distribution of experimental case studies conducted in different countries indicates that the topic is addressed in various countries worldwide and is discussed on a global scale.



Figure 2. Distribution of Articles by Country

### 3.2. Bibliometric Analysis

Bibliometric analysis is a method aimed at analyzing patterns, trends, and relationships within scientific publications. This analysis leverages the metric data of published articles to understand scientific research fields, authors, institutions, and the connections between studies. Bibliometric analysis encompasses various types of evaluations using bibliographic data collected from publication databases. These include publication counts, citation analyses, authorship networks, keyword co-occurrence analyses, and other visualizations. Bibliometric analysis is widely used for evaluating scientific research performance, identifying research trends, and understanding collaborations between research fields.

Bibliometric analysis of the 60 selected articles was conducted using the Vosviewer program. Keywords appearing five or more times in the article summaries were analyzed, leading to the creation of a conceptual relationship map. The concepts influencing originality in architectural design studios and the associated discussions were grouped into five clusters by the program. [See: Figure 2.3] These clusters highlighted recurring themes and connections that are instrumental in defining originality within architectural education. The bibliometric analysis, combined with inferences drawn from abstract reviews, also enabled the identification of components impacting originality and the derivation of generalizable attributes contributing to a universal definition of architectural studios.

- Architectural design studios serve as experiential learning environments, fostering a continuous process of exploration.
- Studios provide an open learning environment that encourages active participation and collaboration.
- The studio setting allows individuals from different generations to come together, facilitating the creation of diverse communication networks.
- Within the architectural design studio, a dynamic, reciprocal, and synchronized learning process exists between the two main actors: the learner and the instructor.
- The studio requires an approach where the instructor is not the sole focus but rather shares and shifts the emphasis between the instructor and the learner, fostering a cycle of interaction.
- The concepts of originality and creative thinking are intrinsically linked to ideas and concepts.
- Knowledge, its methods of reciprocal transfer, and tools (e.g., hand, computer design, Midjourney) are integral phenomena directly associated with design studios.

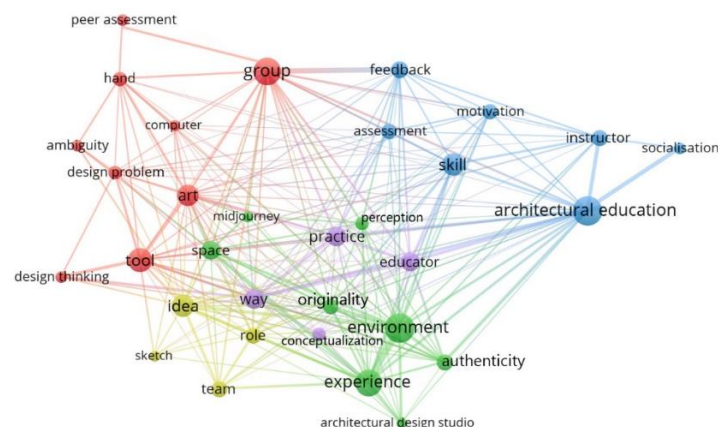


Figure 3. Conceptual Relationship Map of the Analyzed Articles through Bibliometric Analysis

The resulting map not only enables an examination of the relationships between concepts but also provides the opportunity to focus on each concept individually. Concepts with the potential to act as components, alongside those that could offer new perspectives to the topic, and their relationships with other interconnected terms, can be analyzed in detail.

In the conceptual map, the connection of the concepts *authenticity* and *originality* with all clusters is a critical validation for the study's objectives. These concepts, which are directly related to *architectural education* and *architectural design studios*, establish a particularly noteworthy connection with the concept of *perception*. When considered alongside concepts such as *educator*, *role*, *skill*, and *group*, it can be inferred that *authenticity* is a flexible, dynamic, and subject-centered phenomenon that varies according to individual perceptions.

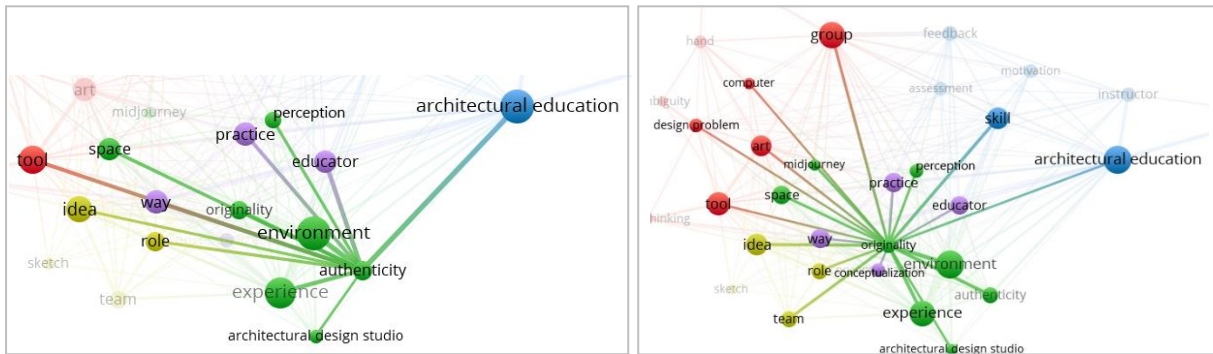


Figure 4. Authenticity and Originality in the Conceptual Relationship Map

The concepts of *authenticity* and *originality* and their direct connections to terms such as *environment*, *experience*, *practice*, *idea*, *tool*, and *group* provide a framework for categorizing the components that influence originality in architectural design studios. Analyzing the selected 60 articles by their frequency of addressing these terms enabled the identification of originality components within design studios. For this analysis, the 30 first-degree related articles were thoroughly reviewed in their entirety, while the second-degree related articles were included in the meta-analysis through keyword searches derived from the first-degree articles' findings. Alongside a manually conducted abstract review, a bibliometric analysis using Vosviewer software identified frequently occurring concepts, which were then grouped based on thematic relevance. As a result, these concepts were organized under four main categories—*process*, *actors*, *representation*, and *environment*—defining the components that affect originality in architectural design studios.

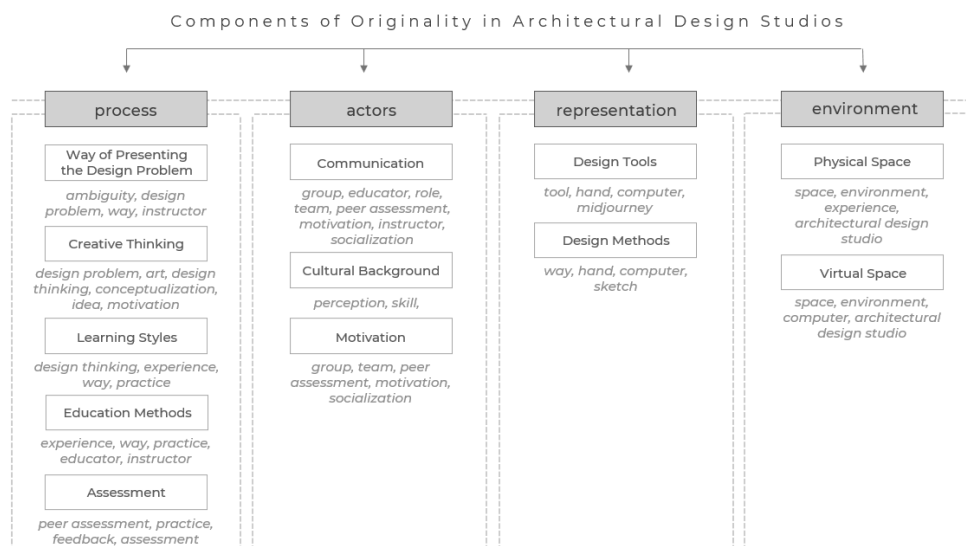


Figure 5. Components of Originality in Architectural Design Studios

In the 60 articles reviewed, the process is primarily influenced by originality in relation to various contents associated with the design process in an architectural design studio. The process is divided into subcomponents, including problem definition, creative thinking,





learning methods, teaching strategies, and evaluation concepts. In the subcomponent of problem definition, studies focusing on how the problem's constraints or flexible presentation, especially in the early stages of design, influence creativity and original production are included. Articles addressing the subcomponent of creative thinking discuss methods that assist in idea generation and the impact of different thinking styles on originality. The reviewed papers suggest that the application of various methods, such as brainstorming, sketching, and creative drama, positively contributes to originality in design studios. In addition to these working methods, critical thinking, analogical reasoning, and conceptual thinking are also proposed as various thinking strategies.

Articles focusing on the subcomponent of learning styles discuss how different learning methods, such as collective learning, active learning, and iterative learning, enable original production in design studios. Closely related to learning styles, the subcomponent of teaching methods focuses on how the teaching roles, lesson plans, implementation strategies, and pre-determined teaching paths of instructors affect originality in studio processes. Some educational methods identified in this context include algorithmic, intuitive, informal, metacognitive, and innovation-based approaches. Finally, the evaluation subcomponent emphasizes the importance of evaluating the products emerging at the end of the design process. The studies suggest that clearly defined evaluation criteria and methods like reward-based evaluation or peer review have positive effects on originality and creativity.

After the design process, the most frequently discussed component, actors, is divided into subcomponents of communication, cultural background, and motivation. Articles exploring inter-actor communication show that communication is addressed differently between learner-learner and teacher-learner actors. Both communication types emphasize the importance of blurred boundaries, learner-centered approaches, and teamwork. The cultural background subcomponent highlights the role of the learner's place of residence, family, friends, and cultural and environmental context as essential attributes of originality. The motivation subcomponent concludes that the application and environment that enhance the actors' motivation contribute to strengthening originality.

Another component derived from the analysis, representation, is divided into the subcomponents of design tools and design methods, covering various topics that have been addressed and discussed, especially since the transition to the digital age. The reviewed articles primarily focus on the impact, advantages, and limitations of conventional and digital tools on originality. Lastly, the environment component is considered as a factor influencing originality in design studios. Studies within this component emphasize the importance of creating learning spaces that allow for enjoyable and comfortable environments conducive to long work sessions, as well as the necessity of utilizing different environments.

#### **4. FINDINGS AND IMPLICATIONS**

Based on the frequency of mention in the 60 selected articles, several observations have been made regarding the components that affect originality in an architectural design studio, along with some unresolved questions. In addition to the conceptual contrasts obtained from the bibliometric analysis using the Vosviewer program, the process of manually reviewing article abstracts has revealed recurring dilemmas, conflicts, and key points that require the most attention and resolution. One of the primary objectives of the studies, as revealed through abstract readings, is to address the gradual disappearance of originality in design studios. Promoting creativity in design, developing ideas and practices that allow for critical thinking and questioning, are also among the key aims of these studies. Additionally, the integration of the changing conditions of the contemporary world into design studios, how traditional methods can be revised, and how originality and creativity can be preserved during this integration process, are topics that have been discussed.



- Comparisons of hand and computer representations in design tools have expanded with the inclusion of concepts related to artificial intelligence applications, such as "Midjourney," in the literature.

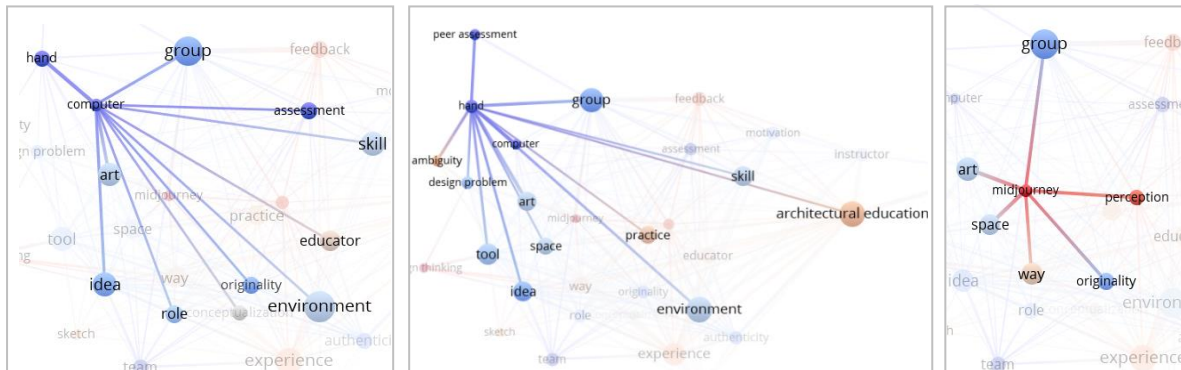


Figure 8. The concepts of computer, hand and midjourney in the conceptual map

- One of the concepts that has been frequently emphasized in recent years is feedback, which is one of the most important stages of the design process. This phenomenon, closely related to the actors of the design studio, can vary depending on the design problem, application, tool, and environment, and it can be interpreted through the concepts it is associated with on the map, as it directly influences motivation. Furthermore, the strong and dominant relationship between the concept of feedback and the concept of group is interpreted as corresponding to the importance of peer evaluation.

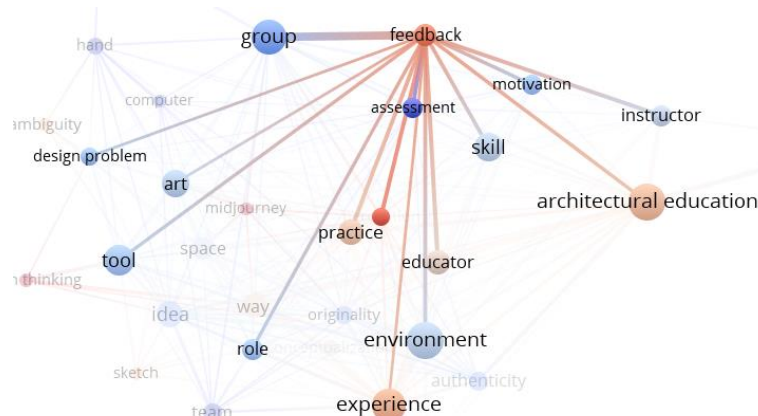


Figure 9. The concept of feedback in the conceptual map

The findings obtained from the bibliometric analysis and abstract readings also describe gaps that need to be addressed and controversial content. In this context, one of the identified issues is the conflict between design tools, supported by the contrasting concepts of hand and computer derived from the bibliometric analysis, in relation to the representation component. In our hybrid world, a studio environment emerges where conventional and digital design tools overlap. The articles that highlight this dilemma predominantly focus on comparing digital and conventional design tools. The studies on the component of design tools, which examine their effects on originality, advantages, and shortcomings, generally conclude that there are mutual advantages between these tools. The blended use of both tool types is recommended for fostering original productions. This discussion based on the representation component can also be applied to the environment component. Particularly after the Covid-19 pandemic, the integration of online learning environments into the studio has allowed these platforms to establish themselves as alternative learning environments in architectural education. Similar to the debate on design tools, the majority of studies on learning environments suggest that the interactive



and blended use of physical and virtual learning environments has a more positive impact on originality. However, there are also case studies that argue one of the sides is more effective. Therefore, the issues discussed in connection with the representation and environment components are still seen as key points in the literature that require further investigation.

A similar oscillation can be observed in the relationship between the concept of uncertainty and the subcomponent of problem definition and presentation in the design process. The studies examined assess the impact of problem definition on originality during the early design phase and focus on the connection between the educational methods used and this discussion. In this context, some studies conclude that well-defined and clearly outlined content has a positive impact on originality, while others find that ambiguous, open-ended content and definitions are more beneficial. However, the majority of studies suggest that a blended approach, combining both constrained and flexible problem definitions based on the intended application, is more effective.

Finally, another controversial topic affecting the originality of productions in studios is analyzed through the evaluation subcomponent. The reviewed studies address the differences between process-oriented and outcome-oriented evaluations. It is concluded that grading, as an outcome-focused evaluation, has a negative impact on originality, while focusing on creativity during the process is seen as an approach that supports originality from the student's perspective. However, the existence of opinions suggesting that grading can have indirect positive effects on originality through its influence on learner actors makes the issue contentious, thus identifying a gap in the literature.

					IMPLICATIONS	
COMPONENTS	1. DESIGN PROCESS	<b>DEFINITION AND PRESENTATION OF THE PROBLEM</b> Positive effects of restricted, flexible or blended approaches on originality	<b>CREATIVE THINKING</b> The positive effects of various working methods, such as brainstorming and creative drama exercises, as well as different thinking methods like conceptual, critical, and analogical	<b>LEARNING STYLES AND EDUCATION METHODS</b> The positive effects of methods such as algorithmic, intuitive, informal, metacognitive, innovation-based, and others	<b>ASSESSMENT</b> The positive effects of process-oriented grading and peer evaluations on originality	* Ambiguity in the presentation of the problem and feedback ( <i>flexible problem definition / clear problem definition</i> ) The conclusion that hybrid problem presentation approaches, where the design method and process are defined, but the direction and scenario of the design are left to the designer, have a positive impact on originality
	2. ACTORS	<b>COMMUNICATION</b> The positive effects of group work and discussion environments on originality The negative effects of inadequate communication	<b>CULTURAL BACKGROUND</b> The positive effects of a student's cultural background on originality	<b>MOTIVATION</b> The positive effects of factors such as spatial design, usage, evaluation methods, etc., on student motivation		* The distinction between evaluation and grading criteria ( <i>focusing on process-oriented versus outcome-oriented approaches</i> ) The conclusion that outcome-oriented grading has a negative impact on originality, whereas focusing on creativity during the process supports originality from the student's perspective
	3. REPRESENTATION	<b>DESIGN TOOLS</b> The advantages/limitations of conventional and digital tools in independently unlocking creativity	<b>DESIGN METHODS</b> The positive effects of using blended new tools on originality			* Subject-focused discussions ( <i>individual work / group work</i> ) The conclusion that group work positively affects originality by creating a richer network of relationships * Comparison of conventional and digital representation tools The conclusion that the combined use of digital and conventional representation tools has a positive effect on originality
	4. ENVIRONMENT	<b>PHYSICAL STUDIO</b> The impact of learning environments on a student's ability to produce original work and the spatial characteristics considered in creating this effect	<b>VIRTUAL STUDIO</b> The positive effects of integrating virtual learning environments with physical learning environments			* Comparison of learning environments ( <i>spatial experience / online learning</i> ) The conclusion that the blended use of physical spaces and virtual environments has a positive effect on originality

Figure 10. Components and implications obtained from the analysis





## 5. CONCLUSION

In architectural design studios, achieving and internalizing originality requires first analyzing the concept of originality. This analysis has the potential to be derived from experience-based case studies in the existing literature through a qualitative method consisting of meta-research studies. As a result of the meta-analysis and synthesis studies conducted in this context, the components affecting originality in architectural design studios have been grouped under four main categories. These identified components not only guide the analysis of originality and the definition of controversial content but also highlight key issues in architectural design studios that need to be clarified and addressed. By reviewing the conclusion sections of the studies at these key points, it is often possible to reach a hypothesis. However, there are still gaps that need further discussion in terms of quantity. Nevertheless, the components and discussions derived for analyzing and mapping the concept of originality offer a general overview of the subject and remain open-ended. Since the data was obtained only from works retrieved via the EbscoHost search engine, it is possible to expand the scope and increase the components and controversial content. The hypotheses related to the controversial issues affecting originality in architectural design studios, as identified in this study, can be explained through the components outlined.

Discussions on uncertainty in architectural design studios are particularly associated with the way problems are presented at the beginning of the design process. As a result of the analysis and synthesis studies conducted, the necessity of clearly defining the problem in the early design phase and determining its presentation based on the intended application emerges. At this point, the conclusion that blended methods contribute more to originality stands out. Therefore, it is hypothesized that while the design method and process are more clearly defined, hybrid problem presentations, where the direction, subject, and scenario of the design are left to the designer, have a more positive impact on originality. The subcomponent of feedback and evaluation in the stages of the design process emerges as a content that directly influences originality and, in particular, learner motivation in studios. As a result of the study, it is concluded that grading, as an outcome-focused evaluation, negatively impacts originality during the process. In contrast, evaluation methods that focus on creation and effort in the process, such as peer assessment, are seen as approaches that support motivation and, therefore, originality from the learner's perspective.

New representations and design methods are another controversial topic affecting originality in contemporary architectural design studios. The data obtained shows that, when compared in terms of presentation, digital design tools are seen as more advantageous due to their ability to easily externalize an idea and their speed and practicality. However, conventional methods such as hand-drawn sketches enable creative reflection, acting as the thinking methods through which ideas are developed. Therefore, the combined use of conventional and digital representation techniques, depending on the advantages of each, has more positive effects on design performance. One of the conclusions drawn from this discussion is that a direct transition to fully digital tools is not feasible due to the shortcomings of both methods. It is evident that there is a need to develop alternative design environments, tools, or different modes of thinking.

Finally, with the analysis and synthesis study conducted, conflicting content observed in architectural design studios can be discussed. Particularly in recent years, the pandemic and digital developments have raised the dilemma between physical and virtual studios within the environment component. According to the data obtained from studies addressing this issue, virtual learning environments have been found to offer an adaptable alternative for architectural education in mandatory situations. However, it is also acknowledged that architectural education progresses based on the physical studio experience and direct interactions with actors. Therefore, virtual learning environments can be seen as complementary qualities that enrich the studio experience. Another controversial topic





creating uncertainties in design studios involves the actors within these experiences. The extent to which the structuring of design processes as individual or group work affects the motivation of learner actors and the originality of the resulting products is still a subject of debate.

The discussions and hypotheses derived from the meta-research studies offer insights and obstacles related to the realization of original productions in architectural design studios. In this study, which progresses in parallel with its methodology, the results are shaped based on the contributions of the analyzed data. With the findings obtained, it is possible to either narrow or further expand the focus of the subject. For future studies, by increasing both the quantity and quality of the screening data, there is the potential to extract different components, add new categories, or create new uncertainties in the contents where a common conclusion has been reached. Additionally, studies conducted within these frameworks are considered essential, as they offer a studio examination that can be standardized in terms of outcomes, considering that architectural design studios vary in context and educational levels.

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