Constructing Meaning and Enhancing Well-Being: The Role of Place Attachment, Place Identity, and Sense of Place in Architectural Studio Environments

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Abstract

The architectural studio environment represents a distinctive educational setting that transcends its physical confines. Beyond the physical structures are also the social relationships, activities, and attitudes of the users that are significant to the learning environment. Despite its pedagogical centrality, limited empirical research has explored how students in African institutions, especially in Nigeria, experience and attach meaning to their studio environments. Consequently, this study aims to bridge that gap by examining how the concepts of place attachment, place identity, and sense of place are used to describe the quality of students' relationships with the architectural studio environments in three federal universities Southwest Nigeria, Obafemi Awolowo University (OAU), University of Lagos (UNILAG), and Federal University of Technology Akure (FUTA). Drawing on interdisciplinary perspectives from environmental psychology, educational theory, and architectural pedagogy, the research explores how students internalize the studio as a place and how these interactions influence students' sense of belonging, learning experiences and well-being. Place is a dimension shaped by people's relationship with physical environments, individual and group activities, and meaning. Employing qualitative methods, including in-depth interviews, participant observation, and spatial analysis, the study reveals that a strong emotional connection to the studio fosters deeper engagement and identity formation among architecture students. The findings highlight the pivotal role of spatial design and social dynamics in shaping the meanings and educational experiences of students and tutors, suggesting that intentionally designed studio environments and culture can have a positive impact on students' sense of place, promote learning outcomes and contribute to overall well-being.

Keywords: Architectural studio environment, meaning, place attachment, place identity, sense of place, well-being.

1.0 Introduction

Architectural education constitutes a distinct and specialized domain within the broader framework of educational disciplines, focused on developing and refining the skills and expertise of future architects. Architectural studio environments occupy a central position in design education, serving not only as spaces for instruction but also as containers for identity formation, creativity, and interactive learning [1], [2], [3]. This pursuit is designed to equip students with the necessary knowledge and competencies to design and create environments that are both aesthetically pleasing and functionally proficient, thereby contributing meaningfully to the built environment [4]. Therefore, in architectural education, the studio is more than just a classroom; it is a complex social, emotional, and spatial environment that significantly influences how students engage with design processes and forge professional identities [5], [6]. Once again, the architectural studio environment (ASE) is central to architectural education, as it enables students to undergo a transformation that shapes their thinking, relationships with peers and tutors, and their approach to the entire learning experience [7], [8], [9], [10], [11]. Drawing on environmental psychology and place-based theory, this study examines the influence and contributions of three interconnected concepts: place attachment, place identity, and sense of place within the architectural studio environment of three federal universities in Southwest Nigeria: Obafemi Awolowo University (OAU), University of Lagos (UNILAG), and Federal University of Technology, Akure (FUTA). However, beyond its functional role, the studio operates as a lived environment where meanings are constructed, identities shaped, and emotional connections formed [2]. These concepts altogether frame the emotional and psychological bonds individuals form with a place. In the Nigerian context, studio environments are often under-examined in terms of their socio-cultural significance, despite their crucial role in shaping design thinking and creative agency. The intensity of studio life usually leads students to internalize the space, forging a sense of belonging and expressive connection that shapes their academic trajectories and personal development [12], [13], [14]. This research seeks to fill that gap by understanding how students and tutors experience and construct meaning in architectural studios across three federal universities in Southwest Nigeria. These concepts, rooted in architectural pedagogy, environmental psychology and cultural geography, provide a lens through which architectural studio environments can be analyzed not merely as a physical setting but as a formative space where meaning is constructed, belonging is

negotiated, and identity is shaped. This research elucidates how students and tutors construct meaning, foster deeper learning experiences and have emotional well-being through the interaction of these dimensions of place within architectural studio settings across three federal universities in Southwest Nigeria. Through this lens, the research contributes to the growing recognition of the studio not only as a site for learning but also as a determinant of emotional resilience, academic achievement, and holistic student development

Aim

Despite its pedagogical centrality, limited empirical research has explored how students in African institutions, especially in Nigeria, experience and attach meaning to their studio environments. Therefore, this study aims to fill that gap by examining how the concepts of place attachment, place identity, and sense of place are used to describe the quality of students' relationships with the architectural studio environments in three federal universities Southwest Nigeria, Obafemi Awolowo University (OAU), University of Lagos (UNILAG), and Federal University of Technology Akure (FUTA).
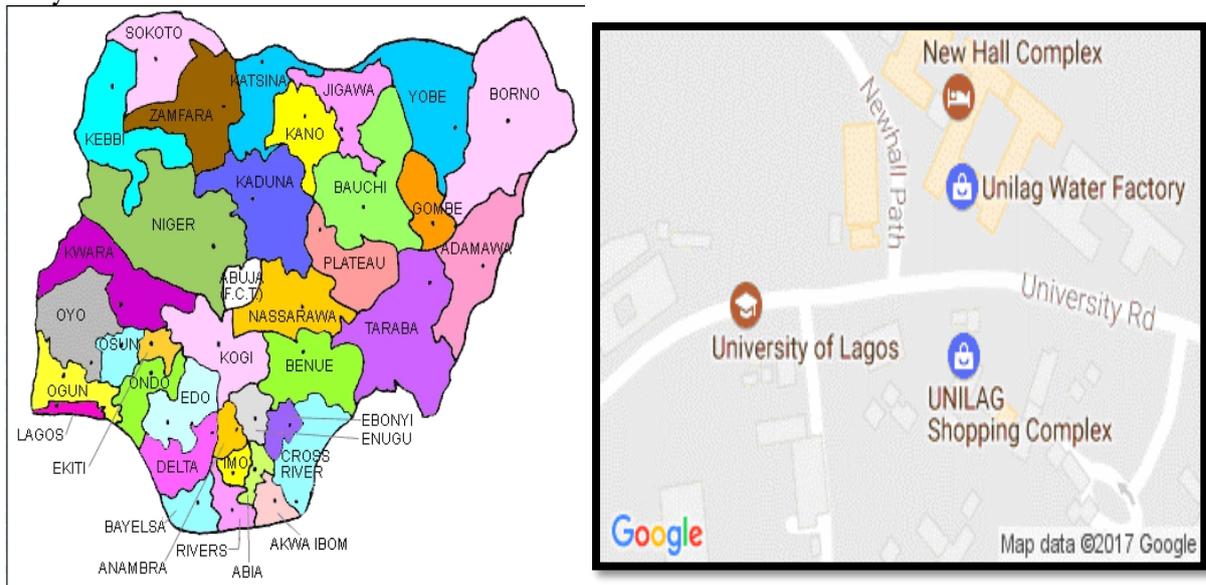
1.1 Study Area

Figure 1. Map of Nigeria indicating Lagos, Oyo, and Ondo states. The locations of Federal Universities offering Architecture in Southwest Nigeria. Africa. Location map showing Yaba Local Government Area, where the University of Lagos is situated (source: Map data 2017). Base map of the University of Lagos illustrating the sampling site (source: Map data 2017 Google).
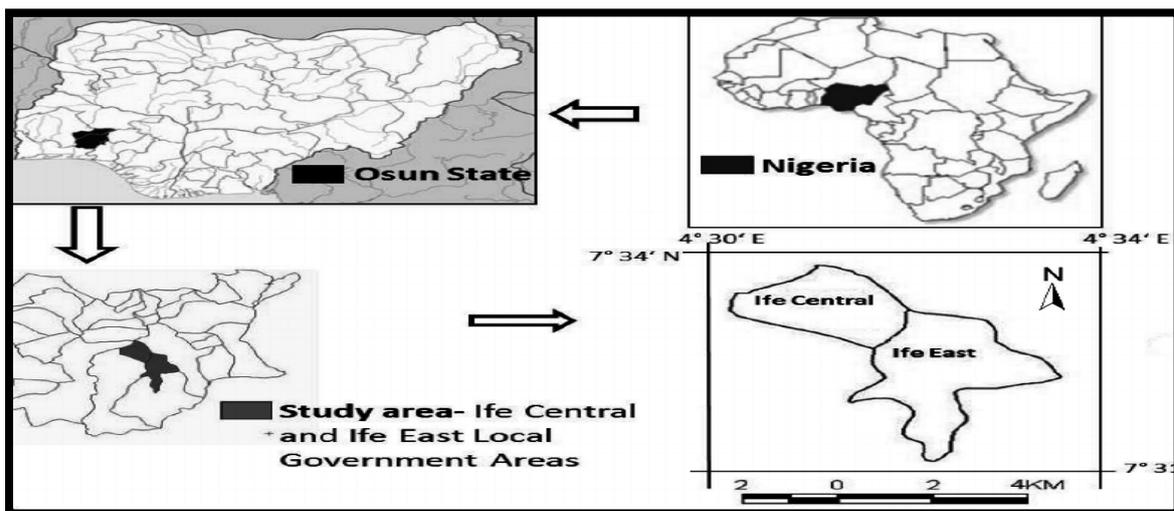

Figure 2: Map of Obafemi Awolowo University (OAU) campus showing the sampling site. (Sources: Wikimedia Commons; Digital archives of the Department of Geography. Obafemi Awolowo University, Ile-Ife, Nigeria. Top right: Nigeria is located in West Africa, as indicated in the map of Africa. Top left map: Shows the Map of Nigeria, indicating the location of Osun State in the southwest, where the Obafemi Awolowo University is

situated. Bottom left map: Shows the exact location of the institution, which is one of the study areas for this research. Source Wikipedia commons: Digital archives of the Department of Geography, OAU, Ile-Ife, Nigeria.
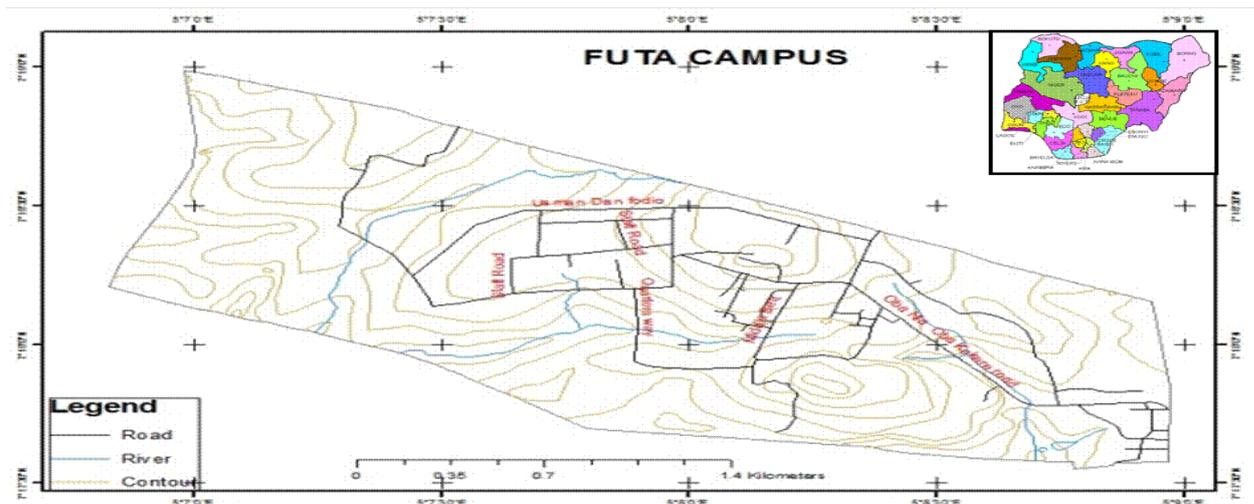

Figure 3: Updated land use map of Obafemi Awolowo University campus, Ile-Ife, Nigeria. Faculty of environmental design and management building. Source: Journal of Geography, Environmental and Earth Science International, 8(3): 1-7, 2016; Article no. JGEESI.30025. SSN: 2454-7352. The map is a blow-up indicating the location of the Ife Central Local Government Area in Osun State. Inserted in the map is the layout map of the institution. (Sources: Wikimedia Commons; Digital archives of the Department of Geography).

Literature review

Architectural education

Architecture, commonly defined as the art and science of designing and constructing buildings and the physical environment to an appropriate scale of habitable space [15], has a long history as one of the world's oldest professions. In another profound definition, the UNESCO-UIA Charter for Architectural Education states that "Architecture is a discipline which draws knowledge from the humanities, the social and the physical sciences, technology, environmental sciences, the creative arts and the liberal arts" [4]. The first written work 'De architectura' on principles and approaches in architecture was produced as early as the 1st century A.D by a Roman architect, Marcus Vitruvius [16]. Long after the apprenticeship-based training method, which was founded solely on practice and imitation, history has shown that formal education for architecture began with the Beaux-Arts in the 1830s and continued into the 19th Century, notably through the Bauhaus arts school from 1919 to 1933 [17]. Consequently, architectural education has persisted to the present day. The most significant changes in architectural education similarly stemmed from these early efforts to establish the Bauhaus by Walter Gropius, evolving now into the transmission of concepts and design ideas through the exploration of design issues and open-ended problems. This transformation reflects a common developmental process [18]. Architectural education is unique in that it requires creative abilities. Its primary goal is to cultivate proficient, critically minded, innovative, and ethical designers or builders who can contribute to the cultural, social, and economic development of society significantly [19]

Supporting [15] posited that formal architectural education aims to equip students with the competencies needed to realize their designs in concrete form through the development of creativity. Currently, architectural education follows a well-established curriculum that covers various topics, including architectural design, history, building structures, social and economic planning, environmental considerations, and building components and services. This curriculum is mandatory and requires students to meet certain prerequisites. Furthermore, the relationship between architecture and various other disciplines has increased the social responsibility associated with the field of architecture [18]

Architectural Design Studio Course

Architectural design education is marked by a distinct pedagogy, starting from the early years of the master-apprentice model to modern project-based learning through the design studio course [20]. The design studio course is central to architectural education and very fundamental to the discipline of architecture in all schools of architecture worldwide. Research has shown that the architectural design studio course is a melting pot for the entire curriculum of teaching and learning in architectural education. This form of education is centuries old, dating back to the apprentice system in the studios or workshops of many skilled craftsmen, artists, and architects,

as well as the secret knowledge of the guilds [9]. [21] supported this view by confirming that every university curriculum for architecture revealed that the design studio is the central activity in every architecture student's life. The studio design course, amongst various architectural courses, is a major and most dominant course with the highest credit hours, ranging from six to twelve hours per week. The credit hours are distributed across lecture periods, studio critique sessions, and learning interactions among the students and lecturers. This structure has been established as the focus of architectural design education, as noted in [22]. However, all the other supporting courses are complementary or auxiliary to the design studio, which must be integrated to ensure a standard curriculum for the students learning in the architectural studio environment.

Architectural Studio Environment

In architectural education, the main focus of the design studio environment is set on the practical "hands-on" aspects of learning, and it is the most important environment for students to apply the learned theoretical knowledge along with creativity [23].

The architectural studio environment is uniquely set up in all schools offering architecture programs to accommodate students' learning. This corroborates [24], who posited that the architectural design studio is a learning environment that encompasses its pedagogy, history, and interaction, and focuses on what makes the architectural design studio unique.

[25], [1], both noted that this environment is where architecture students not only devote a tremendous amount of time and academic energy to studio learning, but also spend the entire time in the studio working, studying, eating, and even sleeping. Again, [1] made it more concise by describing the studio as a combination of home and workplace, which is similar to the contemporary concept of home office. Given this, [11] in a previous study also defined studio as a workspace that allows students to explore various skills with or without the presence of the instructor, and further noted that an architectural studio is also a place for the diverse daily activities of architecture students. This implies that a studio is a place for varying and continuous interaction where architecture students spend most of their time while learning [12]. Contrary to a regular classroom environment, [26] gave a more insightful description of the architecture studio as a physical space and a site for teaching and learning experiences, which allows an interactive culture between students and lecturers. The findings presented by [27] stated that the activities conducted within the design studio context significantly enhance the creative design capabilities of students. However, [28] emphasize that the physical environment of the design studio alone is insufficient to create an effective studio context; rather, it is the collaborative engagement between students and lecturers that fosters a truly dynamic learning atmosphere. Therefore, the studio not only provides students with a physical work environment, but it is also promoted as an ideal educational setting which every architecture student must experience. Therefore, it will be necessary to note that beyond the studio as a physical space, some of the activities and interactions promote teaching and learning within the environments. On the other hand, [29] who studied the evaluation of two different studio types on the effect of behavioural patterns among students, concluded that the architectural studio, as a physical environment, plays a crucial role in architectural education. Although most authors have described the architectural studio environment in similar ways as previously written, [30] differed in the description of the architectural studio as a physical setting for developing specific modes of learning styles based on the interaction between the students and tutors. This is because space offers students the primary opportunity to learning how to design creatively, most significantly offering a chance for future architects to become good designers. [31] described the architectural studio as a physical environment where students are taught various aspects of design education. [32] supported by stating that, in general, traditional architectural education, particularly the design studio, holds vast potential as a model for integrated learning. In summary, the architectural Studio environments (ASE) provide an opportunity for work, collaborative learning, and a variety of learning modalities ranging from informal conversations to formal presentations, individual critiques, and minor and major design projects. They have also shared spaces and should promote both tutor-student interaction and student-to-peer learning.

The architectural design studio culture

The architectural design studio also has its own culture and values that influence a student's education. The culture of architectural education encompasses the methodologies through which an architect's education is conducted [11]. It consists of several factors, such as departmental administration, individual programmes, and curricula for each level, the teaching and learning across all studio levels, and the interactions that occur among students and tutors. [11] further explained that the culture of the architectural design studio is also embedded in the teaching of the design studio course, which is shaped by the culture that develops within those "studios" and even extends beyond scheduled class hours, with or without the physical presence of the tutor. [26] described the studio as both a physical space and a site for teaching and learning experiences, as well as an interactive culture between students and tutors fostered within this space. This physical environment possesses cultural, psychological, and social significance that constitute the studio culture, primarily reflected in the experiences,

behaviours, habits, and patterns observed within the campus-based architecture studio. [33] referred to the consequences of this culture as "the hidden curriculum" of studio learning. To support this view, it is clear that an effective studio culture depends heavily on mutual respect between tutors and students, demonstrated through their willingness to openly share, exchange ideas, and respond constructively to feedback. Therefore, it is important to recognise that the studio comprises more than just a physical space; it is a learning environment imbued with meaning.

Place

The term 'place' is peculiar in that it encompasses various psychological, geographical, architectural, and social connotations, which make it uniquely suitable as one of the central concepts for bridging these disciplines. Places differ from mere 'spaces' in that they embody social and cultural values, in addition to spatial configurations. It is the concept of 'place', not space, that connects architecture to its context and makes it responsive to given needs [34] When humans infuse places with meaning and feeling, with memories and emotions, then the uniqueness of a place can become a part of who we are in that environment. Meaning that the relationship between people and places is transactional, and so place becomes part of who we are and shapes our identity [35] 'Place is a dimension formed by people's relationship with physical settings, individual and group activities, and meaning' [36]. Places, beyond the physical features, include messages and meanings that people perceive and decode based on their roles, experiences, expectations and motivations [37].

In other words, place is mixed with human values and principles. As a result, 'place' is a particular space or an environment imbued with meanings and values by users. Places play an essential role in human life. Each place has its unique character that creates a strong affective bond between a person and a particular setting. A study by [38], as cited in [36] confirmed that activity constitutes a fundamental component of place, serving as a vital link between humans and their environments. Places are intricately associated with various forms of human engagement, encompassing work, actions, and leisure pursuits, and all these could contribute to attachment to a place.

Although [39] declared that there is no physical environment that is not also a social environment, most research associated with place has focused more on its social dimension. It is important to recognise that the physical setting is another fundamental element of place. The physical features and attributes of a place come before anything else. Therefore, the physical setting with its characteristics may influence whether people develop an attachment to it or not.

The Role of Place Attachment, Place Identity, and Sense of Place

[40] stated that transforming space into place is the existential significance of architecture in shaping human experience and interaction with the environment. Therefore, there should be a conscious effort to uncover the meanings present in the setting. Architecture plays a significant role in providing physical attributes to space, which facilitate the habitation of users as well as their mental and physical well-being. Studies have shown that places are important elements that are not only for developing and maintaining self and group identity, but they also play a significant role in human behaviour and mental health [36]. Again, people not only form attachments to others or things, but they also form attachments to the environment and places around them.

Place attachment, place identity, and sense of place are concepts that describe the quality of people's relationships with a place. In this context, studies on place attachment provide insights into the various meanings and bonds humans associate with the physical environment. Generally, place attachment can also be understood as a set of emotional connections that people develop with their places of residence, encompassing symbolic meanings shared among members [41], [38]   Some studies have shed light on the different meanings humans associate with the physical environment; however, [42] as cited in [36] argued that while place focuses on the environmental setting, the core of place attachment is affect. Supporting this, seminal literature has shown that, in addition to the affective component, emotions and feelings are often central to place attachment; besides the feelings people hold about a place, they also have certain beliefs or memories related to it, and behave in particular ways within it. Another definition describes place attachment as a state of psychological well-being from having access to a place. The questions are: What draws individuals to a place? How do users or visitors respond to it? Again, [43] as cited in [36] suggests that long-term interaction with a place and the memories formed through it can foster a place attachment.

The term Place identity (PI) founded and used since the late 1970s, was introduced by environmental and social psychologists Harold M. Proshansky, Abbe K. Fabian, & Robert Kaminoff, who strongly put forward an argument that place identity is the basis of a person's self-identity and consists of knowledge and feelings developed through everyday experiences of physical spaces. [39] further explained that place identity involves those dimensions of self that define personal identity to the physical environment through conscious and unconscious ideas, beliefs, feelings, values, preferences, and goals connected to a particular environment. Supported by [39], who stated that constructing identities requires the combination of the place with memories

and experiences that correspond with it. Place identity encompasses the various dimensions of the self that contribute to the construction of an individual's identity in their physical environment. According to [44], the identity of a place is not static; instead, it is influenced by the perceptions and experiences of individuals and groups, as well as the specific representations of that place. This concept can be understood as a complex interplay of memories, perceptions, interpretations, ideas, and emotional responses associated with particular physical environments and types of settings. Consequently, place identity plays a crucial role in how individuals relate to and make sense of their surroundings, thus shaping their overall sense of self.

The concept of "sense of place" (SOP), defined as the meanings and attachments individuals or groups associate with a particular setting, has garnered increasing attention within place-based research over the past four decades [45], [46]. SOP captures the unique experiences individuals have in a given environment, reflecting a general sentiment towards that place. This concept is pivotal in maintaining environmental quality and the integration of individuals with place. [47], cited in [36], claimed that it contributes to better use, satisfaction and attachment to places. Distinct definitions have emerged in the literature; for instance, [48], though with a slight difference, posited that "The sense of place is an experience created by the setting combined with what a person brings to it". Furthermore, [49] asserts that a sense of place can occur when users have complete sensing of the environment through physical or social conditions, which is what gives a feeling of attachment to a given place. [48] further delineates SOP into two interrelated dimensions: the relationship to place, which encompasses the various bonds individuals form with place and how these bonds shape their identity and experiences, and community attachment, which refers to the depth of attachment to a particular place. These splits aim to facilitate a more distinct understanding of individuals' connections to places, thereby enhancing clarity in the discourse surrounding SOP. Additionally, [50] highlights the significance of multiple disciplines, including Geography, Psychology, Urban Planning, Urban Sociology, and Architecture, in elucidating how people derive meaning from their environments. This concept not only explains how an individual feels, places, perceives, and attaches meaning to them, but also knowledge of, belonging to, attachment to, and commitment to specific locales. [51] explained that understanding the fundamental aspects of sense of place enhances the assessment of the level of public attachment to places and the inclination of people towards places. Therefore, the SOP does not only reside in the physical setting; rather, it is in the human interpretation of the setting- the intertwining of the physical setting, activity, meaning, and the people's experiences.

Studio Space and Students' Well-being

Architectural studio environments are more than physical workspaces; they are immersive learning ecologies where knowledge production, identity formation, and socialization converge [1], [2], [3] In architectural education, the studio is often described as a "second home" due to the intense and extended hours students spend within it, making it a critical site for shaping well-being and academic performance [25], [52]. The constructs of place attachment, place identity, and sense of place—drawn from environmental psychology—have emerged as useful lenses for understanding how students internalize educational spaces and how such relationships impact their cognitive, emotional, and academic outcomes [53], [54], [55]. Research has shown that a strong emotional and symbolic bond to place enhances motivation, reduces stress, and improves cognitive focus factors, which are crucial to academic performance and psychological well-being [56], [44], [14]. In design education, where creativity and peer interaction are essential, the studio's social and spatial dimensions can either reinforce a sense of belonging or contribute to alienation and burnout [57], [58], [52]. Moreover, cultural and infrastructural contexts in African institutions significantly shape these spatial experiences. For example, many Nigerian universities grapple with inadequate studio facilities and evolving pedagogical frameworks, which in turn affect students' engagement and performance [59], [3].

2.0 Methodology

A qualitative approach was employed, incorporating a semi-structured interview technique with predetermined open-ended questions, participant observation, and spatial analysis to collect verbal data through interview schedules, photographs, and literature reviews. This method was primarily aimed at achieving a deeper understanding of the students' experiences, perspectives, and behaviours in the learning of architectural education. The main respondents are the architecture students from three federal universities in Southwest Nigeria, namely, the University of Lagos, Obafemi Awolowo University, and the Federal University of Technology, Akure.

Theoretical Framework

This study is founded on a multidisciplinary hypothetical framework that integrates principles from environmental psychology, architectural pedagogy, and place theory to examine how students' relationships with studio environments influence their learning experiences and overall well-being. Central to this framework are the constructs of place attachment, place identity, and sense of place, which together provide a lens for understanding how individuals experience, relate to, and derive meaning from spatial settings [55], [44], [52]. Place attachment

refers to the emotional bonds that individuals form with specific environments, often influencing behaviours, commitment, and satisfaction [56],[52]. Place identity reflects how individuals incorporate physical environments into their self-concept, contributing to a sense of belonging and continuity [39] as cited in [44]. Sense of place encompasses both attachment and identity, representing the holistic meaning individuals associate with place through lived experiences and social interactions [55], [59].

In the context of architectural education, the studio is more than a pedagogical space; it is a cultural and social environment where students engage in reflective practice, collaborative learning, and identity formation [60], [57], [58]. The concept of the studio as a community of practice (Lave & Wenger, as cited in [2] frames the studio as a site where students' spatial experiences are co-constructed through shared norms, peer feedback, and rituals that reinforce belonging and purpose [25], [12]. When students feel emotionally connected to their studio, this supports both cognitive engagement and emotional resilience, key elements of academic performance and well-being [52], [14]. Furthermore, this framework considers the socio-cultural and infrastructural realities of Nigerian universities, where studio conditions, institutional support, and pedagogical styles directly impact students' spatial experiences [61], [3]. By placing students' spatial relationships within both psychological theory and contextual architectural practice, this framework enables a comprehensive analysis of how meaning is constructed in architectural studio environments and its effects on students' development.

3.0 Results and Discussion

In architectural education, these students' conceptions reflect the creative interpretation of the studio through constant interaction with the environment. The study reveals that architectural studio environments are not only physical spaces for design instruction but also quality places where meaning, identity, and emotional bonds are formed. Findings indicate that students' emotional connection, cultural identity, and sense of belonging to the studio significantly shape their design learning experiences and overall well-being. The studio itself is a site of place-making because across all universities, students expressed attachment to the design studio as a place of personal growth and identity formation. The studio was described as a home office and creative sanctuary, which reflects its centrality in their academic and emotional journeys. Students described the studio as more than a classroom; it was a space where personal memories, emotional resilience, and professional identity were built. "I come to the studio even when I don't have classes. It feels like my second home" 'I have a sentimental attachment to my studio', 'I conceive the studio as my workspace', 'Coming to the studio gives me a sense of responsibility towards my work', 'I am attached to my studio because I spend 70% of the time here', 'I bond with my classmates because of how we work in the studio'. The outcome of the responses was used to ascertain the students' attachment toward the architectural studio environments (ASE). It was evident that there was an affective bond between the students and the ASE. (UNILAG students, Interview). This sense of attachment was often linked to shared experiences, such as working overnight, critiques, and collaboration, which gave emotional texture to the place. This corroborates [62], who stated that learning occurs as a result of an individual's constant and interactive engagement with the environment.

Again, the spatial configuration, open layout of the studios, accessibility and lighting conditions contributed significantly to how students interacted with the studio and perceived their creative potential. Studio layout and atmosphere influence students' engagement within the place.

"The studio at OAU has a good flow of air and light, because it makes it easier to think and work," (OAU students, Interview). Conversely, the study also showed that poor spatial conditions and overcrowding were cited as major constraints that diminished students' connection to a few of the studios at the time of the study. [63] posited that the quality of the learning environment is of utmost importance to academic performance, personal development, attitudes, behaviours, and relationships among students and tutors. The study conducted by [6] highlights the significant role of the design studio environment in enhancing the effectiveness of architectural education, particularly in terms of skill acquisition. Their research indicates that the studio setting is characterized by specific 'rituals,' including group critiques, model exhibitions, and extensive peer collaboration. These elements are integral to fostering a conducive learning atmosphere that supports the development of architectural competencies. These studio rituals fostered collective memory and a sense of place. "We leave parts of ourselves in this space. Even when we graduate, our models and sketches remain" (UNILAG students, Interview). Place meanings, which [50] referred to as conceptions (sense of place), are not predetermined; it is a result of human interactions and experiences with the physical setting and activities within the environment. This theorist clearly stated that places represent a convergence of cognitions, emotions, and actions organized around human environments. The responses showed the dimension of self that helps to define the students' identity in the environment. Cultural identity is reflected in the students' design thinking process. Students often infused their projects with cultural motifs, local materials, and spatial practices rooted in Nigerian traditions. This reflected a strong connection between their identity and the studio as a place "My project was about a traditional market space, inspired by the one I visited with my mother. It helped me feel more connected to the design. 'I appreciate my studio because I am part of it.' Being in the studio and working here gives me boldness and a lot of confidence.'

'We are given the liberty to own our learning space, unlike other kinds of programs on campus. (FUTA student, Interview).

Studio Environment and Student Well-Being

This study showed that the well-being of students within architectural studio environments is closely linked to their emotional, cognitive, and social experiences. In design education, where prolonged hours, high-pressure critiques, and intense creative expectations are commonplace, the learning environment plays a critical role in either reinforcing or undermining students' psychological and academic resilience [25], [2]. When students form meaningful connections to their studio—expressed through place attachment, place identity, and sense of place—they are more likely to experience a sense of belonging, purpose, and stability that enhances their overall well-being [55],[53],[56]. In the African context, the studio is not merely a pedagogical space but also a cultural and symbolic one where students negotiate their identities within the constraints of institutional history, socio-economic realities, and infrastructure challenges [14], [61]. Many Nigerian architecture students, for instance, describe the studio as a "second home" where their academic, emotional, and social lives converge—sometimes under stressful conditions caused by limited facilities, overcrowding, and lack of resources [52],[3]. Yet, despite these constraints, strong peer networks, mentorship cultures, and familiar spatial routines often serve as buffers, enhancing students' resilience and emotional satisfaction [61], [3]. According to [52], students' satisfaction with their studio space in Nigerian universities is positively correlated with feelings of inclusion, ownership, and academic motivation. When studio environments are perceived as safe, supportive, and engaging, they promote not just cognitive productivity but also emotional well-being. Similarly, [3] emphasizes that culturally responsive studio environments—those that reflect local identity, spatial traditions, and student participation—can significantly improve mental health and foster a stronger sense of academic purpose. Incorporating African values and culturally embedded design practices into studio pedagogy also reinforces a positive sense of place, which is vital for both emotional well-being and professional identity formation [58], [14]. Such studios serve not just as neutral backdrops for design but as "lived spaces" where students feel seen, supported, and empowered to thrive. Ultimately, a well-designed and socially supportive studio environment, physically accommodating, emotionally resonant, and culturally meaningful, contributes to the holistic well-being of architectural students, enabling deeper engagement, reducing stress, and enhancing academic experiences [2], [52].

4.0 Conclusion and Recommendation

Amongst the three-factor model of sense of place, 'Place attachment' (bonding and place) was most significant in explaining the students' sense of place in architectural studio environments, which demonstrates that architectural studio environments in Nigerian universities are dynamic places where meaning, identity, and emotional connections are cultivated. Place attachment enhances students' sense of belonging and motivation. Place identity allows them to embed cultural narratives into their designs, while a sense of place shapes their conceptions of the studio as a nurturing or constraining environment. This result is a function of the actual or emotional bond that the students develop from direct experience by interacting with the environments that bring satisfaction to basic studio needs. Designers must not ignore the meanings that places bring to people's minds, in order not to destroy quality places. In this case, when students develop a positive emotional attachment to their studio, they are better able to become accustomed to their surroundings and make the most of their time there. The concept of place not only relates to familiarity with it, but also to how a person forms and nurtures a meaningful connection with a place to gain a sense of belonging. Therefore, SOP is viewed as a multi-dimensional construct that consists of identity (self and place), attachment (bonding and place), and dependence (behaviour and places). These three concepts are the components of attitude. A true sense of place (SOP) includes a descriptive element about the type of place and the relationship to behaviour. Architectural education must therefore move beyond functional and pedagogical models of the studio to embrace its socio-emotional and cultural dimensions. Doing so can create more inclusive, empowering, and meaningful learning environments for future architects. The architectural studio is not just a site of technical instruction; it is a social and emotional landscape that deeply affects student identity, well-being, and performance. By aligning studio design and culture with the principles of place attachment, identity, and sense of place, and grounding these in local African realities, Nigerian architectural education can create more inclusive, engaging, and resilient learning environments. The discourse among scholars highlights that a primary objective of studio design is to foster a sense of place; consequently, architects, designers, and planners must prioritize the qualitative aspects of places and built environments. This study posits that all stakeholders should recognize the pivotal role of design as a tool for addressing human needs and expectations. Findings suggest that studio tutors ought to craft design briefs that encourage students to draw inspiration from their lived experiences and cultural contexts, thereby enhancing place identity and relevance. Furthermore, students should be motivated to personalize their studio spaces and engage in co-creating a studio culture that reinforces emotional attachment and involvement. This research advocates for intentional spatial design by university administrators and design faculties that emphasizes place attachment and

well-being, thereby prioritizing the development of studio spaces that are physically comfortable, culturally relevant, and psychologically supportive. Studio environments should be viewed not merely as passive spaces but as dynamic learning ecosystems that stimulate creativity and mitigate stress. Renovations of existing design studios can incorporate spatial elements that resonate with student needs and eco-friendly, place-based conditions, including climate-responsive structures and locally inspired aesthetics [3], [14]. Engaging students in the co-creation of studio regulations, layout designs, and interventions—such as collaborative artworks, communal libraries, or pin-up boards that reflect community identity—serves to promote a sense of ownership over the studio space. The study further encourages the remodelling of studio spaces to explore local architectural typologies, cultural inclusivity, and urban resilience challenges. It advocates for the integration of reflective practices that enable students to connect personal narratives and spatial experiences with design concepts and models [55]. The institutionalization of studio culture strategies that harmonize academic rigour with mental health considerations is recommended, facilitated through group mentoring programs, regular check-ins by tutors, and inclusive critique practices that honour diverse perspectives and alleviate anxiety. Challenges such as poor infrastructure, overcrowding, and neglect, often prevalent in many Nigerian institutions [52], [3] can significantly undermine the well-being benefits of place attachment. Such physical and administrative deficiencies can erode students' connections to their learning environments, consequently diminishing academic outcomes. The study advocates for educational institutions to invest in upgrading studio amenities to ensure that each student has adequate workspace, storage, and access to necessary materials. To support ongoing improvements, sustainable funding models and partnerships with professional bodies, such as the Nigerian Institute of Architects (NIA) and the Architects Registration Council of Nigeria (ARCON), should be pursued. Additionally, faculty should monitor and assess well-being and performance metrics to ensure that studio learning environments effectively support student growth. Establishing tools for the regular assessment of student well-being and academic engagement in spatial use and perception is crucial. The development of well-being assessments and spatial satisfaction evaluations may yield valuable insights for enhancements in studio design and educational practices.

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