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The Value of Precedent Usage in The Design Process of Architecture Students in Nigerian Universities

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***Abstract:** This study investigates the role and value of precedent analysis in the architectural design process of Nigerian universities. While precedent studies are a mandatory component of the studio method employed in design pedagogy, research into their effectiveness and application remains limited. This research examines how design mentors perceive the value of precedent studies in the design process, expectations from student case studies, and current practices across Nigerian architecture schools. Through telephone interviews with 25 design lecturers (also referred to as mentors) from five Nigerian universities (Ahmadu Bello University, Zaria, University of Jos, Federal University of Technology, Akure, Covenant University, Otta and Ambrose Alli University Ekpoma), this study reveals significant insights into precedent usage in Nigerian architectural education. The findings contribute to understanding the pedagogical value of precedent analysis and inform improvements in architectural design education methodology in Nigeria and similar contexts.*

Keywords: precedent analysis, architectural education, design process, Nigerian universities, case studies, design pedagogy

1. Introduction

The use of precedent is a fundamental component of architectural education worldwide, serving as a bridge between theoretical knowledge and practical design application. In architecture, the term 'precedent study' is oftentimes used synonymously with 'case study' (Sarvimaeki, 2013). Kwok et al (1998) clarifies that the precedent study is not particularly well defined as a research strategy and in 'architectural jargon' it could refer to anything from a true case study to a simple example. Weddle (2010) further explains that, an architectural precedent could simply refer to a prior or previous case, or it could be regarded as an ideal or a benchmark to measure other projects by. As such, precedent analysis could involve the most cursory cut-and-paste or it could serve as the basis for a much more sophisticated analysis.

In the context of Nigerian architectural education, precedent studies are commonly referred to as case studies. It is a mandatory exercise in the design process for architecture students (Alalade, 2016). Each semester, students are expected to analyse at least three precedents, with the knowledge extracted from these buildings serving as stimuli or knowledge source for the design tasks they have at hand. The significance of precedent analysis in architectural education cannot be overstated. These studies provide students with opportunities to understand spatial relationships, construction techniques, environmental responses, and design principles through the examination of existing buildings (Yaseen etal, 2022; Djari, 2019; MacNamara, 2011). However, while the practice is institutionalised in Nigerian architecture schools, the research into its effectiveness and application remains remarkably limited compared to global trends.

Internationally, extensive research has been conducted on precedent usage in architectural education, with scholars examining various aspects of how precedents influence design thinking and learning outcomes (Khozaei & Khalouee, 2017; Grover et al, 2017; Goldschmidt, 2011; Oxman 1993; Lawson,2004; Guney,2011).

However, in Nigeria, this research domain remains relatively unexplored, raising questions about whether the analysis of precedents is being optimally utilized in the Nigerian architecture

students' design process. This research addresses this gap by investigating several critical questions: How do design mentors conceive of and define precedents? What is the value of precedent analysis to the Nigerian architecture student's design process? What are the expectations from student precedent/ case studies? How do educators judge the current conduct and mode of employment of precedent analysis in Nigerian universities?

2. Literature Review

2.1 Defining Precedent Analysis

In architectural education, a *precedent* refers to an existing building, spatial composition, or design strategy that is systematically studied to inform and inspire new design work. It functions as a pedagogic tool that helps students understand design principles such as form, function, materiality, and context (Yaseen et al., 2022). It also helps them develop critical thinking by analysing the successes and limitations of past architectural solutions (Weddle, 2010) and build design literacy through exposure to diverse architectural vocabularies and typologies. Precedent usage stimulates creativity by encouraging reinterpretation rather than replication of existing works (Eilouti, 2009). Precedents are not merely historical references—they are learning instruments that connect theory with practice, allowing students to engage with architectural knowledge through observation, analysis, and adaptation. When used effectively, they foster context-sensitive innovation and help students navigate complex design challenges with confidence.

2.2 Global perspectives on precedent usage

Tzonis and White (1994) describe precedent analysis as a form of analogical reasoning, where designers employ insights from existing buildings to help them in new design contexts. This cognitive process supports creative problem-solving and design innovation. Ashrafganjouei and Nadimi (2024) distinguish between *semantic precedents* (general principles) and *episodic precedents* (direct experiences), showing how both influence design behaviour and concept generation. Eilouti (2009) emphasises the importance of extracting tacit knowledge from precedents, arguing that systematic analysis enhances creativity and reduces cognitive load during early design stages. Yaseen et al. (2022) highlight the integration of precedent analysis in architectural studios, noting its value in guiding students through spatial hierarchies, materiality, and contextual design. However, they caution against romanticizing precedents or using them superficially. Ashrafganjouei & Nadimi (2024) demonstrate that direct experience with architectural precedents—such as site visits—significantly improves students' design behaviour and concept development. Crilly (2015) warns that uncritical use of precedents may lead to design fixation, advocating for analytical frameworks that promote reinterpretation rather than replication.

Tools like PRECEDENTS (Oxman, 1993), EDAT (Akin, 2002), and DYNAMO (Richter et al.2017) offer structured approaches to precedent analysis, enabling designers to extract and apply design intelligence systematically. Alassaf (2025) introduces computational precedent-based instruction (CPBI), combining BIM and parametric modeling with precedent analysis to enhance design reasoning and performance. Vinson (2016) critiques superficial precedent research and advocates for deeper engagement with historical and cultural contexts to avoid collage-based design outcomes. While online platforms offer vast precedent databases, scholars like Hertzberger (2008) and Pallasmaa (2000) emphasize the irreplaceable value of direct, multisensory experience in understanding architectural space.

Precedent analysis is a multifaceted process that supports creativity, contextual awareness, and design literacy. When applied critically and systematically, it empowers architects and students to navigate complex design challenges with insight and originality. The literature underscores the need for structured methodologies, experiential engagement, and pedagogic guidance to maximize its value.

2.3 The Nigerian Context

Despite the mandatory nature of precedent analysis in Nigerian architectural education,

research into its effectiveness and application remains limited. This scarcity of research raises important questions about the optimization of precedent analysis in Nigerian design education. The lack of scholarly attention to this fundamental aspect of architectural education suggests a need for comprehensive investigation into current practices and their outcomes. Understanding the Nigerian context is crucial, as cultural, climatic, and economic factors may influence how precedents are selected, analysed, and applied. The effectiveness of precedent analysis may also be affected by the availability of documented case studies relevant to the Nigerian context and the resources available for conducting thorough analyses.

3. Methodology

This study employed a qualitative research approach, utilizing semi-structured telephone interviews to gather in-depth insights from design lecturers across Nigerian universities. The questions asked included the design studio presently involved with, the procedure for precedent analysis in the department, students' performance as well as design lecturers' involvement in providing guidance for the exercise. In addition, there were questions on the components of precedent analysis, and suggestions for improving its employment in Nigerian architectural education.

The choice of telephone interviews was particularly relevant given the geographic distribution of the participating institutions and the timing of data collection during the COVID-19 pandemic period. The research involved 25 design lecturers (five participants per school) from five Nigerian universities, selected to represent different geographic regions and institutional types. The Ahmadu Bello University, Zaria - Northern Nigeria, established federal university, the University of Jos - Middle Belt Nigeria, federal university, Federal University of Technology, Akure - Southwest Nigeria, specialized federal university Covenant University - Southwest Nigeria, private university, Ambrose Alli University, Ekpoma - South-South Nigeria, one of the oldest state universities with a Department of Architecture This selection ensured representation across different university types (Federal, State, and Private) and geographic regions, providing a comprehensive view of precedent analysis practices across Nigeria.

Data collection was conducted through telephone interviews. The first set of interviews were conducted between June and August 2020 while additional interviews were conducted in March, 2025. Each interview lasted approximately 15 minutes, focusing on areas that included the design lecturers' perceived value of precedent analysis to Nigerian architecture students' design process, their expectations from student PRECEDENT studies, and their assessment of students' engagement with precedent studies.
The interviews were semi-structured, allowing for flexibility in exploring themes while ensuring consistency in data collection across all participants. The interview data was transcribed and analysed using thematic analysis techniques outlined by Miles et al., (2014). Initial coding was conducted on five transcripts using both deductive codes (derived from the research questions) and inductive codes (emergent from the data). The coding was thereafter refined and applied to all the transcripts. Common themes and patterns were identified across the responses, allowing for the development of comprehensive insights into precedent usage in Nigerian architectural education.

4. Findings

4.1 Perceived value of precedent in the design process

The research revealed several key values that precedent studies contribute to students' design processes. First, precedent studies act as a crucial bridge between theory and practice. They allow students to move beyond classroom concepts to observe, analyse, and learn from existing buildings, thereby understanding how architectural principles are applied in real-world contexts. This practical engagement enhances comprehension and brings theoretical constructs to life.

Secondly, precedent studies serve as a foundation for critical thinking and design improvement. Through engagement with actual projects, students learn to identify PERCEIVED strengths and weaknesses—often called merits and demerits—of existing architectural works. This critical evaluation deepens their capacity to assess designs effectively and informs improvements in their own design proposals, enriching their problem-solving abilities.

A further value of precedent studies lies in helping students avoid repeating previous mistakes. By analysing existing buildings critically, students become aware of design flaws and shortcomings, thus equipping them to avoid similar errors in their own work. This leads to better and more innovative architectural solutions over time.

Precedent analysis is additionally vital for the development of students' analytical and research skills. It requires students to carry out site visits, conduct interviews, take measurements, and thoroughly document their observations. This multifaceted inquiry sharpens their skills in observation, data collection, spatial analysis, and synthesis, essential tools for any architect.

Moreover, precedent studies inspire students and broaden their design vocabulary. Exposure to a variety of architectural solutions provides benchmarks for quality, innovation, and creative possibilities. Engaging with diverse precedents encourages greater flexibility and richness in student design approaches.

Finally, precedent studies foster a deeper understanding of contextual and cultural factors in architecture. By examining local precedents, students learn to appreciate and incorporate climatic conditions, cultural values, building typologies, and user experiences relevant to their design contexts. This ensures designs are not only innovative but also contextually appropriate and responsive to the needs of users and environments.

To illustrate these points, mentors offered the following reflections: "*Case (precedent) study is a very important tool for design research and teaching research, a teaching method in schools of architecture*" (P11, ABU Zaria). One mentor emphasized, "*The purpose of case studies is to learn from the past... and use it to add value to your own work*" (P1, AAU). Another stated, "*The mistakes that have been made will not be repeated in their own proposal. They're supposed to get an improvement over the existing facility*" (P23, FUTA). The importance of thorough documentation was underlined: "*Unless you record, take pictures, sketch and write down in the field, you may be found wanting in some essentials and you may not be able to go back*" (P21, FUTA). On the inspirational role of precedents, a mentor explained, "*You lean on the shoulders of those who have done something before so that you don't waste too much time cracking your brain. That is the idea of case studies*" (P19, Covenant). Lastly, the significance of contextual relevance was stressed: "*We try to get them to understand that a case study should be context specific to what you want to design... you will not be helping yourself by analysing a building that is not in the same context*" (P7 UniJos).

4.2 Expectations from student case studies

The analysis revealed a strong and consistent set of expectations among mentors regarding what students should accomplish in their architectural precedent studies. These expectations emphasize thorough engagement with the case study site, rigorous critical analysis, comprehensive documentation, and the effective application of findings to inform the students' own design work.

Mentors expect students to demonstrate depth and particularly at masters' level, rigor, in their analysis. Specifically, students must move beyond superficial documentation and undertake detailed collection of site data, including site plans, floor plans, sections, and elevations. Their analysis should not be limited to listing the positive and negative aspects of a building but must be supported by concrete observations and evidence. Furthermore, many mentors require students to provide a comprehensive description that takes into account the building's context, construction materials, user experience, and spatial interrelationships to produce a well-rounded understanding of the precedent.

Physical visitation is universally regarded as essential for meaningful precedent analysis. Students are expected to personally visit the buildings under study, observe spatial flows and relationships, and, where possible, immerse themselves in the user experience of the space. Prior to these visits, students should prepare thoroughly by conducting background research, developing observation checklists, and formulating site-specific questions that guide their inquiry and make fieldwork more productive.

Mentors emphasize that precedent studies must have direct relevance to the students' design projects. Case studies should be selected based on their alignment with the design brief, including matching building types and climatic conditions. Moreover, students are expected to actively synthesize the lessons learned from the precedents and explicitly articulate how these insights will

influence or improve their own designs, demonstrating a clear connection between observation and creative application.

There are clear expectations regarding the methodology and structural organization of precedent studies. Students (particularly at final year or Masters' level) are often required to develop and pre-test research instruments such as questionnaires or observation guides before fieldwork. Documentation should occur in stages, starting with preliminary literature reviews, moving on to detailed site observations, and concluding with reflective critique and structured reporting.

In terms of analytical and visual presentation, students must present their findings clearly and convincingly. Submission of accurate drawings—such as floor plans, sections, and sketches—is mandatory, and photographs alone are considered insufficient. Critiques and design appraisals must be justified through these visual aids and through analysed data rather than relying solely on narrative descriptions or images.

Design lecturers recognize that the degree of collaboration and independence expected varies according to academic level. Junior students typically work in groups and often visit sites accompanied by mentors. In contrast, senior and postgraduate students are expected to take on greater independence, selecting suitable case studies and carrying out field visits on their own initiative. It is also a common expectation that students analyse multiple precedents, usually a mixture of local and international examples, to ensure broad exposure to differing architectural approaches.

Finally, mentors expect students to display professionalism and a research-minded attitude throughout the case study process. This includes both rigorous preparation before visits—through literature review and understanding design considerations—and well-organized, coherent reporting of the case study findings that clearly inform subsequent design development.

Several mentors' statements illustrate these expectations vividly. One highlighted the importance of learning from precedent merits and demerits to improve future designs: "*here we call it merits and demerits... And is expected that all these things you're highlighting, you will show us in your own design how you are able to solve those issues* (P19, Covenant). Another emphasized the necessity of site visits: "*You should visit physically and see what hands on how people are experiencing the space.*" (P2, AAU). The importance of comprehensive documentation and active engagement was also reinforced: "*Students are expected to visit the facility, get a brief Q and A session, take notes, pictures, make sketches of the study area and deduce advantages and disadvantages of the study area.*" (P4, AAU) The emphasis on supporting claims with factual evidence was clear: "*You have to bring up appraisals and facts to support whatever point you raise.*" (P1, UniJos)

Furthermore, several mentors stressed that drawings are fundamental to complete case studies: "*Case study is not complete without the drawings of the building... pictures cannot give relationship of spaces or proportion.*" (P22, FUTA). Finally, the dual perspective of architect and user was underlined: "*Criticize the case study both as an architect and as a user... If possible, book a time and experience the place as a user to know how that place feels.*"(P20,Covenant).

A summary of these expectations from various mentors across institutions further highlights their shared priorities. For instance, mentors at AAU expect students to provide full analyses including site and floor plans and critically engage with the merits and demerits related to their own design process. UniJos mentors insist on comprehensive data collection backed by factual appraisals and preparing context-specific case studies. FUTA mentors urge socio-cultural field data collection and mandate the use of questionnaires and staged progress presentations. At ABU Zaria, preparation through literature review coupled with practical observation and critical reporting is viewed as essential. Meanwhile, Covenant University mentors require multiple case studies closely linked with the design, supported by developed observation and data collection instruments and emphasize physical site visits.

In conclusion, mentors across Nigerian architecture schools expect students to approach precedent studies with rigor, curiosity, and critical intent. The process is not merely data gathering but active learning that requires direct engagement, intellectual appraisal, and the ability to translate insights into improved architectural design.

4.3 Current Practices and Challenges

Across all universities and design lecturers, the manner in which students conduct precedent analysis is characterized by superficiality. Participants observed that '*compilation of case study is very poor*' (P2, AAU) and '*Most times*

*students will just show you one sheet …. this is my case study, …. you need not less than 5-6 sheets per building. Attimes they just take pictures and point out merits and merits. Students do case studies as a submission requirement (*P4, UniJos*)*. Particularly, design mentors identified over-reliance on photos, minimal or absent critical analysis, neglect of drawings and spatial documentation, and the tendency to treat the exercise as routine or formal requirement rather than a learning opportunity. This single, dominant theme reflects a systemic issue in architectural education regarding the depth and rigor of precedent study engagement by students.

On the question of what design mentors expected from students' precedent studies, some mentors expressed concerns about the superficial nature of many student precedent analyses, suggesting that the potential value is not always realized in practice

Furthermore, the study identified several challenges in the current conduct of precedent analysis in Nigerian architecture schools to include, resource limitations whereby students have limited access to comprehensively document buildings. Also, there is the difficulty in ensuring contextual relevance of selected precedents to the semester project. Findings also revealed that there is an inconsistency in assessment methods as the institutions have varied approaches to evaluating student work. Additionally, integrating the precedent analysis in their current design tasks effectively was pinpointed as a challenge. As one participant reported,
…. At the end theres no link between the student's final design and case study". (P9, UniJos).

Across all institutions, mentors describe students as engaging with precedent studies in a superficial manner. This includes an over-reliance on photographs, focusing on listing merits and demerits, neglecting detailed drawings (such as floor plans), and rarely conducting critical or contextual analysis. There is also a tendency for students to treat the exercise as a formality or "box-ticking" task, rather than a meaningful learning opportunity. This is illustrated by the following quotes from various PARTICIPANTS, "*Students focus more on merits/demerits and photographs, sometimes neglecting detailed drawings and deeper critique.*" (P16, Covenant), and "*Students often treat case studies as photography exercises.*"(P11, ABU).

5. Discussion

The findings of this study highlight both the strengths and persistent challenges associated with precedent analysis in Nigerian architectural education. The results align with global scholarship, which positions precedent analysis as a foundational tool in architectural education (Boling, 2021; Akin,2019; Salama, 2012). More so, Nigerian design lecturers' consensus on the pedagogical value of precedent studies mirrors international perspectives. The emphasis on physical visits and hands-on engagement is consistent with the literature, which underscores the importance of direct observation for understanding spatial relationships and user experience (Pakiding, 2024; Guney, 2014). The expectation for students to move beyond mere documentation to critical analysis and contextual evaluation echoes Boling (2020), who advocates for a deeper, more interpretive approach to precedent analysis. Nevertheless, despite the recognized value, there is a significant gap between pedagogical intent and student practice. While lecturers articulate rigorous expectations—comprehensive documentation, critical engagement, and synthesis of findings—student outputs often fall short, characterized by superficial analysis and an over-reliance on secondary resources. This disconnect is not unique to Nigeria; similar issues have been reported elsewhere, where students prioritize efficiency over depth due to time constraints, limited access to sites, or unclear assessment criteria (Schwartz,2018).

The study identifies challenges particularly acute in the Nigerian context: Resource Limitations: Limited access to well-documented local precedents and restricted site access hinder students' ability to conduct thorough analyses (Chukwu,2016). Contextual Relevance: The tension between encouraging global exposure and ensuring contextual relevance is evident in both the literature and the present findings. Mentorship and Assessment: Inconsistent mentorship and assessment practices contribute to superficial engagement. The literature suggests that strong mentorship and clear, standardized assessment criteria are critical for maximizing the benefits of precedent analysis (Yaseen et al., 2022).

The findings reinforce calls in the literature for more structured and context-sensitive approaches to precedent analysis. Standardizing guidelines, developing repositories of local precedents, and leveraging digital technologies can help bridge the gap between intent and practice (Pakiding et al., 2024; Schwartz, 2018). Collaborative efforts between academia and the profession are essential for enriching the pool of accessible precedents and modeling best practices for students.

5.1 Contribution to the field

By foregrounding the voices of Nigerian design lecturers and systematically analyzing current practices, this study adds to the limited body of research on architectural pedagogy in sub-Saharan Africa. The insights gained not only highlight areas for improvement within Nigerian institutions but also offer lessons for other contexts facing similar challenges of resource limitation, curricular inconsistency, and the need for contextual adaptation.

6. Implications and recommendations

6.1 Pedagogical Implications

The findings suggest that while precedent analysis is valued in Nigerian architectural education, its implementation could be optimized.

Recommendations by the design mentors include standardization of approach to precedent studies, developing clearer guidelines for precedent selection and analysis, resource development such as creating a repository of well-documented Nigerian architectural precedents. In addition, ensuring effective assessment criteria by establishing consistent evaluation methods across institutions and integration strategies such as developing better methods for architecture students to connect precedent analysis to current design tasks.

6.2 Curriculum development

The research suggests opportunities for curriculum enhancement, including the development of structured precedent analysis methodologies across Nigerian universities, the integration of digital tools for precedent documentation and analysis, creation of collaborative platforms for sharing precedent studies and, the establishment of partnerships with practicing architects for precedent documentation.

7. Conclusion

This research provides valuable insights into the role and value of precedent analysis in Nigerian architectural education. While precedent studies are mandatory components of the curriculum, their implementation and effectiveness vary significantly across institutions. The study reveals both the recognized value of precedent analysis and the challenges in its current application.

The findings suggest that precedent analysis has significant potential to enhance architectural education in Nigeria, but this potential is not always fully realized due to resource limitations, inconsistent approaches, and integration challenges. Addressing these issues through improved pedagogy, resource development, and standardized approaches could significantly enhance the educational value of precedent analysis.

This research contributes to the limited body of knowledge on this aspect of architectural education in Nigeria and provides a foundation for future studies and curriculum development efforts. The insights gained from this study can inform improvements in architectural education methodology not only in Nigeria but also in similar contexts globally.

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