RETHINKING QUALITY AND ASSESSMENT IN ARCHITECTURAL EDUCATION: CAN CREATIVITY BE STANDARDISED?

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Abstract. With the increasing number of accreditation systems in architectural education, there is a growing expectation that the quality of educational programmes will be defined by transparent learning outcomes and assessment processes. However, it is also important to preserve the free, open-ended, creative and contextual nature of architectural design. The increasing significance of quality assessment, learning outcomes, accreditation processes and evaluation in higher education raises the question of how quality in architectural education should be defined and evaluated.

This study evaluates standardisation in architectural education by examining the relationship between quality and creativity. Rather than seeking standardisation in the final product, the fundamental approach adopted is to interpret it through the lenses of education and assessment processes. Although no single outcome is expected regarding students' original design approaches, conceptual evaluations and form-related decisions, elements such as learning outcomes, assessment criteria, feedback and assessment methods are standardised in accordance with shared principles.

The study discusses which elements should be left to individual interpretation and which can be standardised, both within the design process and in the final product. In this context, quality is redefined as the ability to meet criteria through diverse solutions and outcomes, justify design decisions, engage in free thinking and address the specific context, rather than uniformity in a single final product. Through a conceptual examination of architecture education, creativity, assessment and quality expectations,

the study posits that shifting standardisation from the design outcome to the assessment process can reconcile quality expectations with the creative freedom granted to the designer.

***Keywords*:** Architectural education, standardisation, creativity, quality, evaluation, design pedagogy, quality assurance.

Introduction

Architectural education involves students confronting complex design problems that lack a predetermined, singular and absolute 'correct' answer. The design process provides a multidimensional learning environment in which analytical knowledge, intuitive thinking, technical requirements, aesthetic preferences, shared principles, and individual interpretations all come into play simultaneously. Consequently, architectural education, particularly within the context of the design studio, employs a teaching system and assessment structure that differ from those of many other fields of education.

Cross (1982, 2001) argues that this characteristic of the design process generates a distinctive 'designerly' form of knowledge that differs from the production of scientific or humanistic knowledge. Design problems are often open-ended, lacking a single, predetermined correct answer. Lawson (2006) also emphasises the complex and variable nature of design problems, noting that they can have multiple acceptable solutions. According to Schön's (1983) reflective practice approach, designers do not merely solve problems; rather, throughout the design process, they reinterpret problems, evaluate the consequences of their interventions and redefine problems themselves. If multiple valid solutions can be generated for the same design problem, the question of which criteria should be used to evaluate student performance becomes crucial. In design studios in particular, the fact that the final product, jury presentation or instructor's personal assessment plays a decisive role can make the evaluation process more subjective.

De la Harpe et al. (2009) examined 118 studio works published in the fields of architecture, art, and design. Their research revealed that it is insufficient to base an understanding of evaluation in creative disciplines solely on the final product. The study emphasises the importance of considering students' development alongside the final product in design studio evaluations (De la Harpe, 2009). On the other hand, Albukhari (2021) questions

the reliability of evaluation processes, stating that cultural paradigms and personal tastes subjectivise the evaluation of design products. The increasing expectation of quality in higher education reveals the need for educational institutions to clearly define program objectives and learning outcomes. This situation requires documentation to show that students have achieved these learning outcomes, as well as demonstrating the reliability of the relevant processes (Bachman & Bachman, 2009; Biggs & Tang, 2011). Bachman and Bachman (2009) directly relate the definition of student learning outcomes in architectural education to assessment frameworks.

These observations raise a question about architectural education: 'How can creative diversity be preserved while ensuring quality?' Standardisation plays a significant role in answering this question. Standardisation offers the potential to ensure quality through a transparent, consistent and comparable framework. However, when applied to the design product itself, standards can limit original thought, diverse design methodologies and unique final outcomes. This study is based on the idea that, in architectural education, standardisation should shift from the design outcome to the assessment process. This would enable diverse design outcomes to be evaluated based on shared learning outcomes, clear assessment criteria, defined levels of achievement and justifiable assessment processes.

1. Design, Creativity and Quality in Architectural Education

Due to the open-ended nature of design, architectural design cannot be solved using a predefined algorithmic process. The design problem can be redefined during the design process, resulting in different solutions for the same problem (Cross, 1982; Lawson, 2006). Therefore, it is insufficient to explain a student's success in architectural education based solely on the formal features of the final design. According to Schön (1983), designers engage in constant thinking, testing, evaluation and re-decision-making during the design process through 'reflection-in-action'. Therefore, rather than following a linear 'problem → solution' sequence, the design process is cyclical, with the problem and solution mutually transforming each other. This process demonstrates that students learn in the architecture studio throughout the process. Among the workshops where architectural education takes place intensively, those that demand more than they give and expect the candidate professional to process the information and come up with solutions stand out (Öymen Gür, 2000).

The transformation a student undergoes from their initial idea to the final product, along with their interpretation of the design problem and justification of their decisions, is an indicator of learning that is just as significant as the final product itself. It is crucial for students to understand the design problem, interpret the context of the solution and develop alternative solutions. This enables them to justify their decisions and devise more effective approaches to refining their design. This process also paves the way for the assessment of creativity. According to Amabile (1996), a creative product must be both novel and appropriate to the relevant problem. Similarly, Runco and Jaeger (2012) emphasise the importance of considering originality and appropriateness together when defining creativity.

In architectural education, creativity cannot be reduced to merely a formal attribute. Rather, it manifests across various dimensions, such as adopting a conceptual approach, generating alternative solutions, resolving design problems, interpreting context, establishing spatial organisation and refining design decisions. In line with the view of Doheim and Yusof (2020), who consider the teaching and assessment of creativity to be a pedagogical challenge, contemporary studio education is not just a place to impart knowledge, but also a space that teaches students how to conduct themselves throughout life, fostering a mindset and purpose oriented towards that end (Dewey, 1991; Arıdağ & Aslan, 2012). Alongside traditional lecture-based studio instruction, emphasis is placed on approaches that encompass all aspects of design knowledge. These methods aim to enhance student creativity and encourage the expression of design capabilities through means other than verbal communication (Hodgkin, 1985).

The lack of a universally accepted definition of creativity can result in different perceptions of the concept among students and faculty members. Furthermore, when assessing creativity, the level of education and the studio’s learning outcomes must be taken into account. Rather than adopting the absolute stance that 'creativity cannot be measured', it is more meaningful to ask which dimensions of creativity should be assessed and in what context, in relation to which learning outcomes. The study's approach to standardisation recognises that, while it is possible to assess creativity, it is unnecessary to reduce creative design outcomes to a single form.

The assessment of creativity introduces the concept of quality as a criterion. In higher education, quality assurance is not merely linked to the delivery of specific content within educational programmes, but also to the establishment of systematic processes designed to achieve defined educational objectives and learning outcomes. Biggs and Tang (2011) identify

the alignment of teaching, learning activities and assessment as a prerequisite for high-quality learning. This approach is particularly significant in architectural education and means that architecture programmes must comprise multidimensional outcomes, such as design skills, technical and professional knowledge, critical thinking, communication and ethical responsibility, which are aligned with their educational objectives. It is not enough for these outcomes to be defined in the programme; students must demonstrate through assessments that they have achieved the targeted outcomes. As the assessment process is an ongoing activity designed to enhance the mission of each programme, discipline and department, it is dynamic and long-term in nature. Recent assessment evidence highlights the need to establish specific, measurable criteria. This approach emphasises the importance of taking a broader perspective on quality assessment in architectural education — one that goes beyond merely evaluating the design product as positive or negative (Bachman and Bachman, 2009).

The new NAAB regulations, an international accreditation system which came into effect in March 2026, also emphasise the requirement for standards to be clear, consistent and applicable across diverse contexts (naab.org). The focus is not on encouraging students to produce similar designs, but on identifying the competencies that the educational programme instils in architecture students, and on determining how students achieve these competencies. RIBA takes a more holistic approach during the validation process, allowing for different approaches and academic interpretations.

This approach demonstrates that there is no inherent conflict between standardisation and diversity. Rather than homogenising every aspect of educational programme implementation, it ensures that specific quality conditions are met. Consequently, the focus shifts from asking whether all students produce the same design to asking whether the programme can reliably and verifiably demonstrate the achievement of defined learning outcomes through diverse design solutions. This distinction also forms the basis for shifting the focus of standardisation from the design outcome itself to the assessment process.

2. The problem of assessment in architectural education

In architectural education, studio work is evaluated through a jury system. The primary criticisms of this system focus on the importance placed on grading and the emergence of power struggles among the evaluators during the jury session. Consequently, the educational function of the jury is diminished, which can compromise the student's learning experience (Musa,

2020). Furthermore, since juries are a vital educational tool that prepares students for professional practice, only evaluating the final product at the end of the term can make the effort expended and the educational process itself invisible.

The real problem is on what evidence the jury based its decision and how explainable this decision is. De la Harpe et al.'s (2009) study reveals that, in studio evaluation, the process and development of the student should also be considered, in addition to the final product. Yasar (2026) describes a gradual studio evaluation system in his study, stating that learning-related performance is represented more convincingly by a gradual, criterion-based and mutual set of evidence than by a single final decision.

The study illustrates an assessment conducted in a graduation studio and notes that the evaluation encompasses both the final product and the process based on necessary evidence (Elliott, 2020; Carlgren, 2020; Klefbeck, 2024). This approach applies the same logic to higher education in a studio setting by showing how existing context, preparatory submissions, drafts, interim submissions, final project materials and oral defence form an integrated structure of evidence (Yasar, 2026). This method enhances the validity of jury assessments by ensuring that students are evaluated not only on the final product, but also on the stages involved in creating it, taking into account evidence related to the process.

In addition to criticisms regarding the jury evaluations focusing solely on the final product, the subjectivity inherent in the assessment process is also a point of contention. Preferences based on the evaluators' individual personality traits or cultural backgrounds—rather than on the final product itself—can lead to different meanings being attributed to the work under review (Albukhari, 2021). To address this, evaluation processes based on shared understandings and clearly defined criteria can be established. This approach should not be interpreted as aiming for a uniform final product, but rather as determining the shared criteria against which the final product will be evaluated.

3. Architectural education and standardisation.

When the concept of standardisation - defined as bringing products, processes, services or systems to a specific quality level (TSL) - is applied to design education, it is often associated with uniformity and the restriction of creativity. This stems from the tendency to link standardisation primarily to the final product. In other words, this situation, which can

demotivate students with regard to their design output, is often interpreted as predetermining the design outcome. However, standardising the conditions under which designs are evaluated rather than the designs themselves can facilitate a different relationship between creative freedom and quality assurance. Having a common evaluation framework does not mean students have to produce identical design outcomes; it enables diverse design solutions to be discussed based on the same evaluation criteria. In architectural education, the purpose of standardisation is not to converge design outcomes, but to enable distinct design outcomes to be compared using shared, transparent, consistent and justifiable evaluation principles. (Table 1).

Table 1 Elements that can be standardised vs. elements that should be left open to individual interpretation

Elements that can be standardised	**Elements that should be left open to individual interpretation**
Clarity of learning outcomes	Design idea
Assessment dimensions	Conceptual approach
Definition of criteria	Formal expression
Stages of the assessment process	Design language
Feedback principles	Solution strategy
Justification of assessment decisions	Original interpretation
General definitions of performance levels	Individual design decisions.
Shared principles among assessors	Alternative design outcomes

This study proposes the conceptual approach of 'process-oriented standardisation' to demonstrate that, in architectural education, standardisation applies to the structural components of the assessment system rather than to the design product itself. This approach distinguishes three fundamental levels: The first level comprises the programme's learning outcomes, which define the knowledge, skills and competencies that students are expected to acquire. The second level comprises the assessment principles that determine the performance indicators used to evaluate attainment of these outcomes. The third level comprises the design

solution, where the form and method by which students achieve these outcomes are open-ended. The relationship between these three levels is shown below (Fig. 1).

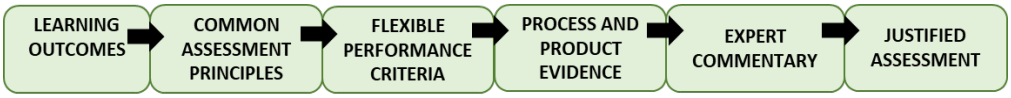


Fig.1- The relationship between three levels (created by the authors)

This structure differs from the traditional 'standard → product → comparison → grade' approach.

This approach highlights the importance of understanding the limits of standardisation. Rather than standardising students' design decisions, formal languages or conceptual approaches, what the assessment considers and how it is justified should be standardised. For example, 'design originality' could be an assessment dimension. However, if originality is associated solely with a specific formal aesthetic, standardisation becomes a matter of the design outcome itself. Similarly, 'context sensitivity' could be a criterion, but defining it exclusively through a specific architectural language would limit students' diverse interpretations (Table 2).

Table 2. Standardisation of the design outcome and the assessment process

Dimension	**Outcome-oriented standardisation**	**Process-oriented standardisation**
Learning outcome	Risk of driving towards uniformity	Shared learning objectives
Design product	Tendency to produce similar results	Allowance for diverse results
Assessment	Weighted towards the final product	Process + product + reflection
Criteria	Formal norms	Performance dimensions
Creativity	May be constrained	Preserved within diverse solutions
Jury	Primary source of the final decision	Stage where the chain of evidence is interpreted
Quality	Adherence to norms	Realisation of learning outcomes
Standardisation	Convergence of results	Shared assessment principles
Student diversity	May be viewed as a deviation	May indicate diversity in learning

Shifting the focus of standardisation to the evaluation process makes it clear that process-oriented standardisation can be implemented based on four fundamental components:

1. Defining shared learning outcomes: In the initial stage, the learning outcomes of the programme must be clearly defined. These may include aspects such as defining the design problem, analysing the context, developing alternative design solutions, justifying design decisions, integrating technical and environmental requirements, expressing the design using different representation tools and incorporating critical feedback into the design process. This approach strengthens the relationship between architectural education and quality assurance (Bachman & Bachman, 2009).

2. Harmonising evaluation criteria: In the second stage, common evaluation criteria can be established that do not require all designs to be identical. The purpose of these criteria is not to define 'good architecture', but to highlight the dimensions considered by the evaluator (Table3).

Table 3: Harmonising evaluation criteria

Evaluation Dimension	**Problem Definition**
Key question	Has the student correctly defined the design problem?
Context	Does the design respond to contextual data?
Conceptual coherence	Do the design decisions form a coherent system of thought?
Creativity	Has an alternative and original approach been developed?
Justification	Can the design decisions be defended?
Technical integrity	Has the design been linked to technical requirements?
Representation	Has the design concept been expressed using the appropriate tools?
Process	Has the design been developed in response to feedback?

3. Diversification of evidence: In the third stage, the assessment should not be based solely on the final product. The processes leading up to the final product can also be included in the assessment. This can include work such as student research, self-assessments, sketches and two- and three-dimensional models, which can be evaluated alongside the final product. Yasar's (2026) staged evidence approach is significant in this regard. Research indicates that evidence

produced at various stages enables design performance to be interpreted in a more traceable and defensible manner.

4. Justification of the assessment decision: At this stage, the assessor must explain the evidence that underpins the score or decision awarded. While this does not make the assessment entirely objective, it does enhance the justifiability and traceability of the decision. The goal of process-oriented standardisation is therefore not to absolutise the concept of 'objectivity', but rather to make the assessment process more transparent, consistent, explicable and auditable.

When examining the relationship between standardisation, creativity, and quality, this study does not treat standardisation and creativity as opposites. The issue lies not in the existence of a standard, but in what that standard actually standardises. For example, if a standard is defined as 'The student's design must possess specific formal characteristics', creativity may indeed be constrained. However, if the standard is defined as 'The student must be able to justify design decisions based on context, user, programme and technical requirements', a variety of design solutions remains possible. Therefore, quality should be defined not by the similarity of the design product, but by the ability to achieve established learning outcomes through diverse solutions. This approach also necessitates reconsidering the relationship between 'appropriateness' and 'originality' in creative education (Amabile, 1996; Runco & Jaeger, 2012).

Just because a design is creative does not mean it is exempt from all criteria. In fact, creative design involves making meaningful distinctions within the framework of a specific problem, context and purpose. Therefore, the evaluation system should assess the relationship between the design and the design problem rather than penalising the design itself. In this regard, quality can be understood as being more than just a dichotomy between 'adherence to standards' and 'innovation'.

Quality can be assessed by evaluating various dimensions, such as: appropriateness, justification, contextual responsiveness, technical/functional competence, originality, critical thinking and process-based development.

Discussion

The tension between quality assurance and creativity in architectural education often stems from the direct application of standardisation to the design product itself. A review of the

relevant literature suggests that diversifying assessment evidence, clearly defining learning outcomes and making assessment criteria more explicit can enhance the transparency and reliability of this process (Bachman & Bachman, 2009; Brookhart, 2013; de la Harpe et al., 2009). Current literature also emphasises the need to establish a more balanced relationship between the final product and the design process in architectural education. Advocating the combined use of structured and dialogic assessment methods, Eweda and Badawy (2026) emphasise the importance of balancing learning value and originality when evaluating creative, open-ended work. Consequently, no single approach can be considered the sole indicator of quality. This point is also significant in the context of jury evaluations, as it addresses the blurring of the boundary between learning and assessment that is often observed in juries that focus exclusively on the final product (Musa, 2020). In assessment processes that prioritise work undertaken throughout the design journey rather than just the outcome, the jury's role is redefined through process-based assessment, thereby establishing a shared understanding of evaluation (Koçyıldırım & Tonuk, 2026).

When considered together, architecture and standardisation imply that diverse design outcomes born of original thought can be evaluated using clear and justifiable criteria. This definition also changes the meaning of quality assurance. Rather than referring to an accepted aesthetic sensibility or form, quality assurance means that, when designing based on original ideas, a student simultaneously achieves established learning outcomes.

The NAAB, an international accreditation system, emphasises in its current accreditation approach that standards should be clear and applicable across diverse contexts. Similarly, RIBA supports various academic approaches and interpretations by grounding student work in specific educational requirements, thereby fostering creativity and quality assurance.

Conclusion

Preserving the open-ended, creative and contextual qualities of architectural design is essential. As accreditation systems become more prevalent in architectural education, the quality of programmes is expected to be defined by transparent learning outcomes and assessment processes.

This study suggests that contentious issues in architectural education could be resolved by reconsidering the scope of standardisation. It suggests shifting the focus of standardisation from the final product to the evaluation process. Rather than standardising students' personal design approaches and conceptual inferences, the evaluation would focus on evidence of design evolution gathered throughout the process, feedback mechanisms and the realisation of learning outcomes, all of which would be assessed against established common principles.

Thus, the effort to achieve a certain level of quality through standardisation ceases to hinder creativity in design. Standardisation transforms from a system that steers students towards similar final products into a quality assurance tool that enables the justifiable evaluation of diverse design solutions. Consequently, architectural education is redefined, shifting the focus from conformity to a specific design outcome to designs that meet defined learning outcomes through a variety of final products (Fig. 2).

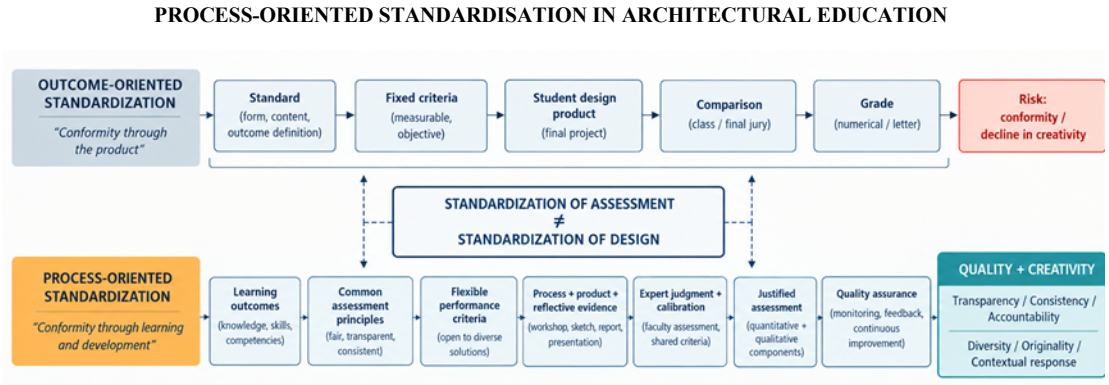


Fig.2- Process-oriented standardisation in architectural education
(created by the authors)

Rather than focusing on the final product itself, the concept of standardising creativity in architectural education should incorporate the design process into standardisation and establish standards for evaluating creative and diverse design products without compromising transparency or equity. This approach transforms the standard from an obstacle to design into an educational mechanism that reliably assesses creativity and the diversity of final products.

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