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RESEARCH ARTICLE

The Architecture Design Studio between three Rubrics; a Teacher's Rubric, a Teacher-Student Shared Rubric, a Final Jury Rubric, and More…

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Abstract

In today's world, the demands for an effectively built environment have become increasingly complex compared to past decades, when the old concerns were the functionality and environmental compatibility of buildings. In response, architecture students now face a broader range of more intricate project assignments in modern design studios. These projects vary greatly in complexity and requirements and differ from one architecture school to another, as there is a growing trend toward assigning specific project types to students, reflecting their importance and the need for exploration at the undergraduate level. This complexity necessitates a more thorough and nuanced assessment process. Instructors and jurors often evaluate students' projects holistically, avoiding falling into detailed analysis. To address this, there is a need for more precise and carefully constructed rubrics that capture all aspects of a modern design project. Using rubrics in architecture design studios can help address grading flaws and biases by providing a structured approach to evaluation. The study highlights the importance of considering various factors to ensure fair assessments of students' design projects throughout their undergraduate education and in their final graduation project. The research ends up proposing: (1) Valuable advice to: The architecture department, Design studio teachers, Jurors, and Students. (2) Introduces three comprehensive rubric formats: a teacher's rubric, a Teacher-Student shared rubric, and a final Jury rubric. (3) Provides structure and elements of a variety of design studio projects rubrics like: Research Focused Project, Predefined Project, Passion Driven Project, Experience Based Project, and Competition Based Project rubrics, as well as a First, second, third, and graduation project rubrics.

Keywords: Design Studio Rubrics, Architecture Design, Design Studio, Student Work Evaluation, Architecture, Student's Wor.

1. Introduction

A "rubric" refers to a word or section of text traditionally written or printed in red ink to emphasize it. The term comes from the Latin word "rubrica," meaning "red ochre" or "red chalk," and has its roots in Medieval illuminated manuscripts from the 13th century or earlier. Red ink was employed to highlight initial capitals (especially in the Psalms),[1] section headings, and names of religious importance—a practice known as "rubricating" which was a distinct phase in manuscript production. The term "rubric" can also denote the red ink or paint used for this purpose,

[1]The "Psalms" (Tiberian: Təhillîm; Modern: Tehillim, תְּהִלִּים , meaning "Praises") is a Hebrew Bible book of 150 sacred poems that express a wide range of Israel's religious beliefs. These poems, known as "Psalms," are poetic and use parallelism, with many including musical notes and references to familiar melodies. They encompass various types such as Thanksgiving songs, Hymns of Praise, and Royal Psalms, some of which may be used for specific ceremonies. Dating the Psalms is difficult, with some from early Israelite history and others from after the Babylonian exile. The Psalms are divided into five collections, mirroring the Torah, though the reasons for this are unclear. While many Psalms are attributed to "David," their actual authorship remains uncertain.

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or the pigment used to produce it. Although red was predominantly used, other colors began to be employed from the late Middle Ages onwards, and the term "rubric" continued to be applied. (Wikipedia contributors, 2024) The following (figure 1) shows the use of red rubrics to mark verses in the missal of the "Dominican convent of Lausanne" [2].

Figure 1. *Shows the use of red rubrics to mark words in the missal of the Dominican convent of Lausanne*
Source: *(File:Missel Dominicain MG 2117.jpg - Wikimedia Commons, n.d.)*

1.1 Rubrics in Academia

In academia, a "Rubric" is a tool used for evaluating student performance on assignments such as papers, projects, and essays.

It consists of a set of criteria linked to learning objectives, enabling a standardized and transparent grading process. This approach, often referred to as "Ongoing assessment," (Wikipedia contributors, 2024)

1.2 Parts of a Rubric

The internet offers a vast array of rubric templates across various educational fields, practices, and professions.

Despite their diversity, all rubrics share a common structure, as they are designed to present tasks in a grid format and can vary in form and complexity, thus all rubrics: (MGH IHP, 2022)

- Center on assessing a specific objective
- Utilize a range to evaluate performance
- Feature detailed performance characteristics organized into levels that reflect how well a standard or tasks have been achieved

The following (figure 2) is an example of a rubric template evaluating student's performance studying nursing skills as their major.

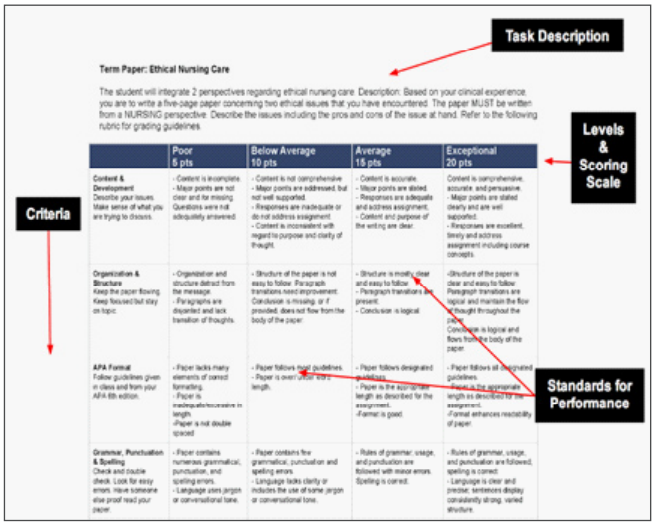


Figure 2. *Shows an example of a rubric template evaluating student's performance studying nursing skills as their major.*
Source: *(MGH IHP, 2022)*

[2]The missal from the Dominican convent of Lausanne, dating to around 1240 and featuring a 16th-century binding, is the oldest known Dominican missal. It is housed at the Historical Museum of Lausanne. The Dominican Rite is the distinctive liturgical rite used by the Dominican Order within the Catholic Church. Various sources classify it differently: some view it as a version of the Roman Rite, others as a variant of the Gallican Rite, and still others as a form of the Roman Rite with incorporated Gallican elements. (A HISTORY OF' THE, DOMINICAN LITURGY R2L5 T945, n.d.)

Although rubrics are fundamentally composed of a task (dimension) or assignment that is to be completed within a specified time frame, while being assessed against a specific criterion that is used to evaluate each of these tasks. These two elements of a rubric may be called: "Dimensions of performance".

The following (table 1) shows the main concept of the rubric elements. The example shown in the table features a rubric with 4 dimensions and 3 levels of quality.

Once defined the dimensions or tasks to be evaluated and established the criteria for assessment, creating a rubric becomes straightforward. There are no restrictions on the complexity or number of tasks that can be included in a rubric. (Omar & El-Gammal, 2020).

Table 1. *Shows the main concept of the rubric elements. Source. (Omar & El-Gammal, 2020)*

	Quality Levels		
TASKS (Dimensions)	Low	Average	Best
Task 1			
Task 2			
Task 3			
Task 4			

1.3 Difference Between a Rubric and a Checklist

A "Rubric" differs from a checklist in that it specifies varying levels of quality for each item or task and assigns point values or quality gradations to these tasks. In contrast, a checklist merely lists items without detailing their levels of quality nor having an assessment criterion. (Omar & El-Gammal, 2020)

1.4 Types of Rubrics

Although there are countless rubric templates available online, they can be broadly categorized into two main types: holistic and analytical rubrics. (MGH IHP, 2022)

1.5 Holistic Rubrics

A holistic rubric uses a single rating scale to evaluate an entire task, product, or performance based on an overall impression. This type is particularly useful for summative assessments where a general performance rating is needed, such as with portfolios.

In the field of education, a holistic rubric consists of a single score (typically on a 1-to-5 or 1-to-10-point scale) based on the overall judgment of the student's work.

The holistic rubric matches the entire students' work with a single description on the scale. However, holistic rubrics have both advantages and disadvantages (table 2) (MGH IHP, 2022)

Table 2. *Shows advantages and disadvantages of holistic rubrics. Source. (MGH IHP, 2022)*

Advantages	Disadvantages
• Emphasis on what the student is able to demonstrate, rather than what they cannot do	• Does not provide specific feedback for improvement.
• Saves time by minimizing the number of decisions faculty make.	• When student work is at varying levels spanning the criteria points it can be difficult to select the single best description.
• Can be applied consistently by raters increasing reliability	• Criteria cannot be weighted.

1.6 When to Use Holistic Rubrics?

Holistic rubrics are best suited for assignments focused on skills or behaviors that can be evaluated using a single set of criteria or simple design sketches. For assignments that involve multiple descriptive sections or components, an analytical rubric would be more effective. (Holistic, Analytic & Developmental Rubrics | Overview & Examples - Lesson | Study.com, n.d.)

1.7 Analytical Rubrics

An analytical rubric breaks down a task, project, or performance into its essential components, evaluating each one separately. In educational settings, analytical rubrics are often more beneficial for daily classroom activities as they offer more detailed and specific feedback to students. Analytical rubrics have their own both advantages and disadvantages too (table 3) (MGH IHP, 2022)

Table 3. *Shows advantages and disadvantages of analytical rubrics.* **Source:** *(MGH IHP, 2022)*

Advantages	Disadvantages
• Provide useful feedback on areas of strength and weakness.	• Takes more time to create and use than a holistic rubric.
• Criterion can be weighted to reflect the relative importance of each dimension.	• Unless each point for each criterion is well-defined raters may not arrive at the same score.

1.8 When to Use Analytical Rubrics?

Analytic rubrics are ideal for contexts where students require a detailed grade or when the assessment involves multiple components. They are particularly useful for complex assignments, such as extensive design projects with intricate technical specifications, engineering data, and large visual presentations. (Holistic, Analytic & Developmental Rubrics | Overview & Examples - Lesson | Study.com, n.d.)

1.9 Steps of Constructing a Rubric for Education

Rubrics can range from simple to highly detailed, depending on their complexity and the specific performance elements being assessed. However, and in education, they are all can be generally constructed following these major steps: (MGH IHP, 2022).

Define the task, Assignment, Project elements, or performances that will be assessed: by clearly outlining the task, including the topic, the process students will follow, and the expected outcome.

Identify Key Criteria: by determining the essential elements to be evaluated, such as coherence, content, and organization for a writing assignment. Also defining what each criterion means and what observable, measurable characteristics indicate successful performance.

Choose the Type of Rubric: by selecting which type of rubric that suits the subject and goals of assessment that is between a holistic or analytical rubric, selection will be also based on the nature of the assignment and what you aim to assess.

Establish Levels and Develop a Scoring Scale: by deciding on the number of performance levels which can be numerical (e.g., 1, 2, 3) or descriptive (e.g., outstanding, acceptable, not acceptable). By also using positive, non-judgmental terms such as mastery, partial mastery, progressing, or emerging. And by ensuring that the levels are consistent across all key criteria in an analytic rubric. For example, a score of 4 in one criterion should equate to a score of 4 in another.

Define Performance Standards for Each Criterion: In analytical rubrics, clearly delineate the performance standards for each level. To ensure consistency, write the highest level first and then adjust the descriptions for lower levels, avoiding comparative language. Use specific descriptors for each performance level, focusing on unique qualities rather than vague comparisons.

Specify Conceptual Terms for Various Performance Degrees: by defining terms that represent different levels of performance, such as:

•Depth, breadth, quality, scope, extent, complexity, accuracy

• Presence to absence

• Complete to incomplete

• Many to some to none

• Major to minor

• Consistent to inconsistent

• Frequency: always, generally, sometimes, rarely

1.10 Benefits of Using Rubrics

In general, rubrics offer a shared framework for both teachers and students, enabling effective self-evaluation and ensuring fair and accurate assessments. When multiple instructors are involved in grading, rubrics enhance the consistency and objectivity of evaluations.

They can also streamline the grading process by minimizing time spent on repetitive comments about strengths and weaknesses in student performances. Additionally, rubrics serve as valuable quality records for educational institutions seeking accreditation and improvements in rankings.

The following is an outline of the benefits of using rubrics for educators, students, and grading (Watermark Insights, 2022)

For Educators

To standardize learning, department chairs can utilize program assessment rubrics to illustrate how their departments align with institutional and program goals. These rubrics offer valuable insights into effective teaching methods and highlight areas

needing improvement. By sharing and analyzing these rubrics, instructors and department chairs can make well-informed decisions to refine course content and activities. Reusing rubrics each semester not only saves time but also allows educators to give detailed feedback to students. Rubrics assist in crafting more effective assignments by enabling educators to assign value to different components and clarify assignment prompts. When shared with students at the time of assignment, rubrics enhance clarity and guide performance. They make the instructor's expectations transparent, showing students how to meet these expectations and understand what is required to succeed.

For Students

Rubrics assist students in understanding how their work relates to course content and provide clear guidance on how to improve. They enable students to evaluate their own work and comprehend why points may have been deducted by detailing the criteria used to assess various performance aspects. Students often view rubric-based grades as fairer and find it easier to identify their strengths and areas for improvement. As essential tools for assessing student performance, rubrics enhance the quality of student work by guiding revisions and drafts, which helps students achieve learning objectives more effectively. They also increase student confidence by reducing stress and anxiety, helping students avoid common pitfalls. By clearly outlining assignment requirements, rubrics improve students' chances of success. Additionally, they facilitate timely feedback, reduce subjectivity, increase objectivity, and streamline the grading process.

In Grading

Rubrics standardize grading, making it clearer for students to understand how their grades are assigned. They also clarify expectations, which can contribute to improved test scores. Additionally, rubrics can reduce grading time by allowing instructors to provide detailed feedback on a few key elements while rating other aspects more quickly. In courses with multiple instructors, such as team-taught or multi-sectioned classes, grading rubrics are particularly valuable as they ensure consistency in evaluation standards across all instructors. Overall, rubrics serve as essential tools for assessing various aspects of the educational process, including student progress, teacher performance, the quality of learning experiences, and curriculum administration.

2. Method

2.1 The Architecture Design Studio

Despite the ongoing debates about architecture design issues, methods, and challenges, student project assessments can still be conducted either holistically or in detail. Using rubrics in the architecture design studio can address flaws and biases in grading. Often, architectural design projects are evaluated holistically because instructors and jurors typically avoid in-depth analysis of a design project due to the known architectural complexities and extensive details. Rubrics help ensure fairer and more consistent assessments by providing a structured approach to evaluating student work.

2.2 Architecture Projects of the Design Studio

The Architecture field encompasses the art and engineering science of designing and constructing buildings and other structures, since it is a highly interdisciplinary field involving civil engineering, management, procurement, technical specifications, interior design, environmental sustainability, furnishing, site experience, liability, financing, building policies, etc. and many other complex details. However, in modern and sophisticated architecture design studios, projects were introduced to students based on the following classification.

2.3 Research Focused Projects

A research-based project requires students to investigate and analyze data about similar projects from online and other resources. This approach allows students to gather pertinent information related to their assigned project, either individually or as a team. Once students have collected the necessary data, they are encouraged to identify and define the various building components and architectural spaces needed for effective project design.

2.4 Predefined Design Projects

A predefined project is one where the student is assigned a specific design program that includes detailed requirements for building components, the number and type of architectural spaces, and other predefined design parameters. In this model, the student has limited freedom to alter these components or spaces, even if they believe adjustments in area, size, or function are needed. The downside of this approach is that it restricts the student's ability to develop critical design thinking and make necessary modifications to enhance the quality of their design.

Unfortunately, many architecture design studios globally face this limitation.

2.5 Passion Driven Projects

As mentioned, in a design studio, students may have limited freedom in choosing their project types, as they must adhere to the instructor's rules and guidance. However, in some cases, the instructor may permit students to select the type of building for their design project assignment. A passion-driven project is one where the student has the opportunity to design a building that they are personally enthusiastic about.

2.6 Experience Based Design Projects

Experience-based design projects are introduced by the instructor referring to their previous design practice. For instance, the instructor may assign a project they have personally designed and supervised in the past. The key advantage of this model is that it enables the instructor to share their professional experience from a project they have already completed, including technical, supervision, management, financial, and legal challenges that influenced and shaped their final design. Experience-based design projects are rewarding because they offer hands-on experiences outside the classroom.

2.7 Competition Based Design Projects

Incorporating international competitions as assigned design projects in the architectural studio is highly beneficial. It exposes students to global architectural trends, enhances their understanding of how to meet competition design goals, and teaches them how to interpret their terms of reference (TORs). Additionally, working on real-world competition projects can boost students' enthusiasm, as they engage in designing tangible projects rather than just theoretical ones that may never be built or realized outside the studio.

One of the most worldwide and popular student competitions is the WASA "World Architecture Student Award" primarily hosted in Japan, China, the United States, and Europe. This competition evaluates the diverse talents of architecture students by allowing them to submit past work, including design assignments, competition entries, and graduation projects. As an international architectural design competition, it receives applications from around the world, offering participants valuable objective feedback to better understand their own abilities. Winning entries are published in multiple languages, giving participants' work the chance to gain international recognition. The competition offers 100 types of award certificates, celebrating individual creativity and providing participants with fresh insights and motivation. With flexible submission formats and themes, participants can fully express their creativity. In many languages like: English, Japanese, Chinese, German, and Hindi (ArchDaily, n.d.)

YAC is also another global organization dedicated to promoting architectural competitions among young designers, whether they are students or recent graduates. Its primary goal is to stimulate design-related research by regularly presenting tangible architectural and urban planning projects. This approach is intended to inspire reflection on how physical spaces can adapt to increasingly dynamic human activities. Additionally, YAC seeks to support the creativity and talent of emerging architects by awarding prizes to the best entries and providing significant exposure through print and digital media. YAC aims to invigorate design culture and address practical issues related to human activity and land use. The organization encourages many architects to participate in this challenge. (Young Architects Competitions, n.d.)

2.8 A Successful Student's Competition Example

In the academic year 2016/2017, with a team of four students[3] from the school of architectural and engineering science at the University of Zakazik the state university of the Sharkiya province in Egypt, ELGA Architects International-an established design firm[4] (ELG'-Architects International, n.d.) managed to enter and win a design competition for the design of a complex building consisting of a mall, 5 stars hotel, office tower, and a tourist village in Sakakah Al Gouf, Saudi Arabia[5] (figure 3).

[3]The four students featured were in their fourth year of undergraduate (graduation year) study they worked in the competition under the instruction and supervision of the author of this manuscript.

[4]Founded in 1990 by Professor Dr. Yasser El Gammal, ELG' Architects International is a prominent architectural engineering firm providing a comprehensive range of consulting and engineering services from the initial conceptual phase through to project delivery the founder of this design firm is also the teacher of these selected four design studio students, he is also the author of this manuscript

[5]The media television show, the student's presentation of the wining project, and animation of the winning entry may be seen on you tube and at the design firm's website (ELG Architects, 2016), (ELG Architects, 2017), (ELG'-Architects International - ---RETAIL SPACE, n.d.)

Figure 3. *Is a collection of 3Dimensional renderings of the competition entry.* **Source:** *(Author)*

The experience was featured in a media broadcast aired during the last week of April 2016 on Nile Sat, the National Nile Higher Education Television Channel of Egypt. The show hosted their teacher who is also the founder and principal of ELGA, along with four of his undergraduate design studio students, introducing their success story (ELG'-Ar chitects International - We are on the Media, n.d.)

2.9 Design Assignments of the Modern Design Studio

The types of projects assigned to architecture students in design studios can vary significantly from one architecture school to another, as the choice of project types is determined entirely by the instructors. However, there is a growing trend towards assigning certain project types to students, reflecting their importance and the current need for exploration at the undergraduate level. These projects are valued for their recent investment potentials, and their increasing socio-economic impact.

Below is a brief overview of the key project types that are recently introduced to design studio students worldwide: (Yang, 2024).

•Slum Redevelopment: for students to develop design solutions to enhance sanitation and living conditions in densely populated slum areas.

•Healthcare facilities: to create hospital designs that accommodate long working hours and address specific temperature and plumbing requirements.

•Redesigning Spaces Under Elevated Roads: to innovatively utilize the often-overlooked spaces beneath elevated roads.

•Urban Parks: to design green spaces that foster community interaction and promote overall well-being.

•Reusing Abandoned Buildings: to repurpose existing structures for new functions rather than demolishing them, exploring contemporary uses.

•Jails: to design correctional facilities with a focus on rehabilitation and transformation, drawing inspiration from modern examples.

•Courtrooms: to reimagine courtrooms to be less intimidating while preserving their legal functionality.

•Disaster-Resilient Structures: to develop structures designed to withstand specific natural disasters, such as earthquakes or floods.

•Nature-Inspired Architecture: to integrate natural elements into architectural designs to inspire creativity and harmony.

•Transportation Hubs: to design cutting-edge and efficient transportation centers, including train stations, bus terminals, and airports.

•Sports Complexes: to plan facilities for specific sports, considering audience experience and functionality.

•Museums: to design museums with layouts that reflect and enhance the exhibitions they house.

Adding to this list:

•Community centers

•Cityscapes and roads turning to green cities

•Vertical farms

•Sustainable Communities

•Other…

2.10 Decomposing Design Project Assignments

Various design studio pedagogies exist, with many focusing on creating elaborate designs. However, there is no widely agreed-upon method that effectively enhances students' design skills. Each studio's pedagogy is often influenced by the instructor's personal view of architecture rather than a defined teaching sequence that systematically improves the student's design abilities.

For example, a classical approach used by the Egyptian design studio features some sort of a sequential teaching pattern across its four-year undergraduate architecture program.

2.11 First Year Architecture Design Projects

In their first-year design studio, students start their first design project, which typically involves creating a straightforward small residence. This project usually entails designing a small house for a porter, artist/painter, or individual, featuring two bedrooms, a living area, one bathroom, one WC, a kitchen, a dining space, an entrance lobby, and terraces. If the design is a residence for a painter, an additional atelier space is included. The building is generally a single-story structure, resembling a chalet. The primary aim of this exercise is to instruct students in the fundamentals of spatial relationships, zoning techniques, and environmental factors that impact building design, such as north orientation, wind directions, and sun studies (figure 4). It also explores how these factors affect the arrangement of different spaces within the residential building.

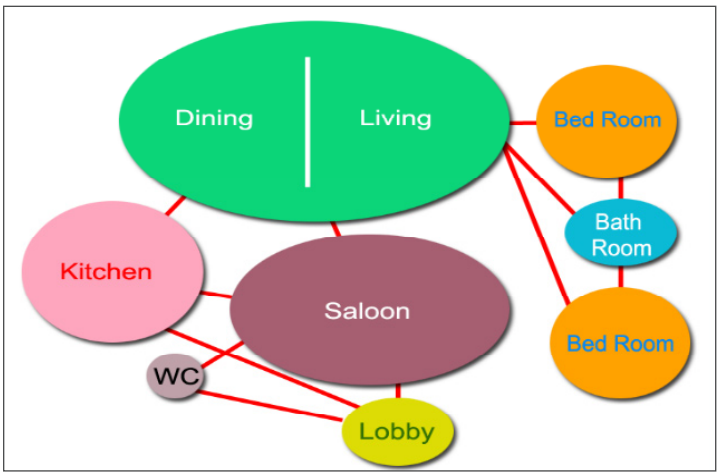


Figure 4. *Shows an example of a small residence spatial zoning diagram.* **Source:** *(Author)*

In a typical Egyptian design studio, students are generally assigned three to four design projects each academic year, completing one project per semester in their first year. As previously mentioned, these projects usually involve single-story buildings. However, there are occasional exceptions where students are tasked with designing a simple two-story structure, such as a small car pavilion.

This shift to a double-story project is intended to teach students the fundamental concepts of connecting two floor levels through staircases or elevators and introducing them to the process of designing a multi-story building.

2.12 Second Year Architecture Design Projects

Typically, the transition to a double-story project occurs in the second year rather than the first. This timing is better suited to students' abilities and design capacity, as assigning more complex design projects in the first year may be challenging for their skill level. However, a major drawback of the first- and second-year design studios in Egypt is that students are restricted from using computer applications such as CAD and rendering software for their design projects.

Instead, they must rely on traditional hand-drawing methods, including working on sheet boards with T-rulers, graphite pencils, ink Rapido pens, scaled plastic geometric shapes, and plastic templates for furniture and fixtures (figure 5).

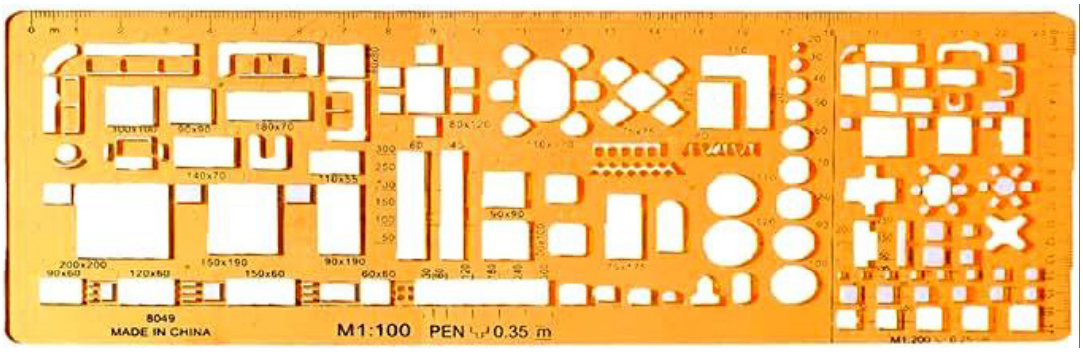


Figure 5. *Shows a furniture drawing scale 1:100 plastic template.* **Source:** (مسطرة بلاستيك للرسومات الهندسية - مقياس 1:200 و 1:100 MAG-324: Amazon.com: أدوات وتحسين المنزل , n.d.)

2.13 Third Year Architecture Design Projects

In the third-year design studio, students are expected to work on more complex design projects, such as large Grade A malls, mixed-use developments, and multistory residential buildings or towers. This includes designing typical residential floor plans with numerous apartments on each floor, aiming to teach students how to effectively create and manage such complex layouts.

2.14 Fourth Year Architecture Design Projects

The fourth-year design studio is the final design studio in the architecture curriculum and is divided into two main segments. In the first part, students work on more complex projects, while in the second part, they focus on their graduation project.

This final project should showcase everything the student has learned throughout their undergraduate studies. Consequently, there is a need for a more comprehensive rubric that covers all aspects of what the students learned throughout their academic journey.

2.15 Understanding the Jury Assessment System

The architectural design jury system is a traditional assessment tool in architectural education that has a rich history and has evolved significantly over time. Imported to the Arab world in the early 20th century by expatriates and scholars educated in Europe and the United States, this system has faced extensive scrutiny and critique in Western literature.

Despite this, there is a notable lack of research documenting the jury system's application and student perceptions within the Arab context. The jury system, initially developed in the Ecole des Beaux-Arts in Paris in the late 18th century, was designed to evaluate students' projects through public presentations.

This model was influential in architectural education, particularly in North America, where it continued to shape design studio practices. Although the system encouraged competitive spirit and high-quality presentations, it often lacked clear criteria and could foster subjective evaluations based on personal taste rather than objective measures. In Western education contexts, the jury system has been the subject of extensive critique and analysis. arguments see that it should be a tool for refining the learning process and measuring the application of knowledge. Critics point out that the jury's public nature can lead to defensive attitudes among students and subjective judgments by jurors, undermining the system's educational value.

While the jury system in Arab architectural schools is influenced by Western practices, there are distinctive characteristics shaped by local educational and cultural contexts. (Salama & El-Attar, 2010) Student Perceptions about Jury Systems and Mechanisms

For example, students in both Egypt and Saudi Arabia express a desire for more objective and transparent jury processes. Common concerns include the impact of personal biases on grading and the preference for constructive feedback over mere grades. A significant percentage of students feel that personal impressions and subjective judgments heavily influence their final grades. (Salama & El-Attar, 2010)

2.16 Student Perceptions about Design Studio Instructors

Today's students are highly perceptive and can quickly gauge whether their instructor is effectively teaching design or struggling in the design studio. Research indicates that not all academic architects, even those who are senior professors, possess the necessary skills to teach design effectively. Teaching design demands a combination of talent, ability, and genuine passion for architecture. Unfortunately, many design studio instructors, particularly those new to teaching, face common challenges that can severely impact students.

As a result, students often reach their final undergraduate year with underdeveloped design skills, leading to a significant shock when faced with complex projects typically assigned during graduation.

Some of the common deficiencies among these instructors are: (Kizlik, n.d.)

- Uncertainty about their preferences and effective teaching strategies.
- Overpraising students for expected behaviors and misapplying praise versus acknowledgment.
- Ineffective planning for the design studio, both long-term and daily.
- Focusing too much on individual students or groups, while neglecting the whole class.
- •Starting new lecturing sessions, and/or design assignments before gaining students' attention.
- Speaking too fast or at an inappropriate volume and standing or sitting in one place or with one student for too long.
- Overemphasizing negatives and failing to enforce basic design studio management techniques like for example organizing the tone of work in the class like accepting hand raising in a queue
- Being either too serious or too lenient and using the same strategies repetitively.
- Ineffectively using silence, body language, or facial expressions.
- Favoring certain students over others and not learning students' names effectively.
- checking students' drawings superficially, asking vague questions, and failing to provide an adequate solution to a design problem.
- Trying to talk over noise, being inconsistent, and using threats or overusing punishment.
- Focusing on being liked by students rather than maintaining authority and allowing distractions during media presentations.
- Introducing too many topics at once and taking too much time for directions or activities.
- And above all, giving bad grades to the class majority, leaving students with a general feeling of frustration

3. Discussion and Results

Despite the best efforts of architecture studio teachers and jurors to ensure fairness, the intricate and multifaceted nature of architectural knowledge often complicates achieving perfect grading equity.This challenge is common across design studios globally, frequently leading to student grievances about their project grades. Students may compare their results with peers from other institutions or studios, leading to claims for grade adjustments.

For instance, at the Architecture Engineering Department[6], at the Faculty of Engineering, Zakazik University in Egypt, the total graduation project grades are 300 points. Of these, 150 points are allocated by the instructors based on studio work throughout the semester, while the remaining 150 points are awarded by the final jury panel.This panel comprises the instructors who have been involved in the studio and external jurors from other architecture schools. The distribution policy aims to protect student work by ensuring that external jurors only control a fraction of the total points (75 out of 300).Despite this effort to balance fairness, grading inconsistencies often persist due to the subjective nature of both internal and external jurors. This recurring issue highlights the need for rubrics in the evaluation process. Rubrics offer a detailed, structured approach that can mitigate some of the subjectivity inherent in holistic assessments.

The following (table 4) shows the detailed distribution of the - (2023-2024 academic year) - graduation project total grade points.

Table 4. *Shows the detailed distribution of the - (2023-2024 academic year) - graduation project total grade points.*

Total Grade Points of The Graduation Project: (300)	PERCENTAGE	GRADE
(12 Studio Work Follow-up Sessions) Classwork →	50%	150
(One Day Assessment) Final Jury →	50%	150
(Total Student's Work) Classwork + Final Jury →	100%	300
Grading Distribution Breakdown		
TOTAL GRADE POINTS OF EVERY JURY TEAM = 300 Points (100%) • Each jury team consists of internal staff (Teachers & Assisting teams) + External jury member(s). • Grade points distribution:		

[6]The architectural engineering department, at the faculty of engineering, Zakazik university, the provincial university of the Sharkiya province in Egypt (Zu, n.d.)

[A] FOLLOW-UP GRADE POINTS = 150 Points (50%)

- Design=120 Points (40%)
- Each Design Follow-Up = 10 Points X 12 Follow-Ups = A Total Of 120 Points"
- Total Grade Points of All Specializations = 12 Points (4%) Each Specialty = 1 Point X 12 Specialties = A Total Of 12 Points",
- Each Jury Team Is Responsible For 4 Specialties Only.
- Afterwards, Each Student Should Rotate Across All Jury Teams to Complete the Rest of his/her 12 Specialties Grade Points.
- Student Progress Folder = 18 Points (6%)
- Each Folder Update = 1.5 Point X 12 Follow-Up = A Total Of 18 Points

[B] FINAL JURY TOTAL GRADE POINTS = 150 Points (50%)

- INTERNAL JURY = 75 POINTS (25%) EXTERNAL JURY = 75 POINTS (25%)

Source: *(Author)*

4. Conclusion

- In an architecture design studio, using rubrics for assessing students' work is crucial for fostering clarity, consistency, and constructive feedback.
- A well-structured rubric provides a clear framework for evaluation, which helps students understand the expectations and criteria for their projects.
- This transparency not only guides students in focusing their efforts on key aspects of design but also promotes a fair and objective assessment process.
- Rubrics help in breaking down complex architectural projects into specific components such as creativity, technical skills, functionality, and presentation.
- This segmentation allows for a more detailed and nuanced evaluation, ensuring that all aspects of the design are considered.
- Furthermore, rubrics facilitate targeted feedback, enabling students to identify their strengths and areas for improvement more effectively.
- In addition, rubrics support the development of critical thinking and self-assessment skills.
- By understanding the criteria against which their work is judged, students can better critique their own projects and those of their peers.
- This reflective practice is essential for their growth as architects.

Ultimately, rubrics enhance the educational experience by making assessment more transparent, structured, and conducive to continuous improvement in architectural design.

5. Recommendations

The study underscores the need to consider various factors to ensure a fair evaluation of students' design projects, both throughout their undergraduate studies and in their final graduation project. The study proposes:

1. Valuable advice to:

To the Architecture Department/school

Design studio teachers

Design studio jurors

Design studio students

2. Three comprehensive rubrics:

Teacher's rubric

Shared Teacher-Student rubric

Final Jury rubric

3. Structure and Elements of a:

Research Focused Project Rubric

Predefined Project Rubric

Passion Driven Project Rubric

Experience Based Project Rubric

Competition Based Project Rubric

First Year Design Studio Rubric

Second Year Design Studio Rubric

Third Year Design Studio Rubric

Graduation Project Rubric

5.1 Valuable Advice

5.1.1 To the Architecture Department / School

In the early stages of architectural education, design studios typically start with abstract modeling and drawing exercises before progressing to theoretical building designs. While these initial exercises are crucial for developing foundational skills, prioritizing them over more practical, building-oriented topics seems impractical, especially when many students lack basic knowledge about the structures they inhabit.

As students compete with each other, their limited understanding of real-world building concepts may lead them to rely on superficial design elements rather than substantive knowledge.

This situation does not persist indefinitely. Students eventually transition to professional practice, gaining comprehensive technical, theoretical, and practical knowledge. However, early experiences can have a lasting impact.When students are pressured to excel in design studios without a solid grasp of what they are designing, they may develop a tendency to prioritize intrinsic judgment over empirical reasoning.

The root of this problem may lie in the argument-based assessment approach prevalent in current studio systems. In this method, students present and defend their projects, while professors critique and counter their arguments.Although this approach may strengthen some subjective claims and has its merits, it is increasingly less effective as the primary teaching method for architecture. This argument-based assessment system endures even as the field of architecture lags behind other disciplines in utilizing evidence-based methods.

While the profession aims to serve a world that increasingly relies on data collection and analysis, evidence-based assessment approaches to architectural design, such as spatial system dynamics and parametric form generation, remain peripheral in the curriculum. Students often prefer to spend additional time perfecting their argument-based projects rather than exploring these evidence-based methods. (Brady, 2022). Unfortunately, the argument-based design studio often lacks the capacity for a thorough assessment of student work. Many jury members concentrate their evaluation efforts solely on design concepts, rather than addressing other crucial aspects that might be equally or even more important than the visual appeal of the architecture.

The first valuable piece of advice for the school of architecture is that the selection of instructors for design studios should be meticulous and based on their teaching ability, not just their academic rank or professional fame. Hiring a renowned architect to teach a design studio does not necessarily address and most probably will not provide a solution for the persistent issues within the program, as their fame often transfer to the students; skills that is only related to their personal style and design approach, which in turn may not translate into effective teaching across all architectural aspects.

It appears that schools sometimes prioritize the marketing and promotional benefits of hiring famous architects over the actual educational value they provide. Another crucial recommendation is for architecture schools to seek out talented designers who may not be widely known but possess exceptional skills. Instead of focusing on a single prominent architect, the department should explore and utilize the expertise of lesser known but highly capable individuals who can contribute significantly to students' education. Lastly, if an architecture school finds that one or more of its design studio instructors are not effectively fulfilling their role, the school should promptly address the issue by finding suitable alternatives. It is crucial not to retain ineffective instructors out of arrogance, a reluctance to admit HR errors, or to appease existing faculty. To build and sustain a strong reputation, the architecture department must prioritize the students' interests above all other considerations.

5.1.2 Advice to Design Studio Teachers

The rapid pace of change in architectural design and education has led to a diverse range of perspectives and practices. Schools of architecture often resist these changes, with only a few educators embracing and reforming their teaching methods to incorporate new digital paradigms. As a result, there is a growing need for networking and dialogue among educators to address these shifts and foster an environment that supports the integration of innovative approaches in architectural design education. This exchange is crucial for adapting to the evolving demands of the digital era and enhancing the educational experience for students.

Research conducted in the area of design studio pedagogies and various design studio learning themes reveal that students across all programs and years value the personal qualities of design tutors, such as patience, compassion, understanding, approachability, consistency, fairness, and a passion for teaching design studio above other characteristics. These qualities are seen as crucial for successful teaching in design education. The teaching environment of various design studio settings at the undergraduate levels are recognized as a complex context for experiential learning. One crucial factor affecting learning design in these settings is the interaction between students and their design studio teachers. This interaction is influenced by the tension between viewing the design studio as a model for student-centered learning and the teacher-centered pedagogies inherent to its

culture. Design studio education, while often seen as exemplary, contrasts with the teacher-centered pedagogies derived from historical models like the "French École des Beaux-Arts"[7] and the "German Bauhaus"[8]. These models, which influenced design education in the US, UK, and Australia, produced teacher-centered approaches characterized by critique and a 'Star' system.

This teacher-centered culture may explain the scarcity of literature on student-teacher interactions in design education. However, this situation reflects a reluctance to revisit the uncertainties and fears experienced by students in design studios. (Quinlan et al., 2007).

While recent discussions and reports have challenged these traditional pedagogies, prompting a reevaluation of how to better support student learning; To keep track of the research subject matter, and apart from design studio pedagogies[9], In brief, teachers' attitude and performance towards their students in the design studio plays an important role in creating a good design studio environment that facilitates an effective transfer of design knowledge and building the students' design skills, as the latter is the most difficult task that the teacher of architecture design may face.

Since not all architects are exceptionally talented, experienced, or highly skilled designers, many design studio teachers, especially those with limited design experience, may struggle when faced with complex design problems or critical questions from students. Rather than providing a thoughtful and informed response, these teachers might resort to deflecting criticism by attacking the student.

They often use this "fight (to) flight"[10] as a defense mechanism to avoid confronting their own limitations in architecture. Such behavior can be deeply damaging to the student's confidence and trust in their teacher's abilities, leaving them frustrated and also confused about whether the design problem under discussion lies with their own abilities or with the teacher's inadequacies.

5.1.3 To Design Studio Jurors

Many jurors fail to grasp the significance of the final grade for a graduation project and do not fully appreciate its impact on the student's future career life. For instance, in the Egyptian education system, the project grade is prominently displayed on the student's graduation certificate alongside their overall GPA. Consequently, a poor grade on the final project can be a lasting mark of shame on the certificate, potentially affecting the student's job prospects for the rest of their career.

Jurors also need to understand the nature of a graduation project. This paper views the graduation project as a critical academic endeavor that is shared between two parties: the architecture school, the faculty, the university on one hand, and the student on the other hand. On one hand, the project's grade

[7]École des Beaux-Arts (French for 'School of Fine Arts'; pronounced [ekɔl de boz‿aʁ]) refers to several prestigious art schools in France. The term is particularly linked to the Beaux-Arts style, an influential approach to architecture and city planning that flourished in France and beyond during the late 19th and early 20th centuries. The most renowned and historic institution is the École Nationale Supérieure des Beaux-Arts in Paris, with a legacy spanning over 350 years, this school has been instrumental in training many of Europe's prominent artists architects. The origins of the Parisian school date back to 1648, when Cardinal Mazarin founded the Académie des Beaux-Arts to educate talented students in various artistic disciplines, including drawing, painting, sculpture, engraving, and architecture. Louis XIV frequently chose graduates to decorate the royal apartments at Versailles, and in 1863, Napoleon III granted the school independence from the government, renaming it "L'École des Beaux-Arts." (Wikipedia contributors, 2024), (The State Nobility, n.d.)

[8]The "Staatliches Bauhaus", commonly known as the Bauhaus (German for 'building house'), was a German art school that operated from 1919 to 1933, merging crafts with the fine arts. Renowned for its innovative design approach, the Bauhaus sought to integrate artistic vision with principles of mass production and functionality. It played a pivotal role in developing the concept of functionalism in architecture and design. Founded by architect Walter Gropius in Weimar, the Bauhaus was based on the idea of creating a Gesamtkunstwerk ("comprehensive artwork"), where all the arts would be unified. The Bauhaus style later emerged as a major influence in modern design, modernist architecture, and architectural education. Its impact extended to art, architecture, graphic design, interior design, industrial design, and typography. The school's staff included notable artists such as Paul Klee, Wassily Kandinsky, Gunta Stölzl, and László Moholy-Nagy at various times. (Bauhaus Movement. Discover How the Bauhaus Influenced Design History, n.d.), (MasterClass, n.d.)

[9]Extensive research has been conducted in design studio education, and a variety of teaching theories are documented in the literature. However, most of these studies provide theoretical suggestions without reaching a consensus on an effective teaching methodology.

[10]The original term is "Fight or Flight", however in this situation the teacher invents a problem to create a "fight" with the student that will be an excuse to use in order to "flight" and end the discussion with the student, thus in this context better say: "Fight to Flight" and "Fight or Flight". The term "fight or flight" was first introduced by Walter Bradford Cannon (October 1871 – October 1945), an American physiologist, professor, and chair of the Department of Physiology at Harvard Medical School. Cannon coined the term "fight or flight response" and developed the theory of homeostasis, which he detailed in his 1932 book "The Wisdom of the Body". (Cornell University Library Digital Collections Bookreader, n.d.) The "fight or flight" response refers to an instinctive defense mechanism observed in the animal kingdom, where an animal reacts to danger by either preparing to confront the threat (fight) or by fleeing from it (flight). Cannon's research examined this state of hyperarousal in both humans and animals. Today, the term is also used to describe similar responses in people facing stressful situations.

represents the institution's acknowledgment of the student's commitment and the collective result of the valuable time of their youth that they spent with them during their undergraduate years of study.

On the other hand, it reflects the extent to which the student has absorbed the knowledge and skills imparted by the faculty throughout their undergraduate years. Thus, a low grade on the graduation project may suggest that either the student has not benefited from their education, or that the teachers were incompetent. Regrettably, many jurors in design studios today do not pay sufficient attention to this critical issue.

5.1.4 To Design Studio Students

Students must accept the fact that some degree of discrepancy or unfairness in jury assessments is inevitable. Although jury panels are always carefully selected from highly experienced professionals with extensive architectural knowledge, it's important to recognize that no one is perfect, and that the personal traits of jury members will always have a degree of influence on their grading decisions. Students should be aware of the various personality types of jurors

Juror Types

Design juries are undeniably central to architecture schools, with their students' success or failure largely depending on the jurors reviewing their students' work. While architecture is an interdisciplinary field with broad implications, most jurors are experts in a specific sub-field.

This specialization makes design juries highly unpredictable; students must contend not only with their nerves and sleep deprivation but also be prepared for any challenge the jurors might present. However, navigating this process is easier said than done.

For students to defend their work against a know-it-all juror who is easily offended can be detrimental, and attempting to impress a building services expert with discussions on the various aspects and impacts of their designs may sound ineffective from more than a single juror's opinion.

Understanding the academic or emotive inclinations of each juror can significantly aid students in presenting their work strategically, thus making the most of their jury experience. What follows are the most known personality types of architectural design jurors that every architecture student may encounter during their studies (Langar, 2017)

•*The Pragmatist*

Often heard saying, "I don't care about the sculpture garden, show me your bathroom layout," Pragmatists are focused on the practical aspects of building construction. They scrutinize everything from parking and structural layouts to plumbing and HVAC systems. Any innovative concepts like vertical gardens or complex parametric forms will likely be dismissed if they don't align with practical building technology.

•*The Theorist*

These jurors are passionate readers, writers, and speakers who delve deeply into the conceptual side of design. Once they start discussing your work, they may reveal insights that the student hadn't considered, such as how the "design vocabulary references to the student but lacks originality." Theorists are also the most likely to emphasize the importance of the fundamental design concept.

•*The Social Activist*

Social activist types are usually firm believers in architecture's ability to impact communities and society, Social Activists often highlight issues like gentrification. They will meticulously examine the student's site analysis and context survey, scrutinizing their influence on the student's design. Students may expect comments such as, "Don't you think ticketing creates a barrier to the use of that park?"

•*The Economist*

The economist type prioritizes financial considerations, often coming from backgrounds in real estate or property development. These jurors focus on metrics like area statements, floor plate efficiency, and planning strategies, most probably they will be asking students questions like: "Why do you need a five-meter-wide staircase? - This isn't a public building!", or "What's your project bill of quantities during a jury session?"

•*The Designer*

The design type is always enthusiastic about the student's work, Designer types engage deeply and offer suggestions to rework the student's design from their perspective. They challenge students to balance maintaining their original vision while incorporating their ideas. Their input is valuable but requires careful navigation from the students to preserve their design's integrity.

•*The Savage* The savage are the most intimidating juror types, Savages have the potential to devastate

both the student's project and confidence. They may interrupt frequently, criticize harshly, and even destroy models or tear apart presentations. Their critiques can be personal and harsh, creating a daunting experience. It can be challenging trying to understand the reasons behind the savage and offensive behavior of these jurors. However, from a research perspective, such behavior may be attributed to personal psychological issues or unresolved personality conflicts stemming from both their childhood experiences, and their perceptions about the society they are interacting with.

•*The Famous One*

When a renowned architect joins a jury session, the focus often shifts to their celebrity status. Students may become star-struck, which can hinder their ability to process feedback effectively. However, the experience can boost the student's social media presence, with architecture enthusiasts eagerly commenting on the student's jury selfies.

•*The Pea-Brain*

They are typically young jurors, Pea-Brains tend to focus on minor details like color palettes, rendering techniques, or graphical composition. They might comment on small issues such as missing North symbols on plans or suggest reordering sheets for better narrative flow. While these critiques may reflect a lack of depth or experience, they could possibly indicate that the student's design isn't engaging enough to warrant more substantial feedback.

•*The Silent Killer*

They are often seasoned professors or emeritus faculty; Silent Killers are hard to impress and prefer to remain quiet during presentations. They may not provide immediate feedback but will deliver impactful critiques when assigning grades. Students are advised to listen carefully to their comments, as they often offer valuable insights for future design reflections.

5.2 Three Comprehensive Rubrics

As mentioned, rubrics are important for achieving fair assessment of the student's work in the design studio what follows are three suggested rubrics for the design studio:

5.2.1 The (Teacher's) Rubric

The following (table 5) is a design studio instructor's rubric of consecutive follow-up studio sessions resembling the student's classwork before the final jury.

After the rubric is completed, it may be archived online for quality records. Access to the rubric is gained via a QR Code found in its upper right corner as shown in the table below.

In case the rubric will be lengthy it is designated to be folded

Table 5. *Is a design studio instructor's rubric of consecutive follow-up studio sessions*

DESIGN STUDIO INSTRUCTOR'S RUBRIC Graduation Project Studio Follow-Up/Sessions	Academic Year	
A	**Tutoring Information**	
Instructor	*Name*	*Office Hours*
	Email	*Tel*
Add/Remove Instructor(s)		
Assistant	*Name*	*Office Hours*
	Email	*Tel*
Add/Remove Assistant(s)		
B	**Student Information**	
Name	*Year of Study*	*ID*
Email	*Tel*	

C **Project Information**

Project Type/Title

Project Brief Description

[Type a Brief Description of the Student's Project Here]

XXX

D **Follow-up Sessions/Tasks to Complete/Assessment**

		Task(s) to Complete		*Learning Outcome*	*Assessment*	*Grade*
Week [1] Session [1]	*1*		○		☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	00 / 00
	2		○		☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	
	3		○		☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	
	4		○		☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	

Add/Remove Task

	Remarks			
% *Of Task(s) Completed*				
Revised	*Signatures*			
---/---/---	*Teacher*	*TA*	*TA*	

		Task(s) to Complete		*Learning Outcome*	*Assessment*	*Grade*
Week [2] Session [2]	*1*		○		☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	00 / 00
	2		○		☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	
	3		○		☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	
	4		○		☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	

Add/Remove Task

	Remarks			
% *Of Task(s) Completed*				
Revised	*Signatures*			
---/---/---	*Teacher*	*TA*	*TA*	

Add/Remove Studio Session(s)

E **Studio Work Assessment Final Result**

Overall Student Performance				*Classwork Total Grade →*	000 / 000
☐ *Excellent*	☐ *V. Good*	☐ *Good*	☐ *Failed*		

	Remarks				
% *Of All Tasks Completed*					
Revised		*Signatures*			
---/---/---	*Teacher*	*Teacher*	*TA*	*TA*	

Source: *(Author)*

Studio Work Assessment Final Result Section (E) of the Rubric

It is crucial to summarize the student's overall performance at the end of the design studio classwork in the results section of the rubric.

This summary provides a clear indication of the expected level and grade range for the student's final project.

If there will be a significant discrepancy between the student's defended final project grade and their total classwork grade throughout the semester, it may suggest that

- Either the jury's assessment was not fair
- Or the student sought external assistance from design firms.

This situation can arise due to issues with the instructor's misbehavior during the design studio or incompetence, leading students to seek external help for their projects, which, while unethical, might be the only option that is left for them to salvage their graduation project.

Signatures

Signatures from at least two design studio instructors and two teaching assistants should be included to verify that the student work that was assessed in the rubric has been reviewed by the appropriate faculty.

This is important because some students may alter their sketches, which were initially developed with their studio instructors, by seeking assistance from external design firms for a fee.

These firms may secretly modify the students' sketches in parallel with their classwork, making it difficult for instructors to detect that external help was involved.

This trick can misleadingly present the work as solely the student's, even though it has been influenced by outside assistance.

5.2.2 The (Teacher-Student) Shared Rubric

Listening to and considering student feedback on the grading process is essential for ensuring that the students are satisfied with their design projects, the quality of tutoring, and the overall learning experience.

A shared rubric, as its name suggests, is a tool designed to enable the student to participate in grading their own project alongside the grades given by their instructors.

Some advantages of using shared rubrics in the design studio are:

- A "Shared rubric" can increase student authority in classroom, through transparency, and reduces the amount of time teachers spend grading student work, since both teachers and students may be sharing the grading process together.
- •It helps in establishing and discussing specific characteristics of success when an assignment is first distributed benefits both students and instructors.
- •Having received the criteria with an assignment, when they look at their grades, they can see at a glance the strengths and weaknesses of their work.
- •Instructors are able to grade according to customized descriptive criteria that reflect the intention of a specific assignment and will not change because of the amount of effort a particular student is suspected of expending.However, the most significant benefit of allowing students to participate in grading their own projects alongside their instructors is the increased satisfaction it provides.

This process helps prevent any future disputes regarding their grades, as students have had the opportunity to evaluate their own work. Since no one can be more objective about the true value of their own work than the student themselves, taking average grades assigned by both the teacher and the student can yield a fairer assessment that more accurately reflects the student's actual level and abilities.

The elements of a shared rubric are similar to those of a teacher-only rubric, with the addition of extra criteria for the student to assess. These additional sections in the shared rubric are highlighted in (Red). After the rubric is completed, it may be archived online for quality records. Students are provided with additional elements similar to those used by instructors so they can evaluate their own work and assign grades to themselves. These elements will appear inside the rubric like that in the following (figure 6)

The following (table 6) is a design studio teacher-student shared rubric of consecutive follow-up studio sessions resembling the student's classwork before the final jury.

Access to the rubric is gained via its QR Code, in case the rubric will be lengthy it is designated to be folded

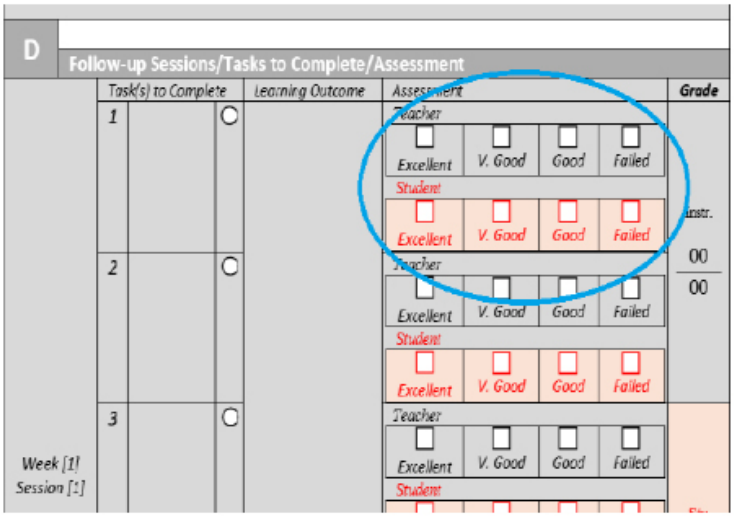


Figure 6. *Is a screen capture of parts of the rubric that contains grading tools given to students to participate in evaluating their own classwork with their instructors.* **Source:** *(Author)*

Table 6. *Is a design studio Teacher-Student shared rubric of consecutive follow-up studio sessions* **Source.** *(Author)*

DESIGN STUDIO TEACHER-STUDENT SHARED RUBRIC Graduation Project Studio Follow-Up/Sessions	Academic Year [-]
A **Tutoring Information**	
Instructor	*Name [ ] Office Hours [ ]* *Email [ ] Tel [ ]*
Add/Remove Instructor(s)	
Assistant	*Name [ ] Office Hours [ ]* *Email [ ] Tel [ ]*
Add/Remove Assistant(s)	
B **Student Information**	
Name [ ] Year of Study [ ] ID [ ] *Email [ ] Tel [ ]*	
C **Project Information**	

Project Type/Title [----------]

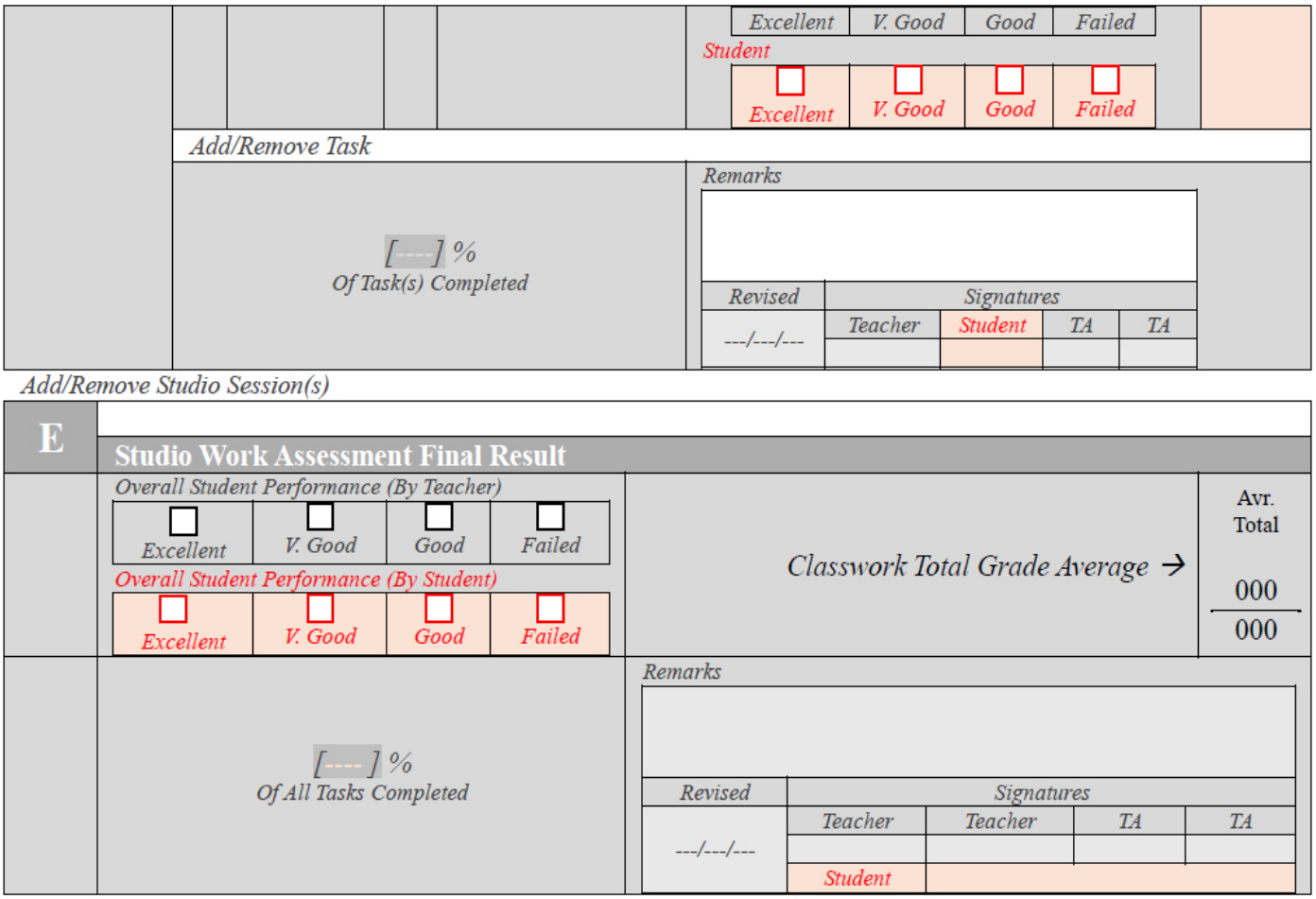
Project Brief Description

[Type a Brief Description of the Student's Project Here]

D **Follow-up Sessions/Tasks to Complete/Assessment**

	Task(s) to Complete	*Learning Outcome*	*Assessment*	*Grade*
Week [1] Session [1]	*1* ○		*Teacher* ☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed* *Student* ☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	Instr. 00/00
	2 ○		*Teacher* ☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed* *Student* ☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	
	3 ○		*Teacher* ☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed* *Student* ☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	Stu 00/00
	4 ○		*Teacher* ☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed* *Student* ☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	
	Add/Remove Task			
	[----] % *Of Task(s) Completed*		*Remarks* *Revised* ---/---/--- *Signatures* *Teacher* *Student* *TA* *TA*	

	Task(s) to Complete	*Learning Outcome*	*Assessment*	*Grade*
Week [2] Session [2]	*1* ○		*Teacher* ☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed* *Student* ☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	Instr. 00/00
	2 ○		*Teacher* ☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed* *Student* ☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	
	3 ○		*Teacher* ☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed* *Student* ☐ *Excellent* ☐ *V. Good* ☐ *Good* ☐ *Failed*	Stu 00/00
	4 ○		*Teacher* ☐ ☐ ☐ ☐	



Signatures

In a shared rubric, it is essential for the student to sign alongside the teachers and their assistants. This signature signifies the student's acceptance and satisfaction with the assigned grade and helps prevent any future disputes regarding the grades given during their design studio sessions.

5.2.3.The Final (Jury) Rubric

A typical jury rubric tends to be more concise and less detailed, usually providing an overall grade for the student. Given the intricate and evolving demands of modern architecture projects, instructors and jurors often evaluate students' work holistically.

They avoid getting bogged down in complex details due to the limited time available for each student's project defense that is usually capped at 10 minutes or less. This brief presentation window does not allow jurors to explore additional project details in depth.

While a holistic and simplified jury assessment may no longer be adequate for evaluating the complex and demanding modern design projects, an advanced rubric for the jury could strike a balance between comprehensive and swift evaluations.

[11]This study was conducted by the author of this research paper

This type of rubric would pay closer attention to critical engineering details. A study conducted during the 2023-2024 academic year at the Egyptian graduation design studio, Department of Architecture, Faculty of Engineering, Zakazik University, evaluated the impact of implementing a more detailed jury assessment system.[11]

Traditionally, the jury used a holistic approach, assigning a single grade based on an overall project evaluation without breaking down the project into individual components. In this experiment, the jury members were given 12 architectural design topics to evaluate, distributing an additional 12 points across these subjects in addition to the original grade point value. During presentations, the jury members asked the student twelve questions, each relating to one of these topics, these topics included both current global architectural trends, hot issues, and new requirements in modern projects, in addition to examining most of the architectural and engineering topics that the student learned during his/her years of study.

These twelve topics are compiled in the following (table 7):

Table 7. *Compiles the 12 architectural design topics to evaluate* **Source:** *(Author)*

Topics		
1	**Site Analysis**	**Remarks**
	• Context • Accessibility • Topography • Existing Built Environment • Environmental Factor • Others	
2	Urbanism	Remarks
	• Social Norms • Urban Context & Fabric • Population Density • Other	
3	Cultural Values	Remarks
	• Existing Site History • Project Cultural Added Value • Other	
4	Visual Communication	Remarks
	• Presentation Theme • Color Scheme • Comprehensive • Communicative • Others	
5	Aesthetics	Remarks
	• Design Philosophy/Concept • Style • Look & Feel • Other	
6	Planning	Remarks
	• Function Vs Form • Safety Management • Evacuation Plan • Other	
7	Landscape	Remarks
	• Property Line • Building Line • Municipality Curb • Main Roads • En Routes • Service Routes Network • Pedestrian Network • Parking Lots • Green Areas • Vegetation Types • Soft Scape Elements • Hard Scape Elements • Water Elements • Open Visual Sequences • Other	
8	Interior Design	Remarks

	• Style • Mood • Color Scheme • Ambient Lighting • Artificial Lighting	
9	Ergonomics	Remarks
	• Design Manuals/Standards • Dimensions/Comfort	
10	Sustainability	Remarks
	• Environmental Impact • Sustainable Solutions	
11	Building Technology	Remarks
	• Structure Systems • Materials • Other	
12	Building Technology	Remarks
	• MEP WORKS • HVAC • Mechanical • Electrical • Plumbing • Water Supply • Surveillance • Other	

The Jury Advanced Rubric

In a typical classic jury assessment system, each jury member, whether internal or external, is typically provided with a straightforward list of student names for evaluating graduation project presentations. This list usually includes the student's name, ID, along with two additional columns: one for recording the grade and another for any remarks the jury member may wish to add about the student's presentation. The following (table 8) shows an example of a traditional student's names list used by the jury for assessment.

Table 8. *Shows an example of a traditional student's names list used by the jury for assessment.* **Source.** *(Author)*

Nº	Student Name	ID	Grade	Remarks
1				
2				
3				
4				
(n)				

The jury advanced rubric may contain the student's name, a column for the total grade point given by the jury member, a remarks column as shown in (table 8), but with additional elements as shown in the following (table 9) The table shows the advanced Jury rubric. After the rubric is completed, it may be archived online for quality records. Access to the rubric is gained via its QR Code, in case the rubric will be lengthy it is designated to be folded.

The Assessment List Legend

The grade structure column is divided into 14 sub-columns. The first twelve columns are numbered from 1 to 12, each corresponding to a specific topic listed in (table 7).

As each topic is evaluated by the jury member, they will mark it with a (✓) if the student has adequately addressed it, awarding the student "one" grade point for that topic, or a (X) if the topic is not well covered, resulting in a "zero" for that topic. The thirteenth sub-column, labeled with a small "t" letter shows the total grade points earned out of the 12 possible points for the defined topics.

The fourteenth sub-column, marked with an uppercase "T" letter represents the sum of the 12 grade points for these specific topics plus the overall grade point value awarded by the jury.

Table 9. *Shows the advanced Jury rubric. Source. (Author)*

JURYMEMBER RUBRIC Graduation Project Assessment	Academic Year	

A — Jury Information

Jury member	*Name*		*Office Hours*	
	Email		*Tel*	
Assistant	*Name*		*Office Hours*	
	Email		*Tel*	

Add/Remove Assistant(s)

B — Assessment List

N°	STUDENT NAME	ID	GRADE STRUCTURE 1	2	3	4	5	6	7	8	9	10	11	12	t	T	REMARKS
1			✓	✗											00	000	
2			✓	✗											00	000	
3			✓	✗											00	000	
4			✓	✗											00	000	

Add/Remove Student(s)

C — Graduation Project Assessment Final Result

Overall Student Grade

☐ *Excellent*	☐ *V. Good*	☐ *Good*	☐ *Failed*

Graduation Project Total Grade → 000 / 000

% *Of The Project Completed*

Jury Remarks

Revised	*Signatures*		
	Jury	*TA*	*TA*
---/---/---			

5.3 Structure and Elements

As discussed earlier in this research paper, design projects assigned to students come with varying themes.

The following section outlines suggested structures and elements that should be placed in rubrics tailored to each of the defined project theme and the appropriate undergraduate year of study.

5.3.1 Research Focused Project Rubric Structure and Elements

These project themes are centered around information gathered and analyzed from various resources by the students to form their design components and program, allowing them to define building components and architectural spaces for their project.

A rubric suitable for these types of projects should:

•Include elements that reflect the fundamental design principles of the chosen building type, typically drawn from relevant design manuals and data collected and analyzed by the students.

•Allow students to play a leading role in defining the rubric items and designing the overall criteria, under the guidance and supervision of their studio instructors.

•Could be shared between the teacher and the student.

5.3.2 Predefined Project Rubric Structure and Elements

In these project themes, students receive specific design requirements, including detailed parameters for components and spaces, strictly defined by their instructors.

•There will be no opportunity for student involvement in designing the assessment rubric for these project themes,

•The rubric will include elements strictly based on the

predefined parameters for building components and spaces.

•Reflect all instructions set by the studio instructors.

•Be designed exclusively by the instructor, with no student participation in its creation.

5.3.3 Passion Driven Project Rubric Structure and Elements

Since within this project theme, students may choose the type of building they want to design based on their personal interests, offering them more freedom and motivation in their work.

A rubric suitable for this project theme should:

•Include elements that reflect the fundamental design principles of the chosen building type, typically drawn from relevant design manuals and data collected and analyzed by the students.

•The student will take full control over defining the rubric items and designing its overall criteria, under the guidance and supervision of their studio instructors.

•The rubric could be shared between the teacher and the student.

5.3.4 Experience Based Project Rubric Structure and Elements

Since This project theme is based on the instructor's previous design work, the structure and elements of a rubric adequate for this type of projects should:

•Include elements reflecting practical insights and real-world challenges that the instructor has encountered, for the purpose of enriching their learning experience.

•The rubric will be exclusively designed by the instructor, with no student participation in its creation.

5.3.5 Competition Based Project Rubric Structure and Elements

This project theme is based on students' participating in international design competitions, the appropriate rubric should:

•Include assessment criteria that align with the terms and conditions specified in the competition's Terms of Reference (TOR).

•Clearly address the main objectives of the design competition, as a rubric that does not effectively evaluate whether these goals are met will diminish the students' chances of success in future competitions both during their undergraduate years of study and may be after they become practicing architects

• Undergo multiple discussions between instructors and students to collaboratively develop and refine the criteria, ensuring that both parties agree on the final adequate structure and criteria of the rubric.

5.3.6 First Year Design Studio Rubric Structure and Elements

A first-year design studio rubric should not be complex. Instead, it should focus on evaluating students' grasp of basic design principles introduced in their initial projects.

The primary aim is to assess their understanding of fundamental concepts such as spatial relationships, zoning techniques, and environmental factors affecting building design, including orientation, wind directions, and sun studies.

The rubric should also evaluate how well students incorporate these factors into the arrangement of spaces within a residential building. This rubric will be completely designated by the instructor with no participation from the students

5.3.7 Second Year Design Studio Rubric Structure and Elements

As project complexity increases each year, the second-year rubric should address the shift to double or multi-story projects, which is a key focus of the second-year design studio.

The main objective of this rubric is to evaluate how well students connect and integrate various floor levels in a multi-story building. In addition to other relevant architectural design criteria, the rubric should emphasize the effectiveness of the students' understanding and design of vertical and horizontal transition systems within a multi-story structure.

This rubric will be also completely designated by the instructor with no participation from the students

5.3.8 Third Year Design Studio Rubric Structure and Elements

In the third-year design studio, students tackle more intricate design projects, such as large grade "A malls", mixed-use developments, residential towers, detailed typical floor plans of residential buildings with multiple apartments per floor, and teaching students how to effectively design and manage such complex layouts.

A rubric for this level of complexity should focus on evaluating the student's ability to incorporate all required building components into their designs with proper spatial configurations.

This type of rubric may be collaboratively developed between the teacher and the students.

5.3.9 Graduation Project Rubric Structure and Elements

The fourth-year design studio is the culminating experience in the architecture curriculum, where students undertake their final (graduation) project, reflecting all they have learned during their undergraduate studies.

To effectively assess this comprehensive project, a more detailed rubric is needed. This can be achieved with the two comprehensive rubrics proposed by the research: the teacher-student shared rubric, ideal for guiding and evaluating students during the graduation project classwork, and the final jury comprehensive rubric, for the ultimate assessment.

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N/A

Supplemental Online Material

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6. References

1. إسطمبة فرش 1:100 و 1:200 للرسومات الهندسية - أدوات وتحسين MAG-324 : Amazon.com: الفصل المنزل . (n.d.). https://www.amazon.eg/%D8%A5%D8%B3%D8%B7%D9%85%D8%A8%D8%A9-%D9%81%D8%B1%D8%B4-%D9%84%D9%84%D8%B1%D8%B3%D9%88%D9%85%D8%A7%D8%AA-%D8%A7%D9%84%D9%87%D9%86%D8%AF%D8%B3%D9%8A%D8%A9-MAG-324/dp/B0BYXPS2XX
2. A History Of' The, Dominican Liturgy r2L5 t945. (n.d.). Retrieved August 16, 2024, from https://media.musicasacra.com/dominican/bh.pdf
3. ArchDaily. (n.d.). ArchDaily | Broadcasting Architecture Worldwide. https://www.archdaily.com/student-competitions
4. Bauhaus Movement. Discover how the Bauhaus influenced design history. (n.d.). https://shop.bauhaus-movement.com/
5. Brady, R. (2022, May 31). "Architecture School Is Broken. Here's How We Should Fix It." Journal. https://architizer.com/blog/practice/details/architecture-education/
6. Cornell University Library Digital Collections Bookreader. (n.d.). https://reader.library.cornell.edu/docviewer/digital?id=chla3117174#mode/1up
7. ELG'-Architects International. (n.d.). https://sites.google.com/view/elga-architects-international/about-us?
8. ELG Architects. (2016, January 30). SKA [Video]. YouTube. https://www.youtube.com/watch?v=XcKwqsURoZU
9. 9.ELG Architects. (2017, March 10). MED2 [Video]. YouTube. https://www.youtube.com/watch?v=9OlL18YKup0
10. ELG Architects. (2017, March 6). MED [Video]. YouTube. https://www.youtube.com/watch?v=U9ol1CEMy4c
11. ELG'-Architects International - WE ARE ON THE MEDIA. (n.d.). https://sites.google.com/view/elga-architects-international/about-us/we-are-on-the-media
12. File: Missel Dominican MG 2117.jpg - Wikimedia Commons. (n.d.). https://commons.wikimedia.org/wiki/File:Missel_dominicain_MG_2117.jpg
13. Holistic, analytic & Developmental Rubrics | Overview & Examples - Lesson | Study.com. (n.d.). study.com. https://study.com/academy/lesson/analytical-holistic-developmental-rubrics.html
14. Kizlik, R. J. (n.d.). Classroom management mistakes. Copyright 2014 Robert Kizlik & Associates. http://www.adprima.com/managemistakes.htm
15. Langar, S. Z. (2017, October 23). 9 types of design juror every architecture student faces in school.

ArchDaily. https://www.archdaily.com/878528/9-types-of-design-juror-every-architecture-student-faces-in-school

16. MasterClass. (n.d.). Bauhaus Architecture: Origins and Characteristics of Bauhaus - 2024 - MasterClass. https://www.masterclass.com/articles/bauhaus-architecture-explained
17. MGH IHP. (2022, October 16). Rubrics. https://www.mghihp.edu/news-and-more/opinions/rubrics
18. Omar, Y., & El-Gammal, Y. (2020). A rubric for the design studio. ResearchGate. https://www.researchgate.net/publication/347976158_A_Rubric_for_the_Design_Studio
19. Quinlan, A., Corkery, L., & Marshall, N. (2007). Positioning the Design Tutor's presence in the Design Studio for successful student design learning. ResearchGate. https://www.researchgate.net/publication/237840423_Positioning_the_Design_Tutor%27s_presence_in_the_Design_Studio_for_successful_student_design_learning#pf3
20. Salama, A. M., & El-Attar, M. T. (2010). Student perceptions of the architectural design jury. International Journal of Architectural Research: Archnet-IJAR, 4, 174–200. https://doi.org/10.26687/archnet-ijar.v4i2/3.104
21. The state nobility. (n.d.). Google Books. https://books.google.com.eg/books?id=do9ojIrzXgC&pg=PA133&redir_esc=y#v=onepage&q&f=false
22. Watermark Insights. (2022, March 16). Rubric-Based Assessments: Usage and Benefits | Watermark. Rubric-Based Assessments: Usage and Benefits. https://www.watermarkinsights.com/resources/blog/rubric-based-assessments-usage-and-benefits
23. Wikipedia contributors. (2024, May 23). Rubric. Wikipedia. https://en.wikipedia.org/wiki/Rubric
24. Wikipedia contributors. (2024, July 18). Rubric (academic). Wikipedia. https://en.wikipedia.org/wiki/Rubric_%28academic%29
25. 25.Wikipedia contributors. (2024, May 7). École des Beaux-Arts. Wikipedia. https://en.wikipedia.org/wiki/%C3%89cole_des_Beaux-Arts
26. Young Architects Competitions. (n.d.). Young Architects Competitions. https://www.youngarchitectscompetitions.com/about
27. Yang, A. (2024, May 13). 12 Architecture Passion Project Ideas for Students | Polygence. https://www.polygence.org/blog/architecture-passion-project-ideas-for-students
28. Zu. (n.d.). مسق نع Architectural Engineering. http://en.eng.zu.edu.eg/faculty/sector_info?d=1546