

## A Strategy for Teaching Interior Design Through Reality-Based Project (An Experiential study)

**Dr. Karam Abdallah**

Assistant Professor, Arts & Design Faculty, October University for Modern Sciences and Arts - Egypt  
dr.karamabdallah@gmail.com

### Abstract:

The interior design studio is an important process, which aims to shape the design sensitivities of students and develop their communicative abilities as well as their problem-solving skills. Within this context, the research studies a strategy for teaching interior design through a reality-based project. It is based on the analysis and evaluation of a practical experience that was applied to the third-level students at MSA university, faculty of Arts & Design, department of interior design – design studio III (Commercial Design) unit – the academic year 2020/2021. Where a group of students designed a real project for a real client. The research aims to peruse the extent of benefits from applying the reality-based project as one of the teaching strategies and find the best way to apply this strategy. The research explains this strategy and its importance from the point of view of modern learning theories. It outlines the most important related studies that have applied this strategy in the academic field. This concludes the preferred applications that should be followed in these types of strategies and found learning outcomes and criteria upon which students' projects are evaluated. Then it will discuss the applied experience, and concludes the results and recommendations by analyzing the final projects based on the criteria concluded from the previous studies, and through a questionnaire answered by the students. **Problem:** Does teaching interior design through a reality-based project achieves the learning outcomes and the interior design process better than the virtual project? **Objectives:** The research aims to deduce the benefits of applying the reality-based project as a teaching strategy in teaching interior design studios. **Methodology:** The research adopts experiential and analytical methods. It introduces the opinions of specialized scholars and academics on the importance of the reality-based project strategy and its relation to the experiential learning approach. The related study helps to conclude a set of learning outcomes provided by the reality-based project. Then the research analyzes the practical experience carried out by the students and evaluates it in light of 1) the learning outcomes of the unit, 2) the learning outcomes provided by the reality-based project, which was deduced from previous studies, 3) a questionnaire that surveys the students' opinion to measure the extent to which they benefited from applying the reality-based project strategy.

### Keywords:

**Reality-based project, teaching interior design, strategy for teaching interior design, experiential learning.**

Paper received 20<sup>th</sup> March 2021, Accepted 8<sup>th</sup> June 2022, Published 1<sup>st</sup> of July 2022

### 1. INTRODUCTION

The methods of teaching interior design vary, due to its special nature that combines art and science; where interior design needs to combine theoretical studies that provide project data such as concepts and needs, and the scientific part to achieve the function through architectural drawings and implementation. Strategies for teaching interior design are project-based learning. Modern curricula have evolved to include a theoretical part in their strategy like lectures and research and a practical part in the studio. However, most of these strategies are based on designing virtual projects where the student is given a plan and is asked to develop a scenario for a virtual client, and then makes the required design after research and analysis. Many studies have proven that there is a gap between education and practice, when the student after

graduation faces a real client and site with special requirements, the student then realizes he/she needs a long training period to be able to deal with them. This leads us to search for new strategies in teaching interior design.

#### Research Problem:

Does teaching interior design through a reality-based project achieves the learning outcomes and the interior design process better than the virtual project? **Research Objectives:** The research aims to deduce the benefits of applying the reality-based project as a teaching strategy in teaching interior design studios.

#### Research Methodology:

The research adopts experiential and analytical methods. It introduces the opinions of specialized scholars and academics on the importance of the reality-based project strategy and its relation to the

experiential learning approach. The related study helps to conclude a set of learning outcomes provided by the reality-based project. Then the research analyzes the practical experience carried out by the students and evaluates it in light of 1) the learning outcomes of the unit, 2) the learning outcomes provided by the reality-based project, which was deduced from previous studies, 3) a questionnaire that surveys the students' opinion to measure the extent to which they benefited from applying the reality-based project strategy.

### **Experiential Learning Theory:**

David Kolb developed the Experiential Learning Theory (ELT) which is based on the premise that a person learns from direct experience. Kolb's experiential learning style theory is typically represented by a four-phase learning cycle: Concrete experience (apprehension), abstract conceptualization (comprehension), reflective observation (intension), and Active Experimentation (extension). Real experiences help an individual learn and understand abstract concepts, and critical thinking leads to refining ideas or thinking about alternative possibilities. These phases are linked to each other, and each phase leads to the other, which all subsequent phases build on. These four phases provide each learner with different and varied ways of acquiring knowledge according to his preferred method, but the learner must adapt to other methods to acquire full knowledge (Zhou, Molly, and Brown, David 2015. 52).

Kolb (1984) emphasizes the learning process, as learning is achieved through the learning process and not through outcomes; which contradicts the traditional results-based learning methods. Learning is described as a never-ending process where ideas and concepts result from experience and are in constant change and development. They are not stable (Kolb, 1984. 26).

### **- Situated Learning Theory:**

Based on the Experiential Learning Theory, (Young, 1993. 44) defines Situated Learning Theory (SLT) as learning that is not based on remembering and memorizing but rather on thinking and must be viewed from both psychological and environmental perspectives. It is based on the interaction between the learner and the environment around him during the learning process. Memorizing arises through interactions with the environment and memory then is replaced by perception, attention, and observation. He explains that situated learning is achieved through the reality-based project that arises from the environment related to the specialty or profession that the student is learning. It emphasizes the importance of the reality-based project in

developing students' abilities to face design problems in real life, as it leads to a multiplicity of viewpoints in understanding reality and thus stimulates their creativity in solving problems and finding more diversified solutions which are all correct.

Based on the above, we find that situated learning is achieved in the reality-based project strategy for teaching design studios in interior architecture, and this has already begun and has proven successful since Walter Gropius founded the Bauhaus School in 1967, where the crux of its philosophy, "learning by doing," was a core method that found widespread implementation from the designing of projects to the use of materials. In other words, the student was learning by experiencing the problem (Leyla Y. Tokman 2007. 247).

The reality-based design approach is a move away from all the instructor-centered methods applied in the traditional studio environment toward a student-centered method that takes place in the real environment and that reinforces social connections (Leyla Y. Tokman 2007. 246).

## **2. LITERATURE REVIEW:**

### **2.1. Reality-based project strategy in teaching interior design:**

Instructors frame problems for didactic purposes, simplifying real-world issues so their students can focus upon design in isolation from its sociocultural, economic, and political dimensions—much as scientists isolate variables during laboratory experiments (Sharon E. Sutton 2014. 102).

Many studies dealt with the reality-based project strategy in teaching architectural design studios or interior architecture, in Arab universities or around the world. However, for the success of this strategy, Young (1993) identified four important points that must be taken into account: 1) Choose the appropriate reality-based project through which the desired objectives of the educational process can be achieved as not every project could engage students to get satisfactory results (where it should cover the required learning outcomes accurately), 2) Provide opportunities for students to work on the reality-based project with experts, so that the teacher plays the role of trainer, 3) Develop a plan so that the professor can track the work progress and assist students (Young. 1993. 46), 4) Develop an assessment strategy that fit the project which must focus on the learning process as well as the learning products (Young. 1993. 48). The reality-based project has an educational environment that contains real and new problems every time. The students face new challenges that differ from the known problems in virtual projects which may have been previously set by the teacher. Also, it provides

the students with the opportunity for self-learning by analyzing the existing situation and looking for solutions. So, teaching becomes the process of supervising the learning process and this supervision is not limited to the professor but extends to any third parties such as experts from market stakeholders and learning from peers.

The three most common kinds of problems that practicing engineers solve include decision making, troubleshooting, and design. The students should be encouraged to develop the right solution to deal with real and complicated problems and to be able to integrate the viewpoints and insights of other specialties and stakeholders into the problem-solving process (Remon Rooij, Renate Klaassen 2019. 838, 839).

Cuff, D. (1991) analyses in her book the relationship between the design and the client. She says that in the academic field of design schools, design is always a priority, as the client is virtual. Theoretically, the two sides; the design and client overlap and complement each other. In the real field - which is the job market - these two sides are in constant conflict. She debunks the myth that an active client is an enemy of good architecture. On the contrary, highly demanding clients who can see the need to step back at key points in the process are shown to be agents of good architecture (Dovey, Kim. 1996. 261-262).

One of the most important opportunities provided by the reality-based project is the existence of a real site where the students visit the site they design its interior spaces. This visit gives them a great opportunity to develop their perception of the place, collecting data about the relationship of the place with the surrounding buildings or landscape, the urban characteristics of the adjacent buildings, and the social structure of the area. It also helps identify construction problems and be familiar with them. The field trip provided unique opportunity for learning that is not available within the four walls of the classroom. The emphasis on the site/place/context produced deeper and meaningful work that demonstrates sensitivity and sensibleness in design that forges modest intention to responsible designers of architecture and the built environment (Ng, Veronica, 2013. 96,97). This reduces the impact of pre-models of architectural design on students' work. It should held as an activity during the predesign phase. Proper administration and organization are required to maximize the efficiency of a site visit. Therefore, students should be aware of the schedule, objectives, and outcomes of a site visit, as well as the required data for their initial research and contextual analysis (Ashraf M. Soliman, 2017. 206).

Even though the freedom the students have to choose the project allows them to enjoy the freedom of work and design without focusing on the limitations of others' opinions, it isolates them from their surroundings, whether they are other students or society. This leads to acquiring very few experiences accumulated from the others' experiences. Hence, dealing with a third party in the design education process guides students towards the real direction and forces them to be in contact with others and in touch with reality. This increases their experience and ability to deal with design problems (N. Utaberta & B. Hassanpour, 2012. 1810).

Students learn best within a dynamic sociocultural context in which they are engaged in addressing meaningful problems in their surroundings. Hence, (Sharon E. Sutton, 2014) suggests three main principles of studio teaching: collaborative learning, learning across differences, and reflective learning. She suggests a set of points to facilitate collaborative learning: Taking on a reality-based project with a real problem that incorporates interdisciplinary fields, combining independent and cooperative work, and peer critiques of work within small groups and then across the entire class.

Collaborative learning is part of a more comprehensive interdisciplinary approach. The interior design profession is complicated and requires the cooperation of interdisciplinary groups to complete the design. Associating with clients, peers, and experts and participating with their ideas and viewpoints is a part of the profession. Many researchers declared that advanced thinking skills and technical methods in design training are not acquired unless through incorporating interdisciplinary persons. One of the fields of collaborative learning is engaging stakeholders in the design process to participate in solving the technical problems during project development. Therefore, one of the effective ways to introduce stakeholders and professionals in the field is through the design studio; representatives from companies, and site visits (Makki, Alaa, 2009. 244).

In schools of architecture, there is some use of peer group discussion and interaction around design projects. This can now be judged a valuable feature of architectural education, given the large body of research evidence showing that interaction and discussion in student groups positively enhance individual learning. This method will positively enhance critical thinking and develop self-concept, social skills, personal responsibility, values, and attitudes (N. Utaberta, B. Hassanpour, 2012. p 1811). Also, one of the most important features of collaborative learning is that it increases the

benefits of the design process rather than just being satisfied with the final product.

Learning across differences brings diverse groups of users together in problem-solving that opens the door for conflicts and negotiation of social and cultural differences. Conflicts can turn into learning opportunities when recognized and then negotiate and transform through creative solving (Sharon E. Sutton 2014, 104).

For reflective learning, (Schon, Donald A. 1987) defined in her book the meaning and importance of reflective thinking in the practitioner, which is the communication between the student and the teacher that is reflected in the student's work, where he hears and imitates the teacher which means translating what he/she hears into action (Schon, Donald A. 1987. 103). The student reflects on the action of the instructor and the instructor reflects on the action of the student (O.O. Demirbas, 2003. 440). A. Brockbank says in her book that While active learning is necessary condition for the development of personal understanding it is not sufficient on its own, according to learning research. To developing understanding from experience requires students to consciously and systematically to reflect on wh

at he has learned theoretically in his work. Reflection is a way of linking together theory and practical experience so that both inform each other (N. Utaberta, B. Hassanpour, 2012. p 1809-1810). When Schon, Donald A. (1987) analyzed the demands of professional practice in the real world, he found that professional problems are messy, ill-defined, renewable, and different every time, and their solutions call on the integration and use of knowledge from many different domains. This cannot be achieved through the rigorous application of scientific knowledge, whereby expert professionals solve recurring problems by reflecting theoretical ideas in action, reflecting on distinguishing patterns, asking many questions, and identifying problems before resuming work. Over time, this reflective activity becomes a natural part of the thinking of professionals and becomes a habit of mind (N. Utaberta, B. Hassanpour, 2012. 1810).

Elizabeth Tarver (2013) indicated in her recommendations to bridge the gap between design education and the needs of the job market to include the study of the project budget in the research carried out by students in their project. The professionals noticed the low experience of fresh graduates reflected in their inability to set the necessary budget for projects. Therefore, the reality-based project and real client shall be an appropriate opportunity to study the budget and take into account the financial capabilities of the

client and the project, which helps in the decision-making during the design process.

## 2.2. Design Process:

### - Design process in the market:

The architectural and interior design process follows four important phases that form the outlines of the design process: the programming phase in which information is collected to enable brainstorming of new ideas and analysis of established ideas during the schematic design phase. Consequently, ideas are enhanced based on the feedback made to the design solutions during the design development phase, while keeping in mind that these design solutions may still be modified during the construction of the documents phase. In practice, these four design phases overlap with one another (Ashraf M. Soliman, 2017. 205). The participation of clients, stakeholders from professionals and peers, or users, occurs in several phases of the design, especially in the phase of collecting data, developing ideas, and design development.

### - Design process in the studio:

In the design studio, students follow the same chronological order of the design process in the market. In the first phase, students identify the general conditions and design manuals of the project, and its requirements, where brainstorming and programming are developed. In the second phase, drawings that define relationships between interior spaces are developed and the idea of the project is set. The third phase includes receiving critiques and feedback. This is provided by the supervising professors, in addition to the third party in the case of a reality-based project, which are the client, users, stakeholders, or specialists from the profession. Critique sessions are considered one of the vital systems of tutoring and learning. They expand students' knowledge throughout the design process, and enhance the students' outcomes and perspectives, adding to that, critique sessions function as the primary aspect of the design process. Similarly, when professionals and stakeholders contribute and be part of the critique sessions, the students can gain extra knowledge and perspectives along with the instructors' feedback (Makki, Alaa, 2019. 244).

The design process in the studio is the same as the design process in the real world, except that the phase of preparing documents and contracts is applied in the studio by presenting the project in the form of drawings and perspective shots only. Ashraf M. Soliman (2017) concluded from a questionnaire on design teaching strategies, that included professors from Egypt and the Arab world, that there are shortcomings in planning the teaching and learning process in the design studios

of many institutions. The most important of these shortcomings is the reliance on the virtual project and the scarcity of reality-based projects and teamwork, where he found that interviewing real clients takes the lowest ratings in the questionnaire. Therefore, the students do not acquire the skill of discussion and negotiation with the client to reach solutions. Some professors also believe that an individual-based strategy encourages creativity, given that no limitation is imposed on the thinking skills that come with shared yet conflicting ideas from students.

N. Utaberta & B. Hassanpour (2012) emphasize the importance of the design process compared to the final design, i.e. the product, as in university education, priority is given to the final product upon which students' work is evaluated. The final product, i.e. the project, is a set of drawings. They do not pay attention to what the student has learned during the design process itself, as even in the real world of the architecture profession and not long ago, any architectural work was judged by its shape only, without giving sufficient attention to evaluating the use of the building after its completion. Even in university education, there is still no methodology for evaluating the phases of learning, i.e. evaluating the student's ability to focus on the design process and phases, developing the ability of programming, setting innovative concepts for the building, and integrating users in the design process. In addition, evaluating (the form) in architecture always needs specialists, and for this, the non-specialized public is excluded from the process of evaluating buildings. Hence, evaluation and assessment strategies in universities must evolve to be able to evaluate design processes along with evaluating the final design. The way that facilitates this development is to call the client or the real user of the design to participate in the design process and evaluation.

### **2.3. Fill the gap between the job market and education:**

L. M. Khodeir (2020) in research on filling the gap between architectural education and the requirements of the job market in Egypt, states that the market in the 21<sup>st</sup> century has demands skills and competencies that must be provided to job applicants, and by surveying the opinions of specialists, it is found that the basic skills that students must acquire in the design studio include (in order) creativity, innovation, decision-making, presentation skills, and problem-solving. On the contrary, the basic skills in the work environment include (in order) decision-making, critical thinking, communication, time management, and teamwork. She concluded that creativity and innovation were two points of great contention in

terms of their importance to experts. As an architect's experience increases, more professional ethics and a sense of responsibility take priority. From this standpoint, this study presented proposals related to the development of the education process, including adding practical applications and reality-based projects, integrating 21st-century skills such as negotiation skills, ethics, and enhancing self-confidence, in addition to increasing site visits.

Makki, Alaa (2019) also asserts that students develop their ideas and concepts through being outside the studio and interacting with others as an alternative to the principles of academic rational thinking that are taught in daily life. Therefore, students are introduced to non-academic experts and stakeholders through the design studio. Engaging representatives from companies, and site visits, expand students' knowledge and exposes them to new professional methods and techniques. In addition, it helps students improve their ability to understand different areas in their field and discover new limitations, so they start to think more deeply about each problem and solve it through real-life examples.

The strategies of teaching interior design generally work on providing students with professional skills, which are the ability to understand users' needs, critical thinking, problem-solving, planning interior spaces, and acquiring technical and technological skills and methods of professional practices. Therefore, the ability to discuss, negotiate, and deal with people from different cultural and scientific references are important points that must be added to modern teaching strategies (Makki, Alaa, 2019). Bridging the gap between academic education and the complexities of professional practice demand a multidisciplinary approach by practicing professional architects and consultants: Colleges of architecture need to encourage the participation of practicing professional architects, engineers, and consultants of different disciplines to join in guest lectures as well as provide input in design studios. From practical experience, it was found that professionals enjoy interacting with the students and the students benefit enormously from exposure to the experts (Shafik I Rifaat. 2019. 14).

A group of researchers (Clive L. Dym, 2005) assert that enhancing design thinking and decision-making ability for engineering students is one of the most important gains that result from project-based learning. Involving expert professionals in the planning and practice of teaching will also provide significant expertise in design studios, and at the same time will help mitigate the problem of shortage in teaching staff. In addition, these professional experts, design researchers, and educators are invited to lectures, meet together, and

cooperate in setting teaching plans or teaching practice likewise. Adding these strategies mentioned by the researchers moves the project from just a virtual project to a reality-based one that increases the effectiveness of the educational process.

### 3. LEARNING OUTCOMES:

#### 3.1. Learning outcomes deduced from previous studies of the reality-based projects:

After analyzing previous studies, we can conclude a set of learning outcomes provided by the reality-based project when applied as a strategy in teaching interior architecture:

1. Strengthen the ability to analyze project requirements and ideas as a result of a better ability to perceive the place during field visits, and to understand the relationship between the site, the neighborhood, and the user.
2. Identification of Problems: to face new and variable problems every time.
3. Discussion and Negotiation: As a result of dealing with the third party in the educational process.
4. Decision-Making: understanding the problem, and understanding the project data, helps to choose the best decision, and the participation of the third party, helps in selecting the best solutions.
5. Finding Innovative, Non-Traditional or Stereotypical Solutions: as a result of integrating the views and insights of experts from the same specialty and/or interdisciplinary, and/or users.
6. Enhance self-confidence and ability to communicate.

#### 3.2. Learning Outcomes of Interior Design Studio III course<sup>1</sup>:

The learning outcomes in this course include 1) Intellectual skills that include the ability to research, analyze, compare, create ideas, and solve problems, and 2) Practical skills, which are related to the functional and aesthetic aspects, including the ability to apply ideas through architectural drawings, and project presentation. These outcomes are achieved by applying virtual projects in the college.

We note that these learning outcomes are not exposed to social and professional communicational skills outside the academic field. It also does not evaluate the design phases and processes and what the student has learned during these phases. The learning outcomes here target the final product and consider that the ability to design a project that achieves functional and aesthetic

<sup>1</sup>Unit Information Form (UIF2018).

values, is evidence of the student's acquisition of all the required research and practical mental skills.

### 4. CASE STUDY IN REALITY-BASED PROJECT:

This case study was applied to third-year students at October University for Modern Sciences and Arts (MSA), Faculty of Arts & Design - Department of Interior Design – Design Studio III (Commercial Design course) – Academic Year 2020/2021. Only 10 students participated based on the client's desire that the number does not exceed 10 to facilitate following up the design process, participating in critique, and guiding together with the supervising professors. The students were selected according to the students' desires firstly and secondly, their GPA in the previous project.

The third party in the reality-based project was Nadim Furniture, which is a company with an Islamic identity and has several branches in Egypt. The project was to design one of the new branches under the name Kenda to display the company's products with a contemporary Islamic theme. The company has sent a representative to follow up on the work, who is specialized in the field of interior design. Thus, the third party here is a client, a user, and a specialist at the same time, which can help achieve the greatest benefit for students.

The students carried out all the requirements of the design process adopted in the learning outcomes: research, and analysis of the function and identity of the project. In addition, they identified ideas and drawings and then presented them in professional technical ways. These are the same steps taken by their colleagues in the course, except that this group had the following additional steps:

- Visiting one of the company's branches accompanied by the supervising professor and the company's representative. At this phase, the construction requirements and identity elements of the company were identified (Fig. 18.a).
- A field visit to the site, accompanied by the supervising professor and the company's representative. At this phase, the students got to identify the design problems and began to think of solutions on the ground (Fig. 18.b).
- The company's representative attended the studio several times. The discussion and negotiation took place to solve the problems and choose the design elements suitable for the company's identity according to the site and financial capabilities. The results of these negotiations and discussions helped decide on functional and aesthetic aspects.
- An exhibition was held to display the students' work, attended by the supervising professors, and a group of design professors in the college,

in addition to managers from Nadim Furniture (Fig. 19).

### Questionnaire Results:

A questionnaire was conducted to survey students' opinions after the end of the academic year, and after the students finished (Design Studio IV) course, where they carried out a virtual project. Therefore, they could judge and evaluate the reality-based project by comparing the two strategies. The questions in the questionnaire were divided into several parts as follows:

#### a. Evaluation of Collecting Data and Finding Solutions phase:

At this phase, 90% agreed that visiting one of the company's branches helped analyze requirements, find solutions, and formulate ideas, and 80% of the students agreed that visiting the site helped them discover new design problems. 100% of the students agreed that the reality-based project allowed them to identify problems that were not found in the virtual project they were exposed to in the second semester. 60% agreed that the problems of the reality-based project were more difficult than the virtual project, but they agreed that the discussions with the client helped them find functional solutions. 50% agreed that the most difficult problems are structural problems, followed by identity problems.

#### b. Evaluation of creative thinking and design phase:

90% of the students agreed that their knowledge of the history of Islamic interior architecture within the History of Interior Design course helped them find the appropriate decorative elements for the design and use them in a way that suits the company. So, the reality-based project helped them to choose and learn how to analyze and simplify decorative elements in compliance with the identity required by the client.

40% of the students agreed that they had other ideas, but they could not use them in the project for not structurally fitting in or not fitting the company's identity. The virtual project allowed creative freedom with fewer restrictions.

#### c. Evaluation of the students' psychological state while working on the project:

30% of students reported that they were more nervous while working on the reality-based project, due to lack of time or because of dealing with a third party. At the same time, 90% agreed that dealing with a third party increased their self-confidence, and their ability to discuss, negotiate, and explain ideas. The students agreed by 90% that working in a group and the site visit with the supervising professor led to strengthening the relationships between them and the professor.

#### d. Students' opinion of the reality-based

### project:

70% of the students agreed that the reality-based project allowed them to better understand other courses such as "Systems and Environmental control", "Communication and Professional Practice I - working details", "Heritage of Interior Design".

70% of the students agreed that all projects should be reality-based, while the rest of the students preferred that there would be only one reality-based project during the study period.

### 5. DISCUSSION:

The following is an analysis of the projects carried out by the students, and of the extent to which the designs have achieved both functional and aesthetic aspects. The analysis was based on the evaluation of the project's arbitration committee from faculty teaching staff, in addition to the third party.

#### 5.1 Function Fulfilment:

The students were able to achieve the functional requirements in the project, which include 1) maintaining the building requirements in the mall, 2) meeting the customer's needs by displaying the largest quantity of furniture pieces in a way that preserves the appropriate circulation in the place, 3) addressing the construction defects, which ensures the presence of two huge columns in the display area, small recessed niches in the walls, and narrow space to the north of the main entrance, in addition to the escape door that prevents being addressed or covered.

Students used the wooden partitions, which are one of the company features, to separate the displayed items and maintain direction, or create specific paths. One of the students put a partition behind the bed to create a space to put a large wardrobe (Fig. 15 & 1). Another student set the partition to create a model for a dressing room (Fig. 2).

Wooden partitions with patterns, taken from the company's library, were used to make shelves and cover the two huge columns so that they become aesthetic elements that are both for displaying items and as decoration (Fig. 10).

#### 5.2 Achieving the Islamic identity:

By asking a group of faculty teaching staff to do research explaining the educational process they perform and its importance in teaching architectural design, Remon Rooij & Renate Klaassen (2019) indicated that a group of researchers emphasized the importance of students learning the history of architecture and how they integrate or express in their designs. In this experiment, we see the students benefiting from the History of Interior Design course that they study in parallel with the Design Studio III course, where the students were able to conclude and summarize the elements of Islamic architecture and use them in their design to

achieve the company's identity. The company also shared its library of interior design elements and ornaments with the students, so they were able to select elements from the company's designs and successfully integrate them with the elements studied in the History of Interior Design course.

The following are interior design and decoration elements that the students used in their projects. Some of them are inspired by the company's library, and others are Islamic architectural elements. (Fig. 4& 3):

**Muqarnas:** A student used it in the facade by placing it in a small corner to fix it for being too small to display any furniture pieces. He used the small space to make the muqarnas as a decoration that attracts the eye. (Fig. 5).

**Mafrouka:** The Islamic ornament was modified and used behind the counter in a modern way, to display the materials that the company sells (fig. 6). Another student used it in the ceiling in a modified way too (Fig. 7), while a third student used it in wall cladding. (Fig. 8).

**The Dome:** The dome was employed in the ceiling and modified so that it becomes shallow and its size was decided in consideration with the suspended ceiling. (Fig. 9).

**Islamic Arches:** Arches were used in the design

once in the side entrance, and again a student took advantage of the space between the two huge columns and created a large arch between them, transforming the two columns from a structural problem into a part of an aesthetic element. (Fig. 10 & 11).

**Coloured Glass:** A student used colored glass in the form of bottles behind the counter, and in the form of lighting units hanging above it, inspired by the idea of lantern (mishkat). (Fig. 12).

**Recessed Niche:** Used in the library, inspired by the recessed niches in the walls of Islamic houses. (Fig. 13).

**Wooden Partitions:** Inspired by the Mashrabiya, were placed to separate the spaces and furniture pieces. (Fig. 14 & 17).

**Islamic ornaments:** They were used in the ceiling, by making a sheet of hollow ornaments with the lighting behind it (Fig. 16).

**5.3 Presentation:**

Students used 3D-MAX for perspective shots and Auto CAD for architectural drawings. The projects were presented in the form of posters in the exhibition attended by the supervising professors and the third party including the company's owners and project supervisor (Fig. 19).

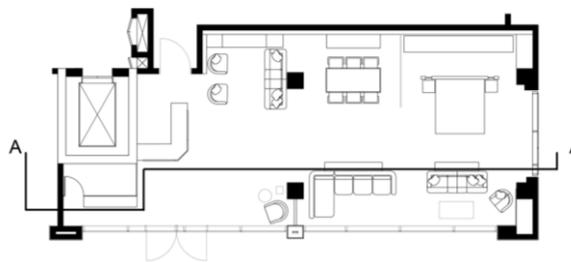


Fig. (1)

Setting a partition behind the bed and the sofa to create a space for a dressing room

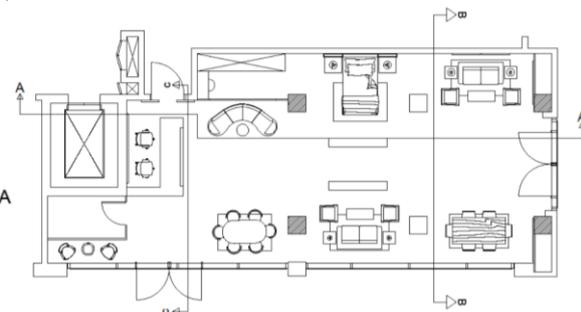


Fig. (2)



Fig. (3)



Fig. (4)

Pictures for the decoration elements used by the company

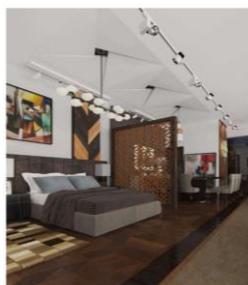


Fig. (7) - Mafrouka in the ceiling

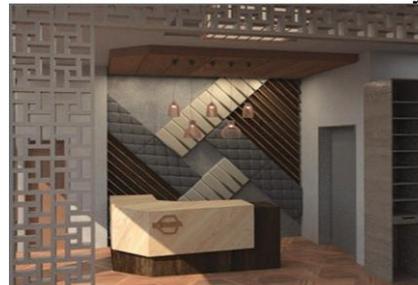


Fig. (6) - Islamic Mafrouka behind the counter



Fig. (5) – Muqarnas



Fig. (8) – Mafrouka in-wall cladding



Fig. (9) – Shallow Dome



Fig. (10) - Multifoil (Lobed) Arch



Fig. (11) – Pointed arches



Fig. (12) – Colored Glass



Fig. (13) – Recessed niche and wooden partition



Fig. (14) – Wooden partitions



Fig. (15) – Partition behind the bed

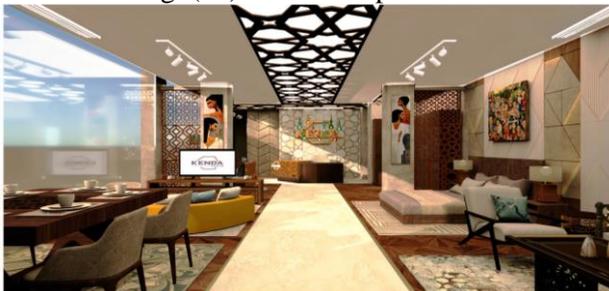


Fig. (16) – Using hollow decorations in the ceiling for lighting



Fig. (17) – Hollow decorations between the two columns



Fig. (18) – The students during teamwork on-site, collecting data, and at projects presentation

**6. CONCLUION & RECOMENDATIONS**

The application of this experience achieved the following outcomes:

1. **Identifying problems:** The field visits that the

students made to the site while it was under construction enhanced their ability to perceive the internal space and understand the construction problems, as well as recognize the



relationship between the façade and the building and the surrounding urban environment.

2. **Discussion and Negotiation:** Students gain experience in negotiation and discussion by trying to explain ideas and understand problems.
3. **Decision-Making:** From a full understanding of the project's data of the building requirements, the required identity, the client's capabilities and needs, and after discussion, the students were able to take effective decisions to solve the project's problems, whether construction or design.
4. **Finding Diverse and Innovative Solutions:** Each student was able to solve the project's problems in a different way than the other. They presented 10 different ideas despite the small space and the similarity of inputs and problems as seen, through achieving the identity and setting furniture.
5. **Self-Confidence:** The students' self-confidence was boosted through communicating with the client and jury members from outside the academic field, and being able to achieve the design aim.

Thus, the reality-based project was able to achieve the learning outcomes required in the course, as the students acquired mental skills through discussion, data analysis, and analysis of the interior design elements related to the identity required in the shop. They were also able to achieve practical skills through the ability to find solutions, communicate, and appropriately present the projects. The students completed the research phase and collected data through the site visits, as the phase was done through group teamwork. Then the design phase, where they find solutions and ideas that distinguishes each project. This phase was done through individual work. The critique and discussion with the client helped decision-making. Then the students presented ideas through architectural drawings and 3D shots.

The design process in the reality-based project achieved various teaching methods, the most important of them is collaborative learning. The students cooperated in the phase of collecting data, searching for project inputs, and discussing solutions. Also, it achieves learning across differences, as the students dealt with the client who is both user and a specialist. The project also achieved reflexive learning by allowing the students to view the ideas of the supervising professor as well as the client, so their experiences were reflected on the students in terms of thinking and understanding problems, and finding solutions. In doing so, the students achieved what was

previously indicated by Sutton. E Sharon (2014).

The selected project for the experience achieved the learning outcomes because the store corresponds with the objectives of the commercial design course this semester. It is also connected to other courses that are taught in parallel with the design course, which helped the design implementation. This proves that choosing the appropriate project is of great importance in achieving the best learning outcomes, as Young (1993) mentioned in his research.

As Cuff (1999) mentioned, the presence of a client specialized in the field of interior design, helped in the success of the experience. The client's observations and directions were positively reflected on the students' work and their ability to understand and perceive problems, find solutions and make decisions, whether in the form of functional structural problems or identity problems. The experience also supports the results of the questionnaires conducted by (L.M. Khodeir 2020) to fill the gap between education and the job market, as the reality-based project led to focusing on the skills of debate and enhancing self-confidence through field visits and contact with experts from outside the academic field. In addition to a rising sense of responsibility as a result of the students' need to reach satisfactory outcomes in a short time and their commitment to visit the site and the client frequently. These skills were classified as one of the most important functional requirements in the twenty-first century, as mentioned in the research.

So for a better application of the reality-based project, or to achieve the best learning outcomes that cover the lake of the reality-based projects it is recommended the following:

- Find a specialist client and an under-construction site.
- Set criteria for evaluating the design processes and not only the project's final product.
- Expand the learning outcomes in the design courses to enhance the student's critical thinking, negotiation, and project management ability. This urges faculty teaching staff to find reality-based projects or to involve a third party of experts in the profession to achieve these outcomes.
- Making a joint project between the design course and the following course(s): "Systems and Environmental control", "Communication and Professional Practice I - working details", "Heritage of Interior Design", and "Materials in Interior Design".
- Apply collaborative learning between students of different levels, so that students of advanced levels participate in critique during the design

processes or projects critique after their completion.

The research recommends the faculty strengthen cooperation and partnership agreements with various specialists, designers, and construction companies to provide reality-based projects and workshops for students, on an ongoing basis. In addition, provide site visits to their projects that are under construction.

#### 7. Recommendations for future research:

This research opens the way for more future research on the implementation of the reality-based project strategy, like studying the reality-based project's impact on enhancing creative thinking among students and comparing it with creative thinking in the case of the virtual project. As well as finding ways in which the reality-based project can be replaced by modern technologies such as VR to compensate for the lack of a reality-based project by faculty teaching staff.

#### 8. REFERENCES:

1. Ashraf M. Soliman (2017). Appropriate teaching and learning strategies for the architectural design process in pedagogic design studios. *Frontiers of Architectural Research*, Elsevier, Volume 6, Issue 2, June 2017, Pages 204-217.
2. Clive L. Dym, Alice M. Agogino, Ozgur Eris (2005). Engineering Design Thinking, Teaching, and Learning. *Journal of Engineering Education*, January 2005.
3. Dovey, Kim. *Journal of Architectural and Planning Research* 13, no. 3 (1996): 261–64. <http://www.jstor.org/stable/43029222>.
4. Elizabeth Tarver (2013): What I wish I know: Interior Design Graduates Sense of Preparedness to Practice. Master of Fine Art thesis. The Florida State University College Visual Arts, Theatre and Dance. 2013. UMI Number: 1545966. Published by ProQuest LLC (2013).
5. Kolb DA (1984): *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.
6. L.M. Khodeir, A.A. Nessim (2019). Changing skills for architecture students' employability: Analysis of job market versus architecture education in Egypt. *Ain Shams Engineering Journal* 11 (2020) 811-821. 2090-4479/ 2019 THE AUTHORS. Published by Elsevier BV on behalf of Faculty of Engineering, Ain Shams University. This is an open-access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).
7. Leyla Y. Tokman and Rusen Yamacli (2007). Reality-Based Design Studio in Architectural Education. *Journal of Architectural and Planning Research*, Vol. 24, No. 3 (Autumn, 2007), pp. 245-269 (25 pages), Published by: Locke Science Publishing Company, Inc.
8. Makki, Alaa, Farooq, Maham, Alaskar, Nojoud (2019): *The Design Process in Interior Design Studio: Integrating Interdisciplinary Approach in Undergraduate Level for Improving Professional Practice*. Springer Verlag. Springer International Publishing AG, part of Springer Nature 2019. ISSN: 21945357.
9. Michael F. Young (1993). *Instructional Design for Situated Learning*. Educational Technology Research and Development. ETR&D, Vol. 41, No. 1, pp. 43-58 ISSN 1042-1629.
10. N. Utaberta, B. Hassanpour, M. Surat, A. I. Che Ani, N.M. Tawil (2012). *Architecture from Teaching to Learning to Practice: Authentic learning Tasks in Developing Professional Competencies*. World Academy of Science, Engineering, and Technology, International Journal of Educational and Pedagogical Sciences, Vol:6, No:7, 2012, ISNI:0000000091950263.
11. Ng, Veronica (2013): Values of Learning Through 'Place-Making' in The Design Studio. *ArchNet-IJAR: International Journal of Architectural Research*; Cambridge Vol. 7, Iss. 1, (Mar 2013): 86-98.
12. O.O. Demirbas, and H. Demirkan (2003). Focus on architectural design process through learning styles. Elsevier Science Ltd. DOI: 10.1016/S0142-694X(03)00013-9.
13. Remon Rooij, Renate Klaassen (2019). Architecture and built environment design education: disciplinary and pedagogical developments. *International Journal of Technology and Design Education* (2020) 30:837–848.
14. Schon, Donald A. (1987). *Educating the Reflective Practitioner, Toward a New Design for Teaching and Learning in the Professions*. Jossey-Bass higher education series, ISBN 1-55542-025-7.
15. Shafik I Rifaat (2019). *The Multidisciplinary Approach to Architectural Education: Bridging the Gap between Academic Education and the Complexities of Professional Practice*. Shafik I Rifaat 2019 IOP Conf. Ser.: Mater. Sci. Eng. 471 082067.
16. Sharon E. Sutton (2014). *The Reality-Based Learning in Design Education*. Design DEducation, Colombia University, Hand-on Learning. 6182P SPACE UNVEILED-



A/rev/lb\_Royal A Sabon/Sue/hypn 22/4/2014  
Page 103.

17. Zhou, Molly and Brown, David (2015),  
"Educational Learning Theories: 2nd Edition"

(2015). Education Open Textbooks. 1.  
<https://oer.galileo.usg.edu/education-textbooks/1>