Context and Concept in Architectural Design Studio: Design Studio IV
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Abstract
Context is an external component that indicates the conditions surrounding a project site. The study shows the importance of architectural context for the architectural studio, where the study focuses on the results of students’ work in Architectural design studio IV at the third year of architectural study, to explore students’ abilities in how to link the concept with the site context. The studio centers studies in the classroom in the 2019 - 2020 Spring semester, where due to pandemics all around the world, the online lectures continued digital platforms and homely. The research methodology is geared towards collecting 9 students’ work in the assigned studio, to explore their abilities in how to create the bond between their concept and the context, to see, what is the impact of the pandemic? The study aims to highlight the impact of context on the concept in future architectural education.

Keywords: Architectural education; environmental context; design concept; site analysis; architectural design

1. INTRODUCTION
Coordination between modern architectural design concept and a modern architectural context is easier than modern architectural concept with an ancient architectural context. Architects sometimes start with an architectural concept without thinking of the characteristics and history of the site context, to highlight and distinguish their designs from other existing designs in the neighborhood, where they consider this method gives an architectural distinction, while the fact is opposite and the understanding the context considers as the most important stage in architectural design, such as, zoning data, buildings and other impacts, such as site boundaries, easements, height restrictions, site area, the history of the site and the previous and present uses of the buildings and all that surrounds the human from natural influences such as climate (sun, air, humidity & heat) and the nature of the soil and the earth and its topography. The comfort of the people who use the building must be taken into consideration by providing personal needs and any other influences such as the general economic and cultural milieu, religion, customs,
and traditions. The surrounding environment includes both positives and negatives, and the task of the architectural designer is to benefit from the positives and avoid negatives by providing a healthy and healthy environment for the spaces and architectural forms. Covid-19 epidemic has had a major impact on it in architectural design studios, such as the difficulty of visiting the site, studying, and analyzing the site, but fortunately, the site had been visited in project design IV with students before closing the universities and announcing the status of home quarantine, which helped to overcome this stage. Site analysis helps create an architectural concept that fits into the surrounding context.

1.1. The ways of working on the architectural concept and site context
Architectural concept is an idea that expresses on the identity of the project, as considered the backbone of the project design, it gives meaning to the work. Its strength and durability are formed during the progress, where the concept continues to evolve throughout the design process. Architectural concept is an idea that expresses on the identity of the project, as considered the backbone of the project design, it gives meaning to the work. Its strength and durability are formed during the progress; the concept continues to evolve throughout the design process. The concept expresses a mind representation, is something formed in mind, a solution, force of the project, the work identity (Folić & et al., 2016). The concept can be defined as an idea, opinion, theory, notion, thought, view, plan, impression, design, hypothesis, philosophy, image, etc. which come from site analysis, place, memory, movement, method, technology, material, personal architectural influences, functional requirements, precedent research, culture, society. The concept elements are structure, lighting, meaning, form, materials, functions... etc. Architectural design concept opens a field for more related ideas, make a student think and search to reach a richer idea. The concept can be expressed by several ways, such as: (Steed negative space, 2011).

- Diagram concept, such as bubble diagram, grid diagram and zoning, to show the different relationships within the spaces.
- Parti diagram concept, it is an early approximation drawing of a schematic design process represents the concept. "Parti actually comes from the French. Prendre Parti which means to decide. It's sort of architect lingo for concept". It is the organizing principle we use as a starting point for the design (Practice, 2018).
- Morphology concept, to study of the form evolution within the built environment.

Most of the architecture can't be reduced to one singular concept diagram. There may be organizational concepts, material concepts, functional or structural or formal concepts. Before developing the concept, the first needed is to understand the practice constraints. The design process designs only after gathering and assessing all the given parameters for a project. This primary consist of three types of information: (Demirbaş & Demirkan, 2003).

- Site information.
- Project information.
- Typology information.

The site demands the specificity from our architecture and must react to it, like to react to views, light, topography, historical features, and other structures. There is information taken from the site things like local climate, the prevailing winds, solar aspect, vegetation, building context, history, special liabilities, opportunities, and legal frameworks like zoning..etc, as the site
comes along with legal frameworks for development, which describe where and what we can and can't build. The building type determining with a detailed account of all the spaces the building will contain, which the architects call the project program. As well as the understanding of the personality traits and the organizational politics which might also shape the design. The building typology, like the type of building, is it a museum, a home, a school, a hotel ..etc? Making research about similar buildings is so important, as the research information can use as an underlying framework for developing the program and possibly as a launching point for my concept (ISSUU, 2017).

1.2. Environmental context and site analysis

Throughout the design process many of different aspects and conceptual ideas need to be considered to realize the desired results. The architectural design needs to make relationships between the development of concept and the surrounding context (Johnson, 2012). The direct surrounding of the site expresses the environmental context, including zoning data, buildings, and other impacts, such as site boundaries, easements (right of way), height restrictions, site area, the topography of the area, the history of the site and the previous and present uses of the buildings (Mahdavinejad & et al., 2012). It is like a summary form for the site and called site analysis. The relation between a design concept and the environment can be formed in three different ways including: (AboWardah & Elsayed, 2017).

- Congruence: in a way that leads to acceptance the environment from the standpoints of form, technique, materials, and structures, in meaning to congruence the type of architectural language that used in the surrounding site.
- Contradiction: the sense of secluding what is being built from the constructed deliberately environment in terms of entity and concept.
- Confrontation: separating and confronting what is being built from the constructed environment.

Contextualism is a bond between urban planning and architecture in the space context. As it reflects the adaptation of the form with the context of its surrounding by looking at different contextual types such as natural, historical, psycho-cultural and man-made contexts. Contextualism doesn’t mean a barrier to innovation and creativity, nor to work traditionally, rather, it means observing the surrounding environment and the architectural context of the region and trying to show creativity and art while keeping in mind the positive stat of users' psyche and the surrounding architectural environment, so it can be a positive reinforcing factor for both the architectural work and the context (Home building, 2017). The most important principles of the architectural project design and construction: (Habib & et al., 2013).

- Space organization.
- Kyline and height.
- Feature related to the form of the building.
- Combination of full and empty.
- Building material and systems.
- Image making elements.

Historical context is an important part of life as historical context deals with the details surrounding a site. Historical context refers to the details of a place and its circumstances,
including the social, political, economic, and religious conditions that existed at a specific time and place. The context gives meaning to the details and its analysis helps to create a design that serves the population while preserving the place’s culture and historical details, (ThoughtCo, 2019). So, the concept must be coordinated with the new practical and functional needs of the current site in the historical context. In order that the design does not lead to extremism, inflexibility, and proportionality to the contextual style of the neighborhood. Considering necessary standard of neighboring units such as height of buildings, number of floors, and skyline, to create a turning point and concentrate on the unified path of the site, as these standards depend on the general organization of the construction at the specified environment. The design shape is coordinated with the shapes of surrounding buildings through the ceilings, roofs, exterior bodies, the composition of architectural masses and elements. Changing the entire composition and the empty spaces of the unit on a vast range in the place, can lead to the disintegration of the solidarity between the site units. Therefore, the solidarity of the block pattern must be preserved to ensure uniform texture. The most important challenges that historic places face is the choice of the structural systems and the exterior materials that play a fundamental role in coordinating, stabilizing, and solidifying the new building with the local units at the place. Maintaining the building’s interconnection with the historical image of the place is considered one of the most important points that must be focused on, for example the courtyard can be used as a way of contact between the concept and the culture of the original architecture and urban planning in the region. In education part, getting data of the site context consider as the most important step for the students, to can during their design process, where the understanding of the context can give students a great background about how they can design their special concepts and which kind of materials they must use to create relation with the site context, (Steed negative space, 2011).

2. CASE STUDY: DESIGN STUDIO IV

The case study is about project IV at third year of architectural study, Spring semester (2019-2020) in Faculty/ Department of Architecture. The project is an old town hotel located in the walled city of Nicosia, Northern Cyprus, at the south-east of Selimiye mosque. The walled city is the central point of the division of the island, as it was the cultural center of Cyprus, and it was an active residential and commercial area and had a cultural, architectural, and historical heritage that reflects its importance as a commercial and strategic point in the eastern Mediterranean. The island has been divided in 1974, where Nicosia also has been split along a “Green Line”, which pass from east to west cutting the city in two, defines as a narrow “Buffer Zone” with access forbidden or highly restricted to either side, (Figure 1). Thus, the zone become derelict and abandoned, (Demetriades, 1998).
Figure 1: The Cyprus green line/ Buffer Zone, (edited by the author, 2020)

The land Project area is 5424 m², and the total building area is around 2670 m², (Figure 2). The project courses divided to Turkish and foreign groups. There are 3 foreign groups for this project (A, B and C). The focusing will be on 9 students works for group A, they were chosen because they have different approaches, thinking, and design methods, as each one has expressed his/her design concept and thinking of the neighborhood context in various ways from the other. The work stages of the students’ projects like, the first steps of working, thinking and their projects development will be shown.

Figure 2: The project land, (edited by the author, 2020)

The project site included the car parking with some site buildings from the northern side of the car parking. The maximum floor number in the building of the site context was first floor with 1 floor up, as the buildings located in the project site are first floor with 3 floors up. Most of the site buildings have shops on the first floor and residential functions in the upper floors, (Figure 3) and (Figure 4), these also will be shown in the students' posters of the site analysis.
Within the architectural design studio specified in group A, after visiting the site with students and giving the project program to the students, the site analysis was conducted then started to research about the project functions, as well as on designs of similar projects to be as examples. After that, the thinking of the bubble diagram and zoning diagram began that would assist in the completion of the project idea can start working on design concept, plans and structure with a good background, where the important issue of the project is to design a wide span structural system in the structural context on the land given the historical urban texture. From each project the following will be shown site analysis, the concept, site plan, 3D drawings and an example from reality. In what follows, students' projects will be presented separately, showing the impact of the COVID-19 pandemic on concepts, the outcome of the project and if it has affected on the relation between their concept designs and the site context. For each student's will be include site analysis poster, design concept, site plan of the project, 3D drawing and giving example of material that have used.

The first student is Ismael Ghazaleh Eniya from Syria. He started with the site analysis, prepared a poster included the walled city map, the project site with illustrative pictures of the surrounding historical buildings. He mentioned the location, description about the topography, urban forms, soil, environment, climate, movement information, wind directions and sun path. Then he started thinking about the design by zoning diagrams. After the site analysis, he started to think and work about the hotel design concept. He thought of the cube shape with adding and subtracting some parts from the cube shape until reached to the final step of design. This means he did not think about the site context and its relation the surrounding historical buildings, (Figure 5).
Figure 5: Site Analysis poster and design concept, Ismaeel's work

On the final submission of Ishmael's project, it seems that he did not put the plan of the historical context surrounding the site within the site plan, although he did site analysis at the beginning. (Figure 6).

Figure 6: Site plan and three-dimensional drawing, Ismael’s project

Because that he didn't think about the site context during the design concept stage, he decided to make the relation by cladding facades materials. He used the Terracotta as cladding material, (Figure 7). Instead of getting the inspir of the materials from those used the historical site context, he just inspired on copied the materials that he saw in architectural journals.

Figure 7: Building Design Decorative Terracotta Baguette Louver

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The second student is Afaq Al-Ramahi from Jordan. She also started with the site analysis, prepared a poster included the map of our project site with historical buildings in the site context, climate, movement, wind directions, sun path, etc. Then she started thinking about the design by bubble and zoning diagrams. Her design concept comes from the Gothic architecture and by using the courtyard in the hotel design according to the surrounding urban forms of the historical buildings, (Figure 8).

**Figure 8:** Site Analysis posters and the concept idea, Afaq's work

She decided make the relation between the hotel facades design and surrounding context by using the perforated brick cladding material, because this pattern is formed in the walled city environment, (Figure 9).

**Figure 9:** Brick pattern house/ Alireza Mashhadmiraza Tehran, Iran

The final submission of Afaq's project. She has drawn the historical context within the site plan drawing. As show in 3D drawing, she started with historical context but ended up with zero context, so is it because of pandemic?! (Figure 10).

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The third student is Ahmed Faiz Ali Mansour from Egypt. He started with site analysis, prepared a poster included the land of the project with north, wind directions, sun path, movement, environment, photos of the surrounding historical buildings, etc. After the site analysis stage, he started thinking about the design by bubble and zoning diagrams at the same time. By analyzing the surrounding built environment, the roads, site access experience, analyzing of the site buildings' formation method in the old city, he reached to his concept, (Figure 11).

Figure 10: Site plan and three-dimensional drawing, Afaq’s project

Figure 11: Site analysis poster and the design concept, Ahmed’s work

His concept has launched from the urban pattern, the building outline, and the circulation pattern, so it has grown according to the historical walled city context. As shown in Figure 15, the final concept is looked like roads connected with a node. To have a relationship between his design and the environmental context, he decided to use the texture of materials of rough, soft and structural in a progressive monolithic plan with using the Red Brick material for the outer facades of the cafeteria-administration-staircase, and coarse White Neutral to the formations inspired by “Vaults” Al-Salimiye Mosque, (Figure 12).
Because that the Red Brick material did not used in the historical site context, this indicates that he inspired on copied the materials that he saw in architectural journals.

The final submission of Ahmad's project. He did not put the historical context surrounding the site within the site plan and 3D drawing, (Figure 13).

**Figure 13:** Site plan and three-dimensional drawing, Ahmed’s project

Why did he not put the environmental context in his drawings? Was that because of pandemic? So, what is the effect of pandemic?!

The fourth student is Asala Abdulkader from Syria. She started with the site analysis, she prepared a poster included the site map with the north, wind directions, sun path, location soil information and some photos for the historical building surrounding the site. After the site analysis stage, she started thinking about the design by bubble and zoning diagrams at the same time. Her design concept started by using 3 geometrical shapes, then she started to merge them with adding a part and increasing the area, without creating any relation with the context. She did not think of the historical buildings and the designs surrounding the site during her concept design stage, (Figure 14).
Throughout working on her facades and exterior design, she tried to make a relation between the hotel facades and the historical buildings facades by using the building materials and style are inspired by Moroccan civilization, as it combines modern and classic, like; the artificial stone, Alucobond aluminum panels, glass panels, and Islamic inscriptions and motifs, she used the materials that she saw in architectural journals, (Figure 15).

**Figure 14:** Analysis poster and the design concept, Asala's work

**Figure 15:** Aswar hotel, Al-Khobar, Kingdom of Saudi Arabia

The final submission of Asala's project. She did not draw the full of environment context in her site plan, (Figure, 16).
As seen in her drawings, there are no any relation with the environmental context. Could it be because she was influenced by some of the details and designs she saw in the country which she lives?

The fifth student is Louna Haiek from Syria. She started with the site analysis, she prepared a poster included the site map with the north, wind directions, sun path, location and some photos for the historical building surrounding the site. After the site analysis stage, she started thinking about the design by bubble diagram at the same time. She tried to make a relationship with her building and the neighborhood context and keeping the urban layout by taking reference lines that intersected in some points and connecting these points, those lines that connected the points together gave the concept of her design (Figure 17).

Her approach was a minimalistic and modern building but the surrounding buildings are on the contrary. The neighborhood buildings’ elevations depend mainly on the heavy usage of decorative elements with the windows. As shown in figure 84, the window contains a multi-layered stone frames. She decided to use new modern materials with historical multi-layered window frames in rectangular shapes with glazing windows, and gypsum for the multi-layered frame and stones for the walls (Figure 18).
Figure 18: Historical building in the walled city, Nicosia, Northern Cyprus

The final submission of Louna's project. She used the full of environment context in her site plan drawing, (Figure 19).

Figure 19: Site Plan and three-dimensional drawing, Louna’s project

She started her project with thinking of environmental context, but she ended with zero context.

The sixth student is Ahmed Medhat Mansour from Egypt. He started by site analysis, as prepared a poster included all the details about the site and neighborhood historical buildings. After the site analysis stage, he started thinking about the design by bubble and zoning diagrams at the same time. In his design concept, he decided to start with the rectangular shape, then to subtract apart from it, after that he merged it with circular shapes to form the corners, where his concept has no relation with the context, (Figure 20).
Figure 20: Site analysis poster and design concept, Ahmed's work

The final submission of Ahed’s project. He used the environmental context in his site plan drawing, (Figure 21).

Figure 21: Site plan and three-dimensional drawings, Ahmed’s project

He used Cembrit cladding material, which is unused material in context, (Figure 22).

Figure 22: Puro Hotel – Gdansk, Poland

There is no relation between his building and surrounding context. So, this indicates that he inspired on copied the materials that he saw in architectural journals.

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The seventh student is Mohammad Kahil from Syria. He started by site analysis, as prepared a poster included all the details about the site and neighborhood historical buildings. After the site analysis stage, he started thinking about the design by zoning diagram at the same time. He used a square shape, with adding and subtract the parts until reach to the final shape, this indicate that he did not think of the relation with the site context, (Figure 23).

**Figure 23:** Site analysis poster and design concept, Mohammad's work

At first when he started to think of the design and the concept of the hotel he saw some historical buildings in the walled city, which have a long wall with its special historical windows design, so he decided to use the same kind of wall and windows in his design, (Figure 24). He used the wood texture in his facades to give the sense of the old town and at the same time in a bit of a modern style.

**Figure 24:** One of the historical facades in The Walled City, Nicosia, Northern Cyprus, taken by the student from the site and the site plan of Mohammad’s project

The final submission of Mohammad's project. He used the environmental context in his site plan drawing. (Figure 25).

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Figure 25: Three-dimensional drawing of Mohammad’s project

As seen in 3D drawings, he started to think of material used in the site context, but he ended with zero context relation.

The eighth student is Yara Bahani from Palestine. She started by analyzing the site, as she prepared a site analysis poster that included the main information about the project site and the neighborhood buildings, (Figure 26).

Figure 26: Site analysis poster, Yara's work

Then she started with babble diagram to know the relations between the hotel functions. Her first concept was the PlayStation console, which is have zero relation with the site context, as well as for the hotel function has no relation with the concept. She started to create a relation with the historical environment by the cladding materials and details of facades. Her used an old hotel design style with some modern details for giving some contrast to the design, she chose a stone cladding that is used in the site buildings, and in the front elevation, she used the Greek or roman column such as the Doric or ionic columns, which have some old landmarks, to create an old design with modern material, (Figure 27).

Figure 27: The historical facades in The Walled City of Nicosia, Northern Cyprus, taken by the student

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The final submission of Yara's project. She used the context in her site plan, (Figure 43) and (Figure 28).

**Figure 28:** Site plan and three-dimensional drawing, Yara’s project (edited by author, 2020)

As seen, she used a different kind of context in her 3D drawings, that mean she copied them from other where.

The ninth student is Aref Kalil from Syria. He started with the site analysis and prepared a poster included the site map with the north, wind directions, sun path, location and some photos for the historical building surrounding the site. After the site analysis stage, he started thinking about the design by zoning diagram at the same time. He tried to explain his design concept by 3D drawings. As he defined the main entrance, sub entrance, views, green areas, and the functions of each floor. He tried to explain his design concept by 3D geometrical drawing. As he defined the main entrance, sub-entrance, views, green areas, and the functions of each floor during the concept design stage. His concept indicate that he did not think of the historical site context at all, (Figure 29).

**Figure 29:** Site analysis poster and the design concept, Aref's work

The final submission of Aref's project. He did not use the site context in the site plan drawing, (Figure 30).

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To make a relationship between the hotel and the site context, he decided to use the yellow brick with mechanical fixation to integrate his building facade with the old bricks used in the old city, (Figure 31). He did not use the environmental context, and his project does not have any relation with the site context.

**Figure 31:** Historical masonry facade in Leipzig, Germany

As shown, the results of the students who have the chance to visit the site before the pandemic were in the same level with the results of the students those could not visit the site, due to the pandemic. Where all of them ended their projects without any relation with the site context. Therefore, it can be concluded that the covid-19 pandemic had a major impact on the design studio’s education in the architecture department. As staying in touch with the site continuously during the design period is considered especially important to reach feasible results and for a successful design that fits with the site context.

### 3. CONCLUSION

The architectural education seeks to improve the materials and methods of teaching and giving the information and working on with students in the architectural design studio. Site analysis considered as a primitive step for designing. The accentuation on site studies in architectural education will lead to more creative functional response. The result of the study shows that site analysis and the environmental context affect on the interconnection of the architectural design with the neighborhood, where the project may reject because of its incoherence with the local context, as the site analysis has a large and positive role in designing an architectural concept that is harmonious with the surrounding context. In this studio, some of the students had a
chance to visit the site before pandemic unlike other students, but all of them followed the same stages of work, and got the same results. Each student went with his/ her own method in designing the concept, as well as, with a different way from the other in thinking of the site context. Some of the students got the concept idea by merging the geometrical shapes without thinking of the context, other one got it from the circulation pattern and urban pattern of the site, and etc. All of them started the design work to be related with the site context, but all of them ended the project design with having no relation with the context. As a result, to be in touch with the site continuously during the design period is considered very important to can creat a successful design that fits with the site context. So from this study, it can be concluded that Covid-19 pandemic had a major impact on the design studio's education in the architecture department.As mentioned before, we started the lectures this semester in the classroom at university, but after visiting the site with students and taking the necessary information about the site and the project in general, the educational conditions were changed, as a result of the spread of Coronavirus (COVID-19), which led to the announcement of a complete quarantine. To successfully overcome this stage, distance education has been continued by using the educational platforms, but in the event that this circumstance continues for a longer period with distance education, how will the process of taking the information of the site context and the necessary details for the site analysis be without visiting it? In the pandemic case, will it be possible to think without context? where this semester was all online. In order of online architectural studio education, needs a new programs that can help the students to create their own design concept to be related with the site context. Today, technology sites play an important role in distance education, where we can share the information with the students. To get the site information without visiting the site, it is possible to work on land previously worked on in one of the studios where its pictures and information can be available in the Faculty, and if teachers want to work on a new land, they can also take permission from the police in order to go and take the necessary photos and take the important information and distribute it to students. Updating Google Maps permanently and using them with two- and three-dimensional techniques, and presenting them to students during the live lecture and navigating the site and context through it to know the environment surrounding the project, can compensate for visiting the site. In the pandemic case, will it be possible to think without context? where this semester was all online. In order of online architectural studio education, needs new programs that can help the students to create their own design concept to be related with the site context.

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