Towards Better Site Analysis in Architectural and Urban Design: Adapting Experiential Learning Theory in Post-COVID Architectural Teaching Methods

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Abstract

Background   Traditional design studios in architecture education have considerably been affected by COVID-19 since all teaching activities required a major shift from face-to-face to online. This study explores how students' understanding of site analysis in architecture design courses was affected by COVID-19 in terms of visiting the site, understanding its context, perceiving its components, and collecting information on the site. Moreover, the study examines whether experiential learning theory could be applied as a vital teaching method for conducting site analysis for architecture and urban design students at the Department of Architectural Engineering, College of Engineering, University of "University of Sharjah".

Methods   To achieve the aim, in-depth interviews with fourteen students are conducted and analyzed using qualitative and quantitative methods. The aim of the interviews is based on investigating how COVID-19 affected the attitude of students when conducting the site analysis during the pandemic and comparing this with the same action after they returned to hybrid/on-campus courses.

Results   The findings show that COVID-19 negatively affected students' understanding of the site, particularly how they perceived the surrounding components and how they used these components in the design process. In this regard, students more often relied on their prior knowledge to analyze the site rather than visiting the site itself and exposing themselves to a new experience. For post-COVID education, considering experiential learning theory in the process of site analysis and applying its four stages (i.e., concrete experience, reflective observation, abstract conceptualization, and active experimentation) will increase the level of quality of teaching and learning outcomes in architecture and urban design curriculums. This in turn will enhance the pedagogical discussion within the Department of Architectural Engineering, University of "University of Sharjah".

Conclusions   In the hybrid teaching and learning style, the students have more ability to combine different tools after they visit the site, and the site analysis becomes easier. A second-time site visit as a second experience gives the impression that the students use the outcome of the first visit (as pre-knowledge) to further understand the situation through observations and conceptualization. The study highlights the role of different advanced online teaching and learning platforms in facilitating a high level of knowledge, especially when it comes to theoretical courses as well as pedagogical assistance on different levels.

Keywords   Architecture Design, Design Process, Experiential Learning, Site Analysis, Urban Design

1. Introduction

In architecture education, the design studio – where the process of learning is the most important – is still the foundation stone of degree programs at architectural schools (Salama, 2015). Traditional teaching in architecture has been previously based on a physical model as a design studio that focuses on experiential learning as "learning by doing". Such an approach offers an opportunity for the students to discover and improve their design by actual engagement in the class, communication with other students, critical discussion with instructors, etc.

Many studies have investigated the relationship between the learning styles of the students and their performance in the studios of architecture and urban design (Demirbas & Demirkan, 2003; Kvan & Yunyan, 2005). Henry Sanoff (Salama & Wilkinson, 2007) argued that the concrete experiences or "field experience approach to education" are invaluable tools in the field of design to give an opportunity for the students to work on complementing the brief.

This approach encourages "the use of non-formal, out-of-class experiences as the core of the learning process". In order to combine theory and practice in design education, Sanoff promoted a method of "action-research" as an integrated process starting with the direct experience of the students followed by data collection and observation of that experience, followed by data analyses and conclusions that "are fed back for reflection and modification". The action research approach of Sanoff fits well with Kolb's cycle of learning (Kolb, 1984) as well as the ways by which professionals in their "physical" practices work in the real world with architecture design as well as urban design.

The traditional way of teaching has changed since online teaching and learning took place. Although the internet brought new opportunities for online teaching, physical design studios are still the main approach in contemporary architecture education, as teaching is still mainly believed to require face-to-face student-instructor and student-student interactions (Fleischmann, 2020). On the other hand, applying experiential learning to online courses requires a broad recognition of experiential learning as a process. Over again, the experiential learning process has been explained as a cycle of learning (Kolb & Kolb, 2018).

Problem-based learning (Wood, 2003), case-based learning (Kolodner, 1993), and project-based learning (Jones et al., 1997) are examples of models of teaching and learning that can incorporate learning via real-world experience (Bates, 2014). These models are now used as ways of bringing engagement into online instruction to achieve some levels of experiential learning.

The term "online experiential learning" or "experiential e-learning" refer to the possibility of bringing both everyday experience and communication technologies (Beard et al., 2007; Murphrey, 2010). The continuity of an experience and its interaction is the center of experiential learning, according to David Kolb (1984), who describes the experiential learning process as "a process whereby concepts are derived from and continually modified by experience". Kolb (1984) argued that the learner has to fully engage in four main stages in order to gain knowledge: (i) Concrete Experience (a new experience of the situation is encountered, or a reinterpretation of existing experience); (ii) Reflective Observation of the new experience (of particular importance is any inconsistency between experience and

understanding); (iii) Abstract Conceptualization (Reflection gives rise to a new idea or a modification of an existing abstract concept); (iv) Active Experimentation (the learner applies them to the world around them to see results).

The concrete experience, or the interaction with the world, offers the learner a reference point with textures, feelings, meanings, and emotional impulses (Beard et al., 2007). The learner then becomes able to reflect upon that experience from different points of view and form an initial theory as "abstract conceptualization". The learner then should be able to enact and propose a solution to the problem.

According to Baasanjav (2013), experiential e-learning theory relies on (i) Dewey's (1983) principles of the continuity of interplay between experience and learning and (ii) Freire's (1970) approach to interactions between instructors and students. In this regard, Carver et al. (2007) argue that the more experiences and interactions are facilitated and considered in the design course and activities, the more online education can bolster learner-centeredness, agency, belongingness, and competence among online students. These components form the core concept of e-learning (Baasanjav, 2013). Learner-centeredness considers that the teacher focuses on an individual learner, the learner's interests, prior experiences, and learning styles (Shin & Lee, 2009) as the role of a teacher changes to become a facilitator of the process of learning where students take charge over the learning process (Murphrey, 2010; Smyth, 2011). Agency can refer to the capability of a learner to take action and make a difference (Carver et al., 2007), as the learner is a cognitive and responsible actor that can take responsibility for the learning process (Freire, 1970). The agency of the students is enhanced by more choices and flexibility of online classes (Baasanjav, 2013). Belongingness refers to the role of different online communication platforms that have become available in recent years. Taking into account flexibility in choosing meeting times, these online platforms can offer more connectivity between students and between the students themselves. Such an online environment can foster the potential for belongingness among students and allow more trust and bonding among learners (Smyth, 2011).

Both physical and online teaching styles can provide huge benefits. However, a rapid shift from traditional to online teaching and learning can affect student learning outcomes in all fields, especially in architecture, where the interaction between student-teacher and student-student is important. This was the situation when COVID-19 suddenly attacked the world and forced governments to take immediate actions to protect civilians from infection. Świeściak et al. (2021) discussed the major shift in design studios from traditional to online during COVID-19, focusing on the tools and methods that were intended to compensate for traditional workshop methods, such as learning by doing physical models and using board presentations. The study argued that the use of online platforms such as Zoom, and Microsoft Teams was perceived by students as extremely positive. In parallel, both instructors and students were excited to use different online tools and virtual learning technologies, such as sharing screens and planned virtual site visits (using, e.g., Google Maps). The study recommended combining forces of all instructors in design studios to make sure that the shift to virtual design studios is performed systematically. In the same direction, Alnusairat et al. (2020) investigated the architecture students' attitudes in terms of the use of online design studios during the lockdown of COVID-19. The authors argued that there is a huge need to provide students with full guidance and support when applying online teaching and learning style. Other important issues are related to technical factors, i.e., providing a high-

quality internet connection with guides on how to use different online teaching and learning platforms. The study highlighted that the design tutors are recommended to explain to their students at the beginning of the year what is all meant by online teaching and learning in the design studio. As for architecture education during the lockdown, Bakir and Alsaadani (2022) investigated and evaluated the experience of architectural engineering students with reference to the online teaching style. By conducting a questionnaire-based survey, the authors argued that three factors influenced students' learning experiences: the dependence of the student on technological tools, the status of students enrolled when the lockdown occurred, and finally, the received feedback when it comes to quality and timing.

In 2020 and due to the threat of COVID-19, the University of "University of Sharjah" (like most universities in the world) canceled all face-to-face classes, including the physical design studios for architectural engineering students. All classes became online to prevent infection of the virus. The lockdown procedures also played an important role in preventing students from going out. This study explores how students' understanding of site analysis in architecture design courses was affected by COVID-19 in terms of visiting the site, understanding its context, perceiving its components, and collecting information on the site. Moreover, the study examines whether experiential learning theory could be applied as a vital teaching method for conducting site analysis for architecture and urban design students at the Department of Architectural Engineering, College of Engineering, University of "University of Sharjah".

2. Method

The presented study is based on empirical investigations from the viewpoint of architectural engineering students at The University of "University of Sharjah". The main applied methodology is case study research (Yin, 2018), including observations of urban settings, in addition to semi-structured interviews considering 14 students. The qualitative inquiry focuses on exploring how COVID-19 affected the attitude of students when conducting the site analysis during the lockdown and comparing this with the process of conducting the site analysis after they returned to hybrid/on-campus courses. This investigation focuses on two courses; the first belongs to an architecture competition, "Reboot," organized by UNI.XYZ for students in the core course Architectural Design-IV (AD-IV), which has a location in Dubai. The Design IV course description includes the task of providing advanced design of buildings with problems of complex structures, requirements, and functions. Further, the students need to apply different technical solutions for acoustics, heating, and/or ventilation. Students are expected to apply the knowledge acquired in related subjects (building construction and environmental physics) to the design process. At least one major project with a specific and complex problem. The second course, which is considered in this study, belongs to an elective course entitled Sustainable Urban Design Strategies (SUDS) that has a location in the city of Sharjah. This course provides knowledge on what sustainable urban design means in different contexts focusing on environmental, economic, and social perspectives. The course deals with the relationship between the built environment and climate issues on a micro level. It aims to let students experience and explore how an adequate building/couple of

buildings, as well as a given urban design, can minimize the negative impact on the climate on a micro level. It also supports students' learning of how the built environment in different climates can be affected/modified/enhanced by the microclimate, vegetation, orientation, etc. In addition, the course aims to highlight the impact of people's attitudes and behavior toward climate and energy issues.

The investigation highlights the student's personal experience (Kolb, 1984), considering the effect of prior knowledge about the two sites as an important factor in understanding the site components (Dochy, 1992). Further information was also collected to complement the investigation. Information such as site plans and maps were collected using Google Maps to show the targeted sites that the students worked with after the lockdown (Figure 1). A research team from the architectural engineering department at the University of "ooo" observed urban qualities in the studied sites. These observations are used to provide a general description of the urban context focusing on, among other things, the climate analysis, the street networks, and the surrounding urban components (Figure 1).

Figure 1A The targeted sites were A, the site of AD–IV, and B, the site of SUDS

Figure 1B The targeted sites were A, the site of AD–IV, and B, the site of SUDS

In the fall and spring semesters of 2021-2022, the research team conducted semi-structured interviews based on specific selection criteria. The advantage of the semi-structured interview (Hitchcock & Hughes, 1989) is that the interviewer is in control of the process of obtaining information from the interviewee, but it is free to follow new leads as they arise (Bernard, 1988).

Although participation in the interview was optional, the interviews targeted specific types of students based on the following criteria: (i) the student should have previously taken online design courses during the lockdown and followed by one of the two design courses (Design IV and SUDS) as a hybrid style, (ii) the student should have conducted a site analysis in both online and hybrid courses, (iii) the student should have worked previously in a group in design courses, (iv) the student should have presented good design projects in the two courses. The projects were nominated and selected by instructors based on the level of the site analysis, the link between site analysis, and the design outcomes. The selection criteria were strictly applied to all students interested in participating in the interview (55 students) in the two above-mentioned courses. By applying the selection criteria, 41 students out of 55 were invited for the interview, and only 14 did accept the invitation. The sample was mixed (eleven female students and three male students). The reason behind the domination of females over male students is that most of the students at the Architecture Department, University of "University of Sharjah" are female. During the investigation, the students were either in the fourth year or fifth, which is the graduation year according to the educational system at the "000".

The semi-structured interview consisted firstly of background information and introductory text about the aim of the study, the target group, the interview process, clarification of confidential information, and a request for future availability in case there is further investigation. The first questions contained general quantitative information about gender,

age, date & place of birth, level of study, Grade Point Average (GPA), health condition, computer skills, availability of the computer at home, and internet efficiency at home. In this study, the 5-point Likert scale was used to assess the attitudes and views of the students with a neutral option linked with intermediate answer options. In order to explore how students' understanding of site analysis was affected during the lockdown and then when applying the hybrid teaching style, questions about the site analysis were divided into three categories: (i) site analysis during the lockdown, (ii) site analysis after the lockdown (hybrid teaching), and (iii) site analysis in connection to online teaching and learning platforms. As for the first and second categories, the aim was mainly to explore how students' understanding of site analysis was affected during the lockdown as well as when applying the hybrid teaching style in terms of visiting the site, understanding its context, perceiving its components, and collecting information on the site. The focus of the third category was, however, on investigating how different advanced online teaching and learning platforms offered by the university – during the lockdown and then the hybrid – helped to facilitate a high level of knowledge and communication, especially when it comes to site analysis. Every interview took about 20-30 minutes, and all were made face-to-face, then transcribed and coded using NVivo 12. As for the analytical part, a mixed-method approach (Cresswell, 2011) was applied. The qualitative method was used to analyze the interviews related to the site analysis, whereas the quantitative method was applied to analyze questions related to the general quantitative information of the interviewees, for example, age, gender, level of the study, etc. In addition, the quantitative method was applied in the selection criteria for choosing the participants in the interview. Data source triangulation to test the validity through the convergence of information from different sources – i.e., maps, site plans, and observation of urban settings by the research team – was used (Patton, 1999). The interviews were conducted by the authors, who have a long experience in doing face-to-face interviews and work as academics and senior researchers in architecture and urban design. To unify the process of the interviews, the same instructions and introductory information, as well as the form and questions, were used for all interviewees. In some interviews, students did misunderstand the aim of the study. Therefore, further clarification about the topic, aim, and other related information was provided by the authors and adequately delivered.

3. Result and Discussion

Following up on the questions of the semi-structured interview, the quantitative part showed that 79% of the sample were between 20 and 21 years old, whereas 21% were between 22 and 23 years old. The study shows that only 57% were born in the country, whereas 43% were born abroad in neighboring countries. The result reveals that 93% were in the fourth year and 6% in the fifth year, and the average GPA for the whole sample was about 3.15 out of 4.00, slightly above the rate of "very good". All interviewees have good health conditions that do not prevent them from visiting the site and collecting information. The whole sample has an available computer at home, but 79% of them have efficient internet speed".

3. 1. The Effect of Experiential Learning Theory on the Process of Site Analysis during the Lockdown

When students stayed at home with families, their time of being outdoors was limited to certain hours that were barely enough to get some important supplies. Hence, visiting the site was not a "priority" and was not even on the student's agenda due to the moving restrictions. This affected how the students understood the site they were studying, and it also affected how they dealt with the urban scale as well as the different components located in the site.

"The lockdown period was very tough for me ... I was not able to get in touch with the site, although I was very interested in visiting it ... I understood the site analysis only as climate analysis as this is the only way to get information about the site (Int. 03)."

Another important side of the investigation showed that the site analysis was entirely dependent on computer tools instead of spending time understanding the site and the surroundings. In this regard, all interviewees trusted the outcomes of the computer tools without even asking whether the results were valid for the given context. The lockdown even provided a golden opportunity for students to learn new computer tools and software that helped in site analysis. Tools such as climate consultant (Figure 2) and SketchUp for shading analysis are examples. It seems that although the students developed themselves by learning new tools, they lost the motivation to visit the site in person. This can lead to widening the gap between theoretical and practical knowledge.

"During the pandemic, the only effective source for learning was the internet, where one could learn new tools and software ... For me, this period was suitable to learn more about climate consultants to be used in the site analysis ... I also learned SketchUp to do quick shading analysis for the site ... After learning this software, one became dependent on these tools that will give good site analysis ... This is why I was not interested in visiting the site (Int. 01)."
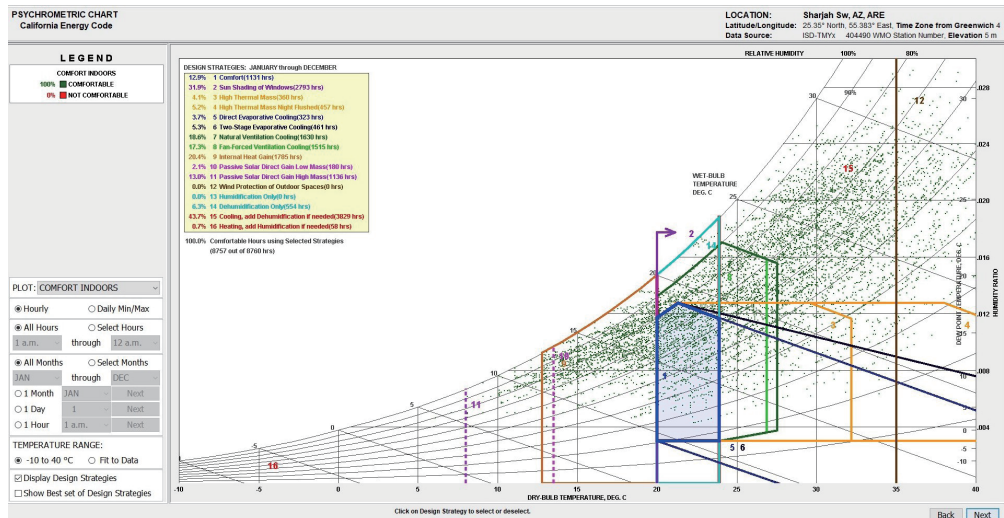

Figure 2 Climate consultant as a tool that helps students to conduct climate analysis

Although the lockdown put restrictions on visiting the site, some exceptional cases pointed out that it was possible to pass by the site by chance when the students were on the way back home with their families. This opportunity helped students to look at the site while they

were in the car. However, such an unplanned visit did not allow the student to feel the site, experience the urban context, and explore the problems that existed in the site.

"I did not plan to visit the site; however, we passed by a car when we drove home … It was a good chance to pass by the site, although I could not get out of the car … This unplanned visit helped me to have an idea about the site, but it was difficult to identify problems in the site (Int. 02)."

Creating and reflecting on an experience for the students is a very important stage, according to Kolb (1984). During the lockdown, most students experienced the site only remotely, where they used different online sources, such as Google Maps, climate consultant, and data provided by the instructors. This indicates that experiential learning theory in architecture education might not be applied during the lockdown since the experience is absent. In other words, the lockdown affected all stages of experiential learning theories: (i) Concrete experience, (ii) Reflective observation, (iii) Abstract conceptualization, and (iv) Active experimentation) as the concrete experience was not applied (Kolb, 1984).

"In my case, Google Maps were my main source to get information and do site analysis … The instructor always tried to explain the site, but I was not able to follow up on what he/she was trying to say (Int. 06)."

Only a very few students tried to use their previous experience when they conducted the site analysis, as some knew the site before they took the course. This previous experience contributed to a better understanding of the site and its components and, thus, better site analysis.

"I knew the site before I took the course as my parents live nearby. During the lockdown, I had no chance to visit the site; however, I know the area very well … I know the site by heart … I felt confident to do the site analysis very well (Int. 09)."

3. 2. The Effect of Experiential Learning Theory on the Process of Site Analysis after the Lockdown

When the study turned into a hybrid at The University of "000", students were able to come to the campus to be in touch with all course materials. For the design courses, students argued that it is better to come to the campus as they get benefits more than when they are at home.

Regarding the site analysis after the lockdown, the students became more interested in visiting the site to collect different levels of information. They became more active than before, even when the weather was not perfect for doing a site visit. One possible explanation – that the students are now more interested in going to the site after the lockdown – is perhaps related to the fact that they want the site visits to be more social with friends, colleagues, and classmates. The students argued that visiting the site with their classmates gives them a chance to discuss different problems on the site, exchange knowledge, review ideas, etc.

"I cannot imagine that I am again here at campus … I feel that I am ready to go to the site and collect different data … It is an amazing opportunity (Int. 04). We go to visit the site in groups … it is more interesting … We discuss different problems in the studied site and how to solve these problems via our design … After finishing, we hang out together and get some food after the visit (Int. 05)."

After the students came back to the university campus, the level of site analysis became more professional than before as they (during the lockdown) learned more computer tools and

different software that helped them to understand the urban context after visiting the site. Most likely, the students are now able to combine different tools after visiting the site, and the site analysis becomes easier (Figure 3).

"After we are back to the University campus, I conduct the site analysis easier than before as I can now visit the site, pick the problems, and understand the surroundings … I now know many computer tools helping me in doing the analysis (Int. 07)."
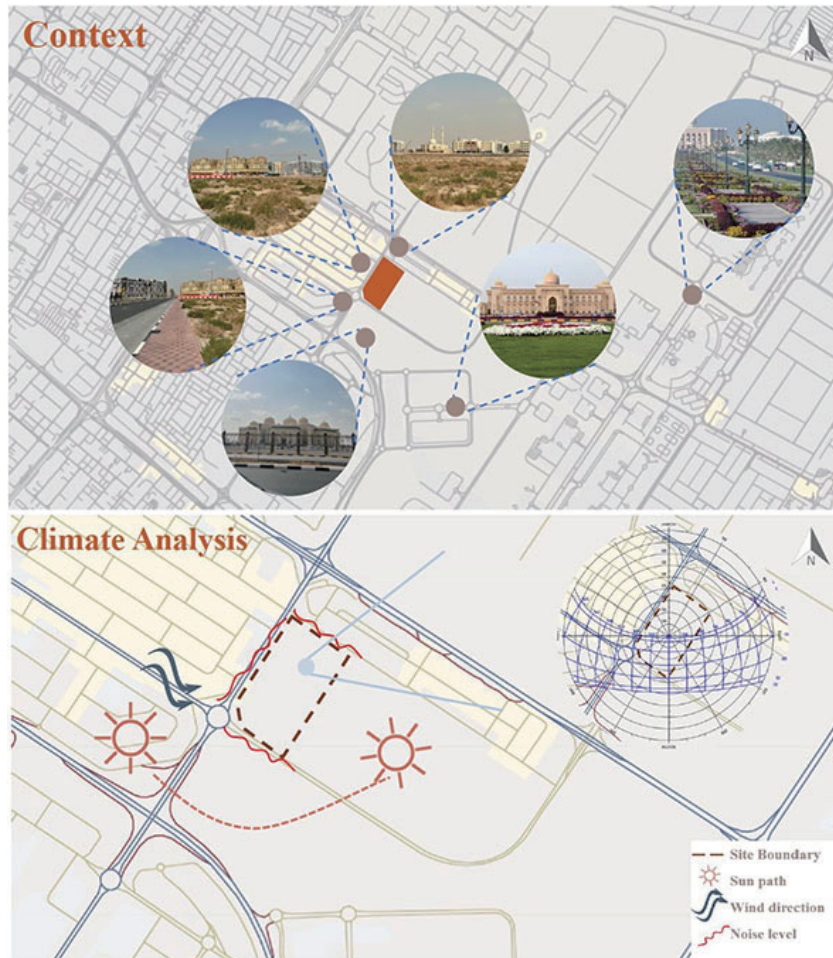

Figure 3 Combining different techniques to understand the site

After visiting the site, the students are now able to reflect on their observations as one important part of the analysis, where this aspect was not possible to achieve during the lockdown due to mobility restrictions. These observations, in turn, resulted in a certain level of conceptualization to understand the problems in the studied site aiming for proper solutions as design proposals (Figure 4).

"I visited the site last week … my observations on the ground helped me a lot to understand the urban area and reflect this understanding on how to do a proper site analysis … During the site visit, I had many ideas, notes, and sketches showing how my design will look like based on the observations I got (Int. 8 and 10)."
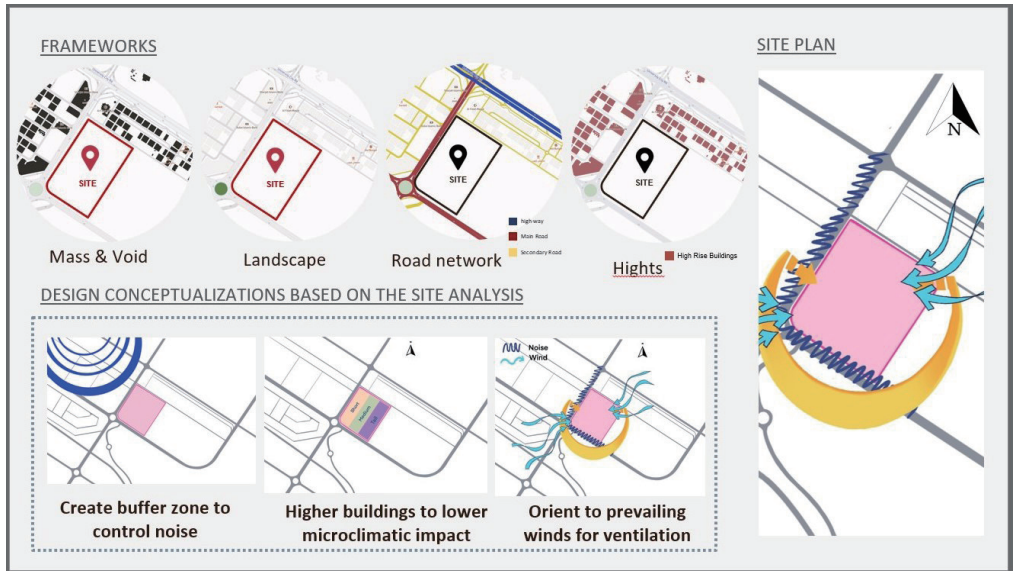
Figure 4 Example of conceptualization the students do to reflect on their experience after visiting the site

Another noted side of this investigation revealed that some students had visited the site more than once. They argued that the second site visit provided them with more information based on detailed observations. This second experience of visiting the site gave the impression that the students had used the outcome of the first visit (as pre-knowledge) to further understand the situation through observations and conceptualization.

"One visit was not enough … I did visit the site three times; every time was different from the other … The second visit was more detailed, and the third was even more detailed to study the site from different perspectives, such as type of soil, colors, materials … The site analysis "simply" became more proper after three visits (Int.1)."

3. 3. The Role of Online Teaching and Learning Platforms in Conducting the Site Analysis

The University of "University of Sharjah" has advanced online teaching and learning platforms before and after the COVID-19 era. The Information Technology Center (ITC) at the University of "000" facilitates various online learning and teaching platforms. The center also helps to maintain electronic workflow and offers support both to students and staff at the university. Blackboard is the main online platform that most of the courses have to use. The university also offers Microsoft Teams and Zoom. During the lockdown, students were dependent on Blackboard and Microsoft Teams.

The interviews showed that the instructors did their best to help students to understand the site elements and conduct a proper analysis during the lockdown. The lockdown, on the other hand, pushed the instructors to learn new tools to which they had not previously been exposed. For example, instructors learned how to use interactive screens to analyze and teach different illustration techniques for better site analysis. In addition, the lockdown as a challenge led to creating opportunities for the instructors to master online searching for further information related to a given task of site analysis. Furthermore, the challenging situation during the lockdown led to facilitating more solid discussions between instructors and students via different online tools for a longer time than on campus as the supervision

time became more flexible online, although the total number of students remained almost the same as before the lockdown. During the lockdown, the instructors tried to provide further instructions related to (i) how the student could understand the site (size, dimensions, orientations, surrounding elements, etc.), (ii) how to search for online information correctly, (iii) how to use different tools such as Google Maps, Google Earth, etc., (iv) how to organize the information taken from the internet, and (v) how to validate different internet sources. During the hybrid teaching style, the instructors provided almost similar instructions but were a prerequisite to conducting a site visit to validate the provided information on site. Although the instructors during the lockdown provided useful input for the site, the provided information was given mainly from the teacher's perspective, i.e., subject input based on the experience of the instructors and not on the students' experience. Most likely, this affected how the students understood the site from their perspectives. Thus, the site analysis was affected in a way that it was mainly based on the teacher's understanding of the site, not on the understanding of the students.

"The online platforms provided by the University of "University of Sharjah" were very useful to all students ... I enjoyed attending lectures with full support from ITC ... The instructors were also good, and they helped us to describe the site and identify problems to do a good analysis ... All design sections had the same approach, but the students got different levels of information based on what different instructors said about the site (Int. 13)."

Online teaching and learning tools at the University of "University of Sharjah" were the only communication channels between students and instructors during the lockdown period. These channels facilitated different levels of information that helped students in conducting proper site analysis. The high standard available tools enabled sharing of pictures, photos, videos, diagrams, statistics, etc. This investigation showed that students were satisfied with the high-quality online tools.

"During the lockdown, our instructors were able to share with us all the information about the site by using online tools such as Blackboard and Microsoft Teams. Such tools helped us to do a good site analysis ... I admire the University of "University of Sharjah" as various online platforms are available ... We (students) use Microsoft Teams among us, whereas our instructors mainly use Blackboard as the main online platform for teaching (Int. 5, 1 and 12)."

An important remark found during the interviews showed that students during and after the lockdown used Microsoft Teams to store and share all information about the studied site. Later, they meet and communicate online and discuss the data they have in order to conduct the site analysis. So, online platforms become "trendy" when conducting site analysis.

"During the lockdown, we have always been on Microsoft Teams to discuss our collected data ... We put the data there and shared our information which made it easier for all of us to organize the work related to the site analysis ... After the lockdown, we continued working in the same way ... After visiting the site, we usually meet on Microsoft Teams to store information and organize the work (Int. 12, 4, and 9)."

4. Extended Discussion

The result shows that there are unexpected synergies between the two teaching and learning styles (on-campus and online). Both can deliver a certain level of knowledge for sire analysis. However, the process, input, output, and quality are different. In the case of on-campus traditional site analysis, the students have physical access to the site so they can directly collect different types of information. On the other hand, the online site analysis constitutes virtual access to the site through different sources such as the internet, inputs from instructors, and students' pre-knowledge (Komarzyńska-świeściak et al., 2021). By applying experiential learning theory, the benefits of a hybrid teaching style can be seen as synergies between on-campus and online teaching and learning styles.

In the new era of technology, experiential learning theory can be performed online by considering a combination of (1) synchronous tools (for example, web conferences), (2) asynchronous tools such as discussion sessions, and (3) e-portfolios and multimedia for reporting the work (Bates, 2014). As for the University of "University of Sharjah", such a combination has been highly and carefully considered by the university to fulfill the learning and teaching outcomes in all courses. In the case of online design courses at the Department of Architectural Engineering, online supporting seminars, lectures, and a series of discussion sessions were organized during the lockdown. However, the process of site analysis seemed to be affected by COVID-19 precautions since analyzing the site should be based on a concrete experience (Kolb, 1984) by visiting the site itself that was not available due to the lockdown. On the other hand, after the lockdown, the hybrid teaching and learning model (Bartlett, 2022) led to a more flexible pedagogical process and gave students the option to attend sessions on campus, participate online, or do both so as to fulfill the learning outcome. This seemed to give an opportunity to double benefit the process of site analysis by giving students a chance to visit the site as a concrete experience (Kolb, 1984), collecting data on-site, meeting online with groupmates, storing information on online teaching platforms (Microsoft Teams), and discussing alternatives on how to analyze the site components by mixing and reflecting the individual experience of each student in the group.

Kolb and Kolb (2012) argued that experiential learning is not only a circle of experiencing, reflecting, thinking, and acting but also a spiral as each circle returns again to a new experience with a new insight gained by reflection, thought, and action. Therefore, the development of the learning outcomes from the experiential learning perspective is described as a spiral that moves the student from one circle to another (Kolb & Kolb, 2012). In this regard, when the students visited the studied site more than one time, they went through different circles like a spiral. The students in the interviews showed that the site analysis became easier when they visited the site more than one time. It seemed that they developed their knowledge when different circles were applied. These results can be applied to achieve a more mature urban and architectural design. Additionally, the findings of the current study shed light on how important the duality of the site and its surroundings is to provide more information not only for architecture students but also for other entities such as architectural companies, offices, and municipalizes as well as other related authorities. Further, such information could also be implemented in urban planning and design competitions.

5. Conclusion

This study concludes the following. The lockdown period affected how the students understood the site analysis as well as the different components located on the site. The site analysis was entirely dependent on computer tools instead of spending time understanding the site and the surroundings. After the lockdown, the students became more interested in visiting the site to collect different levels of information. In the hybrid learning model, the students are now able to combine different tools after they visit the site, and the site analysis becomes easier. A second-time site visit as a second experience gave the impression that the students have used the outcome of the first visit (as pre-knowledge) to further understand the situation through observations and conceptualization. This investigation showed that students at the University of "University of Sharjah" were satisfied with the high-quality online teaching and learning tools that enable a professional level of communication in the online class and allow sharing of different course materials.

The findings are based on fourteen in-depth interviews, which can be a limitation as it is not a representative sample. However, it should be noted that the purpose of the sample is exploratory, not representative. Thus, the numbers involved are relatively low. According to Denscombe (2014), in exploratory samples, the research scale tends to be smaller due to the likelihood that every person in the sample will be studied in great depth. Therefore, the size of this sample type is not governed by matters of accuracy but by considerations of how informative the sample is (Denscombe, 2014). In this study, the interviewees (14 students) formed about 34% of the total invited sample (41 students), whereas the interviewees formed about 25% of the total number of students in the two courses (55 students). This percentage makes the results not easy to be generalized. However, the results, in this case, could have a better impact on the total number of students as the goal of such qualitative studies is not to generalize but rather to provide a rich, contextualized understanding of some aspect of human experience through the intensive study of specific cases (Polit and Beck, 2010). It is possible, however, to generalize the method used (the research approach) to be applied in other studies.

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