

TRACK 10: INTERDISCIPLINARY PLANNING EDUCATION: CHALLENGES, DIALOGUES, INNOVATIONS

A COMPARATIVE PRODUCT ANALYSIS OF ONLINE AND FACE-TO-FACE BASIC DESIGN EDUCATION (1079)

Şirin Gülçen Eren¹, Aynur ULUÇ Keçik¹, Ebru Ala^{1*}

¹ Süleyman Demirel University, Faculty of Architecture, Department of City and Regional Planning, Isparta, Turkey; *ebruala@sdu.edu.tr

Abstract. The first year of education in the city and regional planning discipline focuses on one-on-one and face-to-face basic design education, primarily conducted through planning studios I-II. Assignments are given to freshmen to enhance their urban planning and design knowledge, perspectives, design thinking, creative thinking, and design judgments. The COVID-19 Pandemic and the 2023 Kahramanmaraş Earthquakes occurred successively, resulting in a significant shift towards online university education. Course instructors and administrations had to amend education methodologies, materials, and course contents accordingly. The aims and objectives of design courses were fulfilled through various digitalized learning systems and programs. However, the quality of the design products declined during this period.

Therefore, this study aims to compare the basic design outputs of students in the online courses of 2020-2021 and the face-to-face courses of 2022-2023 fall term planning studios at Süleyman Demirel University in Isparta, Turkey. The purpose is to determine the effectiveness of different education methodologies in basic design education and assess the outcomes in terms of quality and performance. Assignments from both online and face-to-face courses will be compared to evaluate the impacts of online education on students' learning and creativity. This research is exploratory in nature and employs a comparative analysis of two fall term final assignments (The Shell Project), assessing their level of meeting 16 design requirements. The evaluation of the study was conducted based on the grades of the submission, final grades, and course success grades and averages.

The research presented shows an increase in the design quality of assignments in face-to-face education. This improvement is attributed to enhancements in meeting course requirements, the interactive nature of the courses, and changes in implementation

processes. Additionally, there was a higher level of interaction with students, and their efforts to learn and actively participate in the course were accelerated. The outcomes of this research are expected to provide valuable insights for lecturers and academic staff involved in first-year planning studios. It will assist them in the development of course curricula, methodologies, and the preparation and delivery of design education for teaching the visual language.

Keywords: City planning, Basic Design education, Online education, Face-to-face education, Covid-19.

1. Introduction

Basic design undergraduate university education is a canonical architectural education that is traditionally practiced in a face-to-face manner (Broadbent and Ward, 1969). The field of urban planning and so the City and Regional Planning (CRP) departments present an aim to enhance the student's design-focused thinking and visual perception skills through basic design education (Bayraktar et al., 2012). Basic design education aims to contribute to and establish the fundamental aspects of urban planning and urban design (Chiaradia et al., 2017) for a better urban quality and livable environments.

According to Oğuz, Özyılmaz, and Dağtekin, the underlying principle of the design education provided for this purpose involves the ability to create designs by combining historical and cultural values, materials, and technology, while striving to achieve a contemporary interpretation (2008 cited in Açıcı Kurak, Sönmez, and Ertaş Beşir, 2019). Students are also expected to learn basic design principles (Eren, 2021a), use necessary tools and to possess skills that enable coordination between the eye, mind, and hand (Asu Besgen et al., 2015). To enhance these skills, basic design education is implemented through various forms and styles of teaching (Özdemir, 2016).

To cultivate a design mindset that can solve problems, design education emphasizes learning through experience. This is achieved through project-based education, which forms the foundation of its teaching approach. The curriculum incorporates both design theory and practical application and is typically structured around studio-based learning to encourage creative exploration and experimentation through assignments. Students are expected to produce design solutions through drawings, models, or prototypes. Because of this, face-to-face teaching and regular interactions are crucial components of pedagogy (Mehta, 2020) and the development of design thinking. Project courses are conducted on a semester basis for four years, mainly in studios/workshops.

With the emergence of emergency situations such as natural disasters, human-induced disasters, and pandemics, online university education systems have gained popularity in many countries. This has been particularly evident during the recent Covid-19 pandemic,

where online education methods and tools have been widely adopted worldwide to minimize human contact and replace face-to-face education. Online courses provide students with the opportunity to participate in and follow the course regardless of geographical restrictions (Ibrahim et al., 2020).

Numerous scholars (Denel, 1979; Günay, 2007; Mehta, 2020; Peimani and Kamalipour, 2021; Bayraktar et al., 2022; Acar, 2020; Eren, 2021a) have focused on incorporating technology into education, restructuring their courses and teaching methodologies, and investigating the impacts of online teaching and learning systems in their academic studies. It has been determined, as initially stated by Dumford and Miller (2018 cited in Peimani and Kamalipour, 2021), that students who take online courses typically demonstrate lower levels of participation in collaborative learning, communication with faculty and other students, and peer discussions compared to students who attend traditional face-to-face courses.

Due to the Covid-19 Pandemic and the subsequent earthquakes in Kahramanmaraş, Turkey occurred in 2023, the field of urban planning, like many other disciplines, has been obliged to experience online education. Basic design education courses have been organized either fully online or in a hybrid format upon the request of students or university administrations. This unexpected situation has brought about changes in the academic calendar, educational methodologies, materials, course contents, and studio projects.

Acar (2020) emphasizes that universities and their respective actors and units have been dealing with various aspects of the issue and entered the process unprepared. Efforts to find solutions to the encountered problems are ongoing. Since each institution forms its own practice and memory, there is no common implementation of scientific content, processes, and methods in basic design education.

During online education, technical field trips, which are a significant part of basic design education, could not be realized. As a result, students have received incomplete instruction in terms of understanding space, the elements that constitute a space, different types of spaces, levels, and topography. These developments have led to observed differences in the quality of design outputs between online design products and those produced during face-to-face education in terms of meeting the requirements.

The Planning Project I-II (PLN 101-102) courses offered by the Department of City and Regional Planning at the Süleyman Demirel University (SDÜ) Faculty of Architecture (Isparta, Turkey) is a practical course delivered in two semesters during the first year of the undergraduate education. In this course, students receive integrated education from point to space and city through face-to-face teaching methods (Eren, 2021b). Additionally, the course aims to teach the fundamental visual language that creates aesthetics and perception, and to enable students to acquire design formation through

obtaining certain design knowledge and skills. Different assignments are given to freshmen to develop their urban design knowledge, perspectives, design thinking, creative thinking, and design judgments. Furthermore, the course aims to enhance students' personal expression skills such as writing, speaking, and articulation, as well as their representational abilities.

During the COVID-19 pandemic, it was observed that online education differed in its purpose and effectiveness compared to face-to-face education after the pandemic. Therefore, there is a need to question the differences in the educational methods based on the outputs. In this regard, this study aims to compare students' basic design outputs in the planning studios of the online fall term of 2020-2021 and the face-to-face fall term of 2022-2023, in order to determine which education methodology is effective in basic design education and to assess the quality of the outcomes. It is expected that this inquiry will contribute to subsequent studies on the applicability of face-to-face, online, and hybrid education methods in the discipline.

The paper begins by providing an overview of the problem area, conceptual framework, research scope, and research methodology. It then presents the findings of the study, followed by an evaluation of these.

2. Method

The methodology of this study is based on a comparative analysis, an exploratory research method, and a case study approach. The research aims to investigate how online and face-to-face education differ in terms of product, and how planning studio education methodologies affect the quality of students' final outputs in terms of meeting the requirements of the assignments. In other words, this research involves a qualitative comparison of the end-of-semester outputs of a first-year basic design course in a city and regional planning department. This choice is primarily motivated by the nature of the final submissions as indicators of the student's level of comprehension and assimilation of their education, whether delivered online or face-to-face. By comparing the level of meeting the assignment requirements and the performance grades across different educational methods, it will be possible to determine which type of education is more effective in teaching visual language.

2.1. Case Study: Süleyman Demirel University CRP 101 Planning Course I

Within the scope of the research, a comparison was made between the final outputs of the online Planning Project I (PLN 101) course conducted during the 2020-2021 academic year fall semester and the face-to-face Planning Project I course held during the 2022-2023 academic year fall semester at the Department of City and Regional Planning, Faculty of Architecture, Süleyman Demirel University (Isparta, Turkey).

The fall semester final submission is a "shell", which presents the initial form of human habitation. The Shell Project focuses on creating a design product using modules/modulation, grids, and basic design and Gestalt principles. The requirements specified in the final assignment sheets related to the design problem are the same for both fall semesters.

The midterm and final grades, including the project submissions and the Shell Project, are recorded in the University Student Information System (SDU NET) for the Planning Project I course. The arithmetic average of all homework submissions and selected class practices is calculated by the course coordinator and entered into this system. The system then determines the student's final grade through two different calculations: one based on the class average and the other based on the weights of the midterm exam (40%) and the final exam (60%). As a result, the grade for the final submission given by the coordinator alone differs from the final grade of the course.

2.2. Data Gathering and Data Analysis

The research population consists of 100 students enrolled in the online Planning Project I course during the 2020-2021 fall semester and 74 students enrolled in the 2022-2023 fall semester. The number of students who submitted the final exam for both semesters is 61 and 59, respectively. All the submissions between the final and midterm exams have been examined during the grading process.

In this study, in addition to the requirements of the final submission, the comparisons of the distribution and averages of the top five and bottom five submissions that meet the requirements the most and the least are provided based on the education method. The midterm grades, along with the arithmetic average of the assignments between the midterm and final exams (including some class practices) that include the Shell Project final submission grade, are used as performance indicators for the course grades. The grades of students who took the makeup exam do not include the assignments or class practices between the midterm and final exams. Only the passing grades from the makeup exam are recorded in the system for each participating student.

The submission of the scaled 1/10 version of the Shell design, representing the module and modulation of the shell through photographs taken from different angles in different environments, is a requirement for online education. On the other hand, the in-person submission of the same scaled shell, its presentation in front of the jury in the studio environment, and photographing it in the same format are the requirements for face-to-face education. The relationship between class attendance and performance in both face-to-face and online Planning Project I courses has not been examined within the scope of this research. In addition to this, the comparison of students' overall class performance weighted average and the course grade average in PLN 101 is considered an externality since it is not directly influential and a determining factor in evaluating the

quality of the outputs.

The evaluation of the study was conducted based on the grades of the Final Shell Project submission, final grades, and course success grades and averages.

3. DISCUSSION

In the 2020-2021 online Fall Semester Planning Studio I course; 76 students submitted the Shell Project. The average grade for the Shell submission was 57.95. The average grade for the final project, including the Shell submission and the assignments after the midterm, of the 61 students whose final grades were entered, was 61.46. The average grade for the 82 students who passed the PLN 101 course was 56.34.

In the 2022-2023 face-to-face Fall Semester Planning Studio I course, 59 students submitted the Shell project, with an average grade of 58.88. The average grade for the final project, including the Shell submission and the assignments after the midterm, of the 59 students whose final grades were entered, was 57.66. The average grade for the 61 students who passed the course was 56.51.

The findings of 2020-2021 online and 2022-2023 face-to-face Fall Semester Planning Studio I courses are presented below in Table 1:

Table 1. Performance and Participation Comparison of Students in Face-to-Face and Online PLN 101 Planning Studio I Courses in the Fall Semester

| | Education Methodology | |
|--|-----------------------|------------------------|
| | Online 2020-2021 | Face-to-Face 2022-2023 |
| Requirements | 16 | 16 |
| Number of Students Enrolled to the Course | 100 | 74 |
| Number of Exempted Students from the Course | 3 | 0 |
| Number of students who submitted the Shell project | 76 | 59 |
| Number of students who took the final exam | 61 | 59 |
| Number of students who took the makeup exam | 18 | 8 |

| | | |
|--|-------|--------|
| Number of students who passed the course | 82 | 61 |
| Number of students who failed the course - Those who did not fulfill the course requirements (excluding conditionally passed students) | 8 | 5 |
| Number of students who failed the course - Failed due to absenteeism | 14 | 11 |
| Average Final Grade (including post-midterm submissions) | 61,46 | 57,66 |
| Course Grade Average (Midterm + Final + Makeup) | 56,34 | 56,51 |
| Average Grade for the Shell Final Project Submission | 57,95 | 58,88 |
| Highest Grade | 95 | 90 |
| Lowest Grade | 20 | 40 |
| Percentage of Students who Submitted the Final Project | %76 | %79,73 |
| Percentage of Students who Passed the Course (Including Conditional Pass) | %88 | %78.38 |

In online education, instructors tend to give more lenient and easier grades, as can be observed from the lowest grades and the percentage of students passing the course, as indicated in Table 1. Students often face difficulties in concentrating during online classes, lack the necessary infrastructure for studying, and may not take the course as seriously. However, despite these challenges, the average grades for final project submissions and overall course grades remain almost the same in both types of education.

Table 2. Highest and Lowest Grade Fulfillment Levels of Requirements for Shell Project Submissions in the 2020-2021 Online PLN 101 Course (Used for Grading)

| 2020-2021 Fall Term- Online | | | | | | | | | | |
|--|---|--------|-------|-------|-------|---|------|----------------|----------------|-------|
| Obligatory Requirement/ Sample Number | Examples Meeting the Requirements (Number) | | | | | Examples Not Meeting the Requirements (Number) | | | | |
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Shell | Tunnel | Tunnel | Shall | Shell | Shell | Tunnel | Door | Shell/ Room | Shell/ Room | Shell |
| Scale (1/10) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Ratio-Proportion | 1 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 2 | 0 |
| Grid | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Basic Design Principles | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Solid-Void | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 1 |
| Human Action (Standing-Lying Down- Sitting) | 2 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| Compliance with standards based on human actions (Neufert-based) | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Action-Form Harmony (Form-Function balance) | 2 | 1 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| Prime geometric shape (Minimum 2,5cm) | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | 1 |
| Module (Minimum 3, maximum 5 prime geometries)- Modulation | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|
| Hierarchy/ Unity / Harmony / Order | 2 | 1 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 |
| Balance/ Continuity in the Whole | 1 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 2 | 0 |
| Shell Height (Max. 25 cm) | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 |
| Corrugated Cardboard/Craftsmanship | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 0 | 1 |
| Photographing from different angles (To define the shell's position and its relationship with the surroundings) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

Note: 0 None, 1 Partially, 2 Existing

Table 3. Highest and Lowest Grade Fulfillment Levels of Requirements for Shell Project Submissions in the 2022-2023 Fall Semester (Based on Grading)

| 2022-2023 Fall Term Face-to-Face | | | | | | | | | | |
|---|---|----------|----------|----------|----------------|---|-----------|----------|-----------|-----------|
| Obligatory Requirement/ Sample Number | Examples Meeting the Requirements (Number) | | | | | Examples Not Meeting the Requirements (Number) | | | | |
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Shell | Shell | Shell | Shell | Shell | Shell/ Room | Room | Sculpture | Room | Sculpture | Sculpture |
| Scale (1/10) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Ratio-Proportion | 2 | 1 | 2 | 2 | 2 | 2 | 0 | 0 | 1 | 0 |
| Grid | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Basic Design Principles | 2 | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 |
| Solid-Void | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 |
| Human Action (Standing-Lying Down- Sitting) | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| Compliance with standards based on human actions | 2 | 1 | 1 | 1 | 2 | 1 | 0 | 1 | 1 | 0 |

| (Neufert-based) | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|
| Action-Form Harmony (Form-Function balance) | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| Prime geometric shape (Minimum 2,5cm) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Module (Minimum 3, maximum 5 prime geometries)- Modulation | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 |
| Hierarchy/ Unity / Harmony / Order | 2 | 2 | 2 | 1 | 2 | 2 | 0 | 0 | 1 | 0 |
| Balance/ Continuity in the Whole | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 1 | 0 |
| ell Height (Max. 25 cm) | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 2 |
| Corrugated Cardboard/Craftsmanship | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 |
| Photographing from different angles (To define the shell's position and its relationship with the surroundings) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

Note: 0 None, 1 Partially, 2 Existing

Tables 2 and 3 provide an overview of the extent of the compliance level of the Shell projects in the PLN 101 course. The data reveals that in face-to-face education, the basic design outputs tend to meet the requirements to a greater degree, indicating higher quality compared to online education. Specifically, the examples assessed in face-to-face education demonstrate that they fulfill most of the requirements outlined in the project guidelines. However, in the online education setting, it has been observed that although five examples produced surpass the class average in terms of quality, they fail to meet certain fundamental mandatory requirements. This suggests that while online education may produce designs of high quality, there are still gaps in meeting essential design criteria. These findings highlight the need for further evaluation and improvement in online education to ensure that the fundamental requirements of basic design education, such as design principles and grid, are adequately addressed.

In both tables, it has been determined that successful works fulfill many of the requirements while low-scoring works fail to meet the requirements. It has been found that even high-scoring works do not utilize grids or basic design principles, which are essential for creating aesthetics. It has been identified that this group lacks in terms of human actions and the conformity of actions to standards and form. In online education, module and modulation could not be created in the products.

Attendance is not compulsory in online education. Students acquire information through online resources and do not read the course assignment sheets. Attendance in online classes is low, as mentioned by Dumford and Miller (2018, cited in Peimani and Kamalipour, 2021). It is also observed that projects given for performance and gaining experience are often not fully completed or submitted.

It has been determined that the system allowing students to pass without attending classes leads to insufficient participation and fulfillment of requirements. In face-to-face education, participation in project courses is mandatory, and if a student fails the course (except for those who pass conditionally (DD and DC) or those with a course average of 2.00 in the graduation stage), the student is required to retake the course in the same semester of the following year. It is recognized that such external factors influence students' in-class performance and the level of meeting the requirements of their produced works. However, this is beyond the scope of this study and requires further research.

Based on the evaluation presented in Tables 2 and 3, the design products that meet the most and least requirements of PLN 101 Final Projects from the 2020-2021 and 2022-2023 Fall Semesters are provided in Figures 1-20.

In Figures 1-5, the projects that best meet the requirements of the online 2020-2021 Fall Semester Final Project -Shell design can be seen (Samples 1-5).



Figure 1a-b. The project that received the highest grade (by Ezgi Kaynakçı)

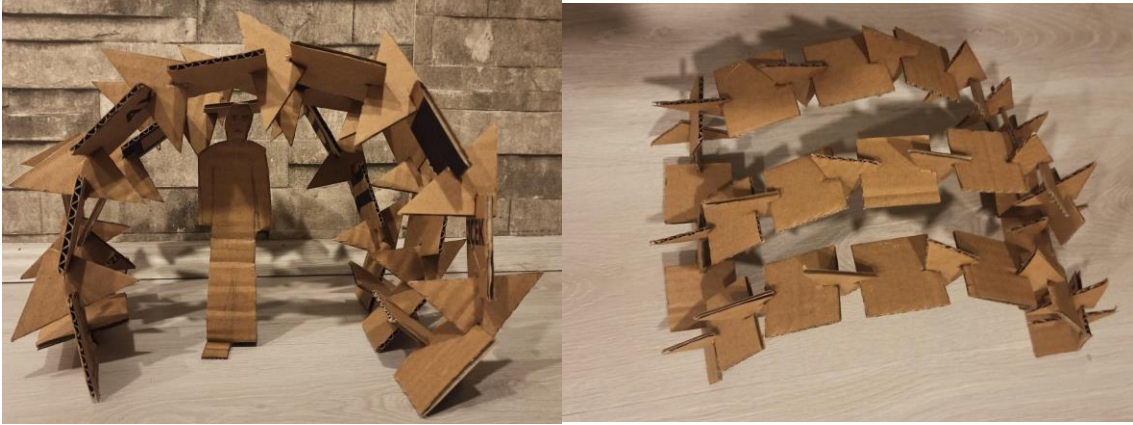


Figure 2a-b. The project that received the highest grade (by Kaan Yılmaz)

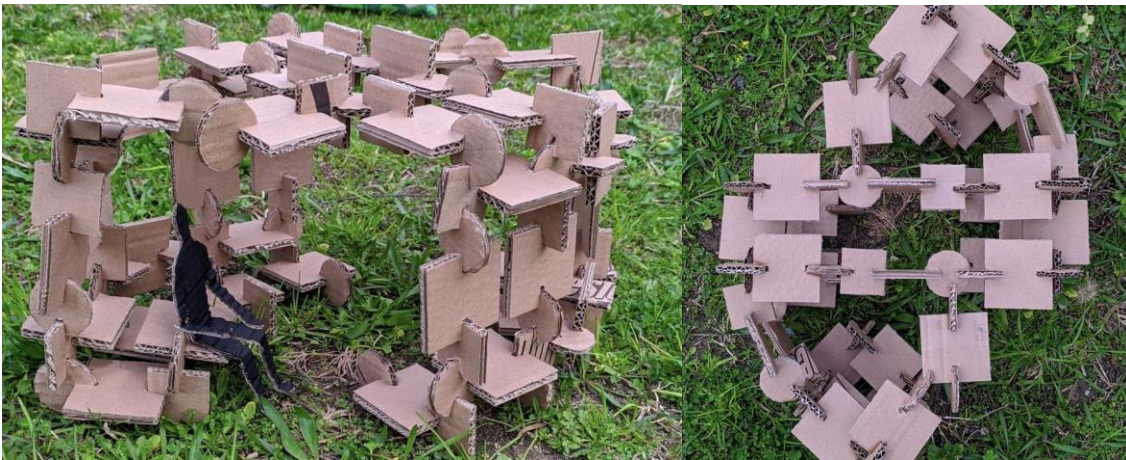


Figure 3a-b. The project that received the highest grade (by Muhammet Fatih Yönceç)



Figure 4a-b. The project that received the highest grade (by Sinem Yıldırım)

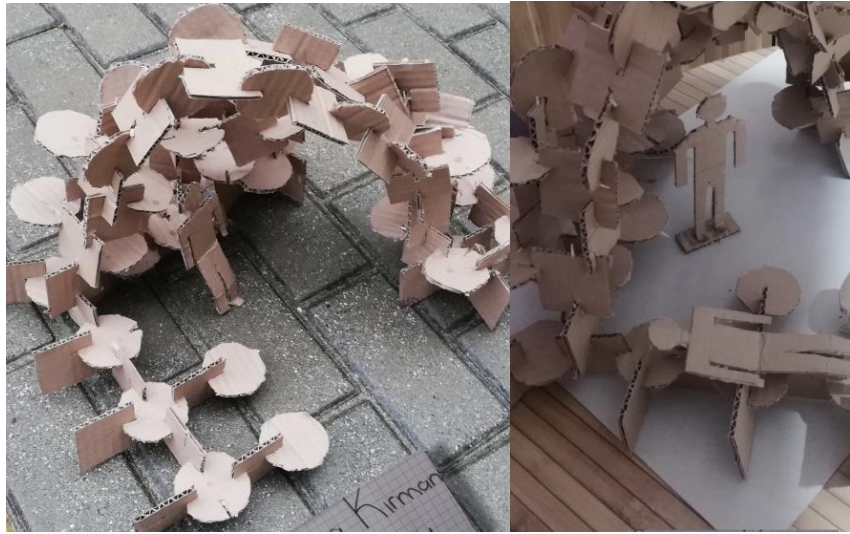


Figure 5 a-b. The project that received the highest grade (by Rabia Kirman)

In Figures 6-10, the projects that least meet the requirements of the online 2020-2021 Fall Semester Final Project- Shell design are presented.

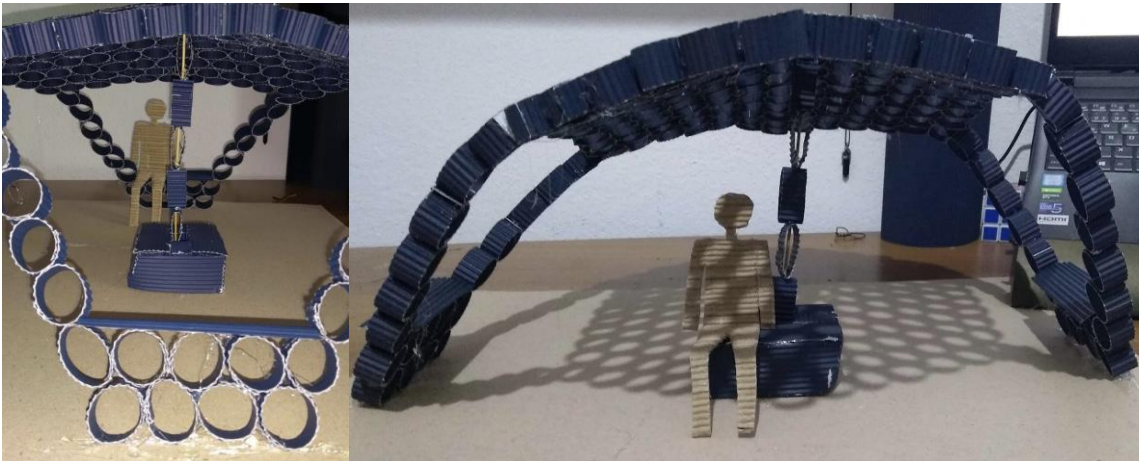


Figure 6 a-b. A sample meeting assignment 's requirements at the minimum level



Figure 7 a-b. A sample meeting assignment's requirements at the minimum level

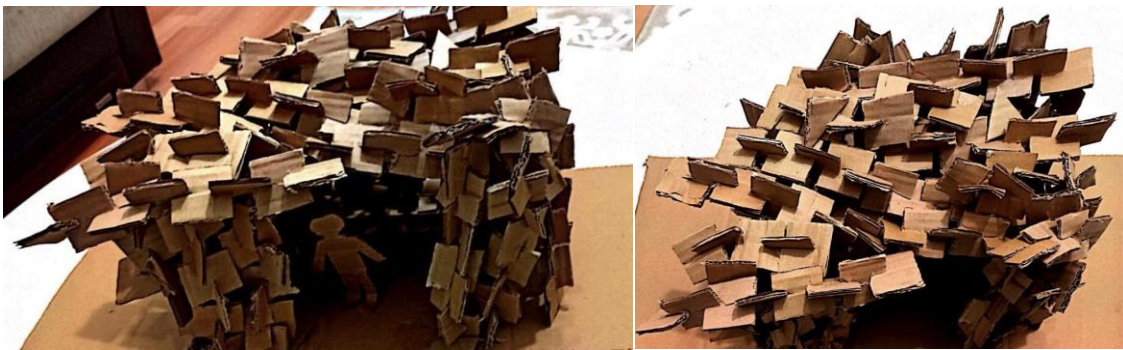


Figure 8 a-b. A sample meeting assignment 's requirements at the minimum level



Figure 9 a-b. A sample meeting assignment's requirements at the minimum level



Figure 10 a-b. A sample meeting assignment's requirements at the minimum level

In Figures 11-15, the design projects that best meet the requirements of the face-to-face 2022-2023 Fall Semester Final Project- Shell design are presented:



Figure 11 a-b-c. The project that received the highest grade (by Burcu Acar)



Figure 12 a-b-c. The project that received a grade above the class average (by Kader Kılıç)



Figure 13 a-b-c. The project that received a grade above the class average (by Sila Battal)



Figure 14 a-b-c. The project that received a grade above the class average (by Yasin Bayrak)



Figure 15 a-b-c. The project that received a grade above the class average (by Gizem Kırılı)

In Figures 16-20, the design projects that least meet the requirements of the face-to-face 2022-2023 Fall Semester Final Shell design are listed:



Figure 16 a-b-c. A sample meeting assignment's requirements at the minimum level

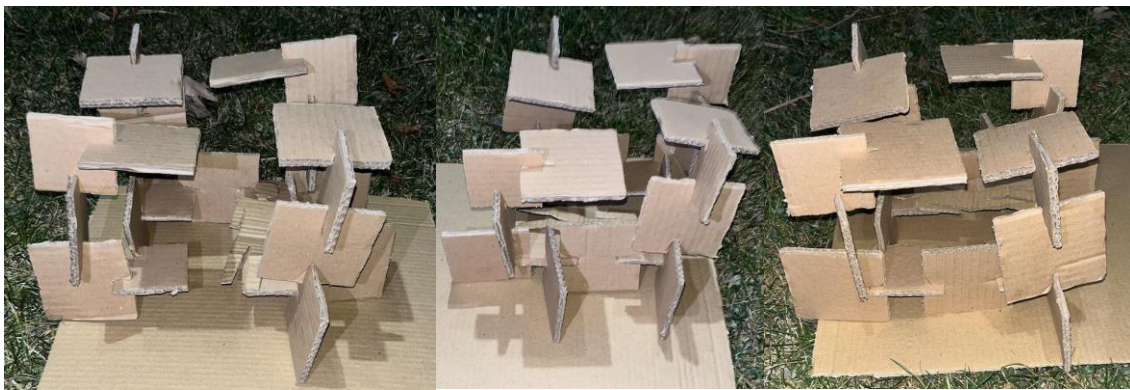


Figure 17 a-b-c. A sample meeting assignment's requirements at the minimum level



Figure 18 a-b-c. A sample meeting assignment's requirements at the minimum level

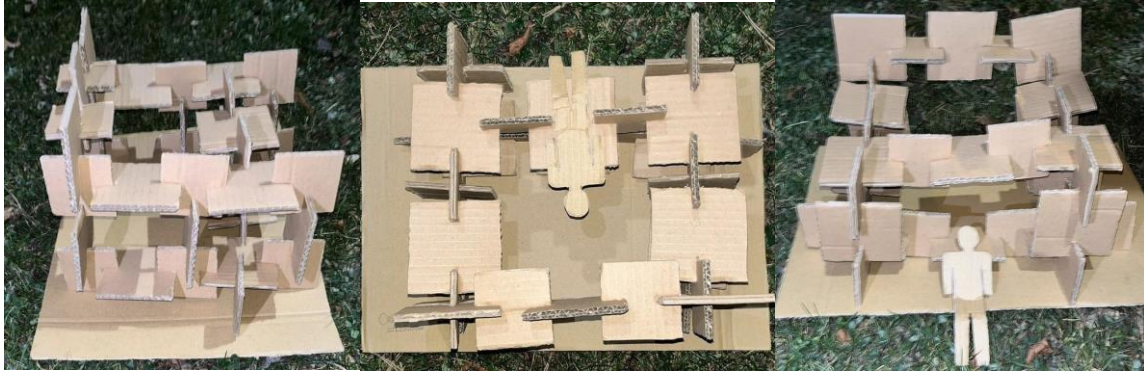


Figure 19 a-b-c. A sample meeting assignment's requirements at the minimum level



Figure 20 a-b-c. A sample meeting assignment's requirements at the minimum level

4. General evaluation

This research was conducted based on the online and face-to-face education samples of the Planning Project I course at the Süleyman Demirel University's Department of Urban and Regional Planning. The aim of this research is to determine which teaching method enables what types of output in basic design education and to assess the quality of the outputs. Based on this aim, the main differences between online and face-to-face education were examined in this study.

These differences include students losing concentration in online education, lack of participation in classes, failure to review the lessons, and completing assignments based on only information, not knowledge. One-fourth of the students in online education and one-fifth in face-to-face education did not submit their final assignments. Additionally, it was observed that students had difficulty finding the required materials and drawing tools for submissions during online education.

This research evaluates the impact of different teaching methods on the output of basic design education. The results indicate that students' performance in online education is lower when compared to face-to-face education, and the quality of the outputs have decreased in the online environment. The research findings can be utilized to assess measures for improving the educational process and enabling students to learn more effectively.

According to Reeves (2013 cited in Peimani and Kamalipour, 2021), educators have faced difficulties in adapting certain activities, such as performance assessment, to the virtual learning environment while maintaining the quality of content knowledge and effective interactions between students and lecturers. This holds true for the case study as well. The lack of mandatory attendance in online education has made it challenging to monitor project progress and assess whether course objectives have been achieved or not. The final results of online education demonstrate lower quality in design products.

A decrease in workmanship quality (a decline in motor skills) is another observed phenomenon in online education. This decline, which is developed through in-person critiques, is attributed to reduced class hours, lack of interaction with instructors and inability to work in a classroom environment. The attention to detail in submitting assignments is more pronounced in face-to-face education.

Both methods share the commonality of similar performance grades. The class average remained the same in both periods compared (56.34-56.51), with only a slight difference of 0.9 points (57.95-58.88) in the assignment grades. Although this may create the perception that there is no difference in terms of assignment products and overall performance between the two teaching methods, it should be emphasized that online education tends to give higher grades more easily due to various external factors and less effort required from students. The pass rates also support this observation: 88% of students passed the course in online education, while this rate was 78.38% in face-to-face education.

A common factor in the examined teaching periods is that low-performing students were unable to meet the assignment requirements, and high-performing students were unable to utilize the necessary tools (such as grids) to create aesthetic and high-quality designs, as well as to comply with standards and form in creating a healthy and quality environment. Module/modulation was also not achieved. This indicates a lack of thorough follow-up of in-semester courses, insufficient research and sketching, and inadequate time allocated for the work.

In the face-to-face fall term, there is an improvement in the design quality of assignments in terms of meeting requirements, the interactive nature of the courses, and the changing implementation processes. The level of interaction with students and their efforts to learn and participate in the course also increased. Direct interaction with

students can contribute to improving the quality of their design products. As shown in Table 3, the design product quality is higher in face-to-face education. For example, even in project samples that do not fully meet the assignment requirements in face-to-face education, basic design criteria and the use of grids can still be observed, which is not the case in online education.

During emergency situations, online teaching and learning systems have been preferred over face-to-face methods due to their advantages. Firstly, online systems offer flexibility to students, allowing them to complete their course tasks at their own pace and schedule. Secondly, these systems provide improved access to course archives, including video recordings and digital textbooks. Lastly, online systems contribute to the development of digital technology skills.

On the other hand, online education has its own limitations. One major drawback is the reduced interaction between students and instructors. This can hinder the feedback process for assignments, limit opportunities for asking questions, and impede discussions about their work. Additionally, as highlighted in this study, the quality of design products tends to decrease in online education. Moreover, student attendance and participation may be limited, as some students may lack motivation to stay on track. Although flexibility and easy access to course resources are advantages, they can also be reasons for disadvantages, as online students may not have the same access to resources and opportunities as traditional face-to-face students.

In conclusion, while online teaching and learning systems offer advantages such as flexibility and easy access to course resources, this study demonstrates that they can negatively affect the outcomes of basic design education in the field of city and regional planning, particularly in terms of meeting assignment requirements.

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