Eastern Mediterranean University

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INTERNATIONAL CONFERENCE

2022

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UNSPOKEN

ISSUES IN ARCHITECTURAL EDUCATION

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FAMAGUSTA | NORTH CYPRUS

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Conference Themes

Diversified Mediums

- Emerging concepts and unpredictable/unprecedented issues in architectural education
- Technology (New technologies) integrated Architectural/ Interior Architectural education
- The role of national/international /internal/external certifications in education of architecture/interior architecture
- Climate action
- Contextual /regional/local /effects in architectural education / interior architectural education
- Architectural education for conflicted fronts / disaster management / refugee crisis
- Architecture/interior architecture for the poor / social housing
- Architecture/interior architecture for dis/ability
- Implicit learning and education; the hidden agenda
- Extracurricular activities / informal education
- Pre-undergraduate Education (for Architecture/Interior Architecture)

Dynamic Philosophy

- Ideology/beliefs and architectural education
- Integrating social justice into education
- Art and Design in Action
- Provoking curriculums and education culture
- Ground-up envisioning of architectural education
- Creative design process and creative product
- Challenges and creative solutions

Contradictive Education

- Disparities/Differences between status of architectural education and profession
- Who should teach architecture? / Who should teach interior architecture?
- Pedagogy for career activities
- Acquisition of new data: for future of both profession and architectural/interior architectural education
- Reassemble of core values in architectural education
- Setting new standards, rules or norms for the profession
- Principal responsibilities of architectural education

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Preface

An international conference, with the title of “Unspoken Issues in Architectural Education” (UIAE), was hosted by the Faculty of Architecture at Eastern Mediterranean University in Gazimağusa (Famagusta), North Cyprus, on April 14-15, 2022. The contents of this proceedings book are the result of this academic event. The meeting was organized with the intention that scholars, practitioners, and students would come together to discuss architectural education from various perspectives.

Within this scope, the second international conference of UIAE delightfully welcomed interdisciplinary contributors from around the world. These participants - who are working in the disciplines of design, architecture, interior architecture, art and architectural history, engineering, urban studies, cultural studies, sociology, environmental studies, and pedagogical studies - proposed papers and met together in North Cyprus.

This conference led discussions on various critical issues in architectural and interior architectural education with the main themes of “Diversified Mediums”, “Dynamic Philosophy”, and “Contradictive Education”. Supporting these themes, the main objectives of the conference were to investigate and disseminate alternatives for present day challenges in architectural and interior architectural education. Challenges include the relevance of architectural education in the real world, effects of media, working and designing for the poor, disaster management, climate change, fuel poverty, prices of energy, conflicts and wars, number of architects and architectural schools, questioning the methodology of teaching in architecture, and many more unspoken issues.

The proceedings book includes 17 papers by authors from seven countries presenting different perspectives, approaches, experiences, methodologies, and insights. In addition to the paper presentations, UIAE-2022 was enriched by the contributions of the following esteemed and distinguished scholars as keynote speakers:

- Harriet Harris – Pratt School of Architecture, New York
- Graeme Brooker – Royal College of Art, Kensington Gore, London

As co-chairs, we would like to express our gratitude to all participants, to all of our international advisory and scientific committee members, to our keynote speakers, and to our organizational committee members. Everyone has contributed to the realization of this event.

Conference Co-Chairs
Resmiye ALPAR ATUN, Prof.Dr.
Uğur ULAŞ DAĞLI, Prof.Dr.
Zehra ÖNGÜL, Assoc.Prof.Dr

Rector’s Note

Dear Readers,

On behalf of the Eastern Mediterranean University, I would like to congratulate our Faculty of Architecture for organizing such an event and I convey my extended gratitude for the distinguished speakers who have travelled from all over the world to our beautiful country or joined the event online to share their expertise in the area of architecture education.

Since its establishment in 1979 as the first state university of the country, Eastern Mediterranean University became one of the most important international higher education institutions in the region and is an exemplary pride for Northern Cyprus. Having over 65,000 alumni all over the world, our university is currently providing quality education to more than 15,000 students from over 100 countries with its 12 faculties and 4 schools. The overwhelming majority of Eastern Mediterranean University’s programs are accredited by prestigious international accreditation organizations. The education programs of Faculty of Architecture, which began its academic activities in 1991, are accredited by the National Architectural Accreditation Board (NAAB) and Architecture Accreditation Council of Turkey (MIAK).

As a university that prioritizes quality education, I am proud that Eastern Mediterranean University hosted the second Unspoken Issues in Architectural Education International Conference where topics such as diversified mediums, dynamic philosophy, and contradictive education were discussed. I have no doubt that the papers and presentations that were submitted to this conference will contribute to the architecture education field, as well as reflecting on the changes at this area since the first conference, which also took place in Eastern Mediterranean University in 2014. I would like to thank the conference organization committee and all the distinguished scholars, professionals, and researchers who contributed to the conference.

Prof. Dr. Aykut Hocanın
Rector, EMU

Dean’s Foreword

Conferences, as academic events, always create synergies among participants. Whether attending as organizers, presenters, or guests, conferences advance discussions and lead participants forward in their careers and research. The Unspoken Issues in Architectural Education Conference was first initiated in 2014 by the co-chairs Prof.Dr. Şebnem Önal Hoşkara and Prof.Dr. Özgür Dinçyürek. This proceeding is the outcome of the second iteration of the conference in 2022, which was organised by the co-chairs Prof.Dr. Uğur Ulaş Dağlı (the then Dean of the Faculty of Architecture), Assoc.Prof.Dr. Zehra Öngül (the then chair of the Department of Interior Architecture), and myself (the then chair of the Department of Architecture). All of the organizational contributions that made possible the initiation and institutional continuation of this conference series are very valuable.

The second International Conference on Unspoken Issues in Architectural Education stands as a good example of outcomes with extended impacts in academia, practice, and the community. As the host institution, it was an honour for EMU Faculty of Architecture to be able to realize the event even though some unfortunate conditions of the pandemic still lingered.

The event hosted various academicians from all over the world. We are very sure that the conference could not have been possible and such a success without the contributions of everyone who partook in the event. In this sense, I wish to congratulate and express gratitude for all of our colleagues who contributed to the success of the conference. Moreover, we thank participating authors for their valuable academic contributions that hopefully will develop into forward-looking discourses.

When the theme of the conference is considered from a broad perspective, one spontaneously wants to raise the following question: what are current and upcoming unspoken issues in architectural education? Responses that are reflective of the specific period include anticipation of and reactions to future unexpected events like the pandemic.

A second question may arise: What has been experienced before, during, and following the pandemic that leads us to aim for a sustainable future as living beings? As designers, architects, and educators with undeniable roles and responsibilities, our contributions remain crucial in achieving these tasks through design innovations and enhanced management.

We maintain our hope to help create a more livable and sustainable environment for all of us to share. I would like to express my gratitude for the willingness of all the committees, the organizing committee, the secretaries, and our assistants who took part in the conference. Their contributions played a significant role in achieving the quality of the conference. I believe that the knowledge shared through this proceedings book will develop and aid achievement of extensive impacts in future cooperative and further organizational efforts. We really look forward toward sustained collaborations.

Prof. Dr. Resmiye Alpar Atun
Dean
Faculty of Architecture

The Effects of Online Education Method in Interior Architecture Education

An Empirical study from Yeditepe University during the Covid-19 Pandemic

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ABSTRACT

Covid-19 Pandemic has affected our lives in every respect. In order to prevent the loss in the long term, it was a must to change the traditional methods in education too. Interior architecture education contains both theoretical and practical content. Therefore, it is a must to think about how to adapt interior architecture education into the online system with respect to its natural requirements. The Interior Architecture Department at Yeditepe University introduced new tools and techniques during the spring term 2019-2020 academic year for the first time to maintain its education in a completely virtual environment. This study focuses on the effects and outcomes of these tools and techniques on students' attendance rate, the most preferred devices while connecting to online lectures, efficiency, and sufficiency of materials, content, and communication with the lecturers. According to the results, the most preferred electronic device is the computer. The efficiency of theoretical and practical lectures has been rated with a higher percentage than project lectures in general. Communication with the lecturer was more than adequate during theoretical and practical lectures. Outcomes of this study are valuable to maintain the beneficial methods and the positive impact that are gained during the Covid-19 pandemic in spring term 2020, fall term 2020, and spring term 2021 to provide a more accessible and effective interior architecture education for students.

Keywords: Covid-19 Pandemic, Online Learning, Interior Architecture Education

1. INTRODUCTION

Considering the increasing demand on specialization areas in building sciences across Europe and the U.S. after the industrial revolution, it was not possible to count architecture as an individual practice but the unity of other related fields such as construction sciences, interior architecture, industrial design, and landscape architecture. Among these practices, interior architecture is a very essential one considering its importance in increasing the daily life quality of people. According to Petermans and Nuyts (2016), future research should focus on the role of architects and interior architects to contribute to the design of environments that provide people with activities that enhance their happiness. Therefore, it is important to invest in the methods of interior architecture education to raise competent interior architects for the field to provide higher quality interior spaces to people. The first practice of interior architecture education in Turkey dates in the 1920s under Sanayi-i Nefise Mektebi, known as the Mimar Sinan Academy of Fine Arts now (Wikipedia contributors, 2008).

Today there are 82 universities in Turkey and NC (Northern Cyprus), which contain either interior architecture or interior architecture and environmental design departments that offer both graduate and undergraduate studies. Despite the fact that all of these programs' curriculums are based on the essential rules and requirements of international standards in interior architecture education, minor changes are always possible and up to each program coordinator individually. Interior architecture education consists of both applied subjects with a hands-on approach and theoretical subjects. However, a major part of the education is based on the design process and applied practices (Özker, 2014). According to Demirkan and Afacan (2012), design studios are assumed as the core of the curriculum in interior design education, where designing is a matter of analyzing, synthesizing, evaluating, and presenting ideas of a creative solution. With the developing technology and new methods by the time, educational approaches in design studios evolved as well. Even though arranging the content and the way information is conveyed accordingly is mostly a necessary but still a voluntary action, sometimes it becomes a must.

As the world meets with different challenges, such as Covid-19 Pandemic, which occurred in late 2019 and affected our lives in every respect, in order to prevent the loss in the long term, it was a must to change the traditional methods in education too. In the last 20 years, education approaches have been inclining out of the traditional classrooms. According to Lyons (2004), higher education has steadily included online learning into its curricula. One of the biggest advantages of online education is that it still maintains efficiently even during times when it is not possible to attend classes in person. There are different methods by which online education can be integrated, such as a hybrid learning system where the online and offline courses are combined based on the needs of the curriculum for each week and not every student is supposed to join the class at the same time. Or flipped learning system, which provides both online and in-person lectures but planned based on the content and variety of activities such as watching the theoretical part online from home and practicing the applied tasks in the classroom after.

At this point, the interior architecture department at Yeditepe University converted its curriculum to an online system in the spring term of 2020. After successfully accomplishing the pilot term in spring 2020; during fall 2020 and spring 2021 terms, students and teaching staff had the chance to experience this transformation to the fullest, analyse, and compare its advantages and disadvantages.

2. AIMS OF THE STUDY

With the occurrence of the Covid-19 Pandemic in 2019, the university education system had to adapt itself to the new conditions. However, as a both practical and theoretical based field, interior architecture education required versatile adaptation methods. The interior architecture department at Yeditepe University brought different online tools to the play for an effective

online education period during fall term 2020 and spring term 2021. These tools comprise google classroom, google meets, google drive, zoom, YuLearn, and OBS (Öğrenci Bilgi Sistemi). Even though it has not been an easy switch to a completely online education model at the beginning of the fall term 2020, during the spring term 2021, students became more adapted to the new method as well as academics and even guest lecturers for online seminars. At this point, it is important to assess the effects and outcomes of this new online learning method to see the concrete results from students' experiences.

With the start of fall term 2021, all the departments at Yeditepe University, including the interior architecture department, turned into a hybrid education model, which contains both online and offline courses. This shows us that even though the negative effects of the Covid-19 pandemic decrease and we slowly adapt ourselves to the new normal, positive gains of the online education model have to remain to achieve more effective and accessible education for everyone. New normal is defined as a previously unfamiliar or atypical situation that has become standard, usual, or expected (Lexico, n.d). Therefore, it is worth investigating the outcomes of previous semesters in which the interior architecture lectures were conducted completely online at Yeditepe University to maintain the positive impact of online learning also during the new normal times. In brief, this study aims to analyse the general conditions of online interior architecture education during the fall 2020 and spring 2021 semesters, and also the impacts and outcomes of online education methods in interior architecture education in general to generate recommendations for academics.

3. PROCEDURE

The general procedure of our study will be explained in more detail in this part. Namely, the flow of the study, participant's selection, and data collection and analysis of these collected data.

3.1 Study Design

This study focuses on the effects and outcomes of the online education method in interior architecture education. Therefore, an anonymous survey was prepared by the academics of the Interior Architecture Department at Yeditepe University at the end of fall term 2020. An application for the ethical approvement has been submitted to Yeditepe University ethics committee and resulting from the nature of this study's data collection, an approvement was seen unnecessary. Surveys are created to evaluate each lecture and the lecturer in that specific term regarding the online learning method used. Lectures that are held in fall term 2020 and spring term 2021 were classified into three groups, namely: Project, Theoretical, and Practical. Project lectures include design studios for 2nd, 3^{rd,} and 4th-grade students as well as basic design studios for the freshman. Theoretical lectures are the ones that have a concrete syllabus and are evaluated with a written exam at the end of the semester. Practical lectures are the ones based on hands-on practices such as technical drawing, presentation techniques, and fine structure **(Figure 1).** The survey consists of 24 questions in total, 8 of them are directly related to online education, other questions are regarding students' characteristics such as their GPA and familiarity, evaluation of course lecturers, and outcomes of the courses. Evaluation of course lecturers and outcomes of the courses regarding content and delivery methods are not the main focus of this research, therefore they are excluded from the study.

Type of the Lecture	Lecture Code	Lecture Name
PROJECT	INTD 201	Project I
	INTD 202	Project II
	INTD 301	Project III
	INTD 302	Project IV
	INTD 401	Project V
	INTD 402	Diploma Project
PRACTICAL	FA 102	Basic Design
	FA 106	Technical Drawing
	INTD 111	Drawing Techniques
	INTD 123	Project Drawing & Presentation Standarts
	INTD 231	Computer Aided Design
	INTD 251	Final Construction
	INTD 281	Construction & Details
	INTD 291	Interior Analysis Systems II
	INTD 331	Advanced Modeling in Interior Architecture
	INTD 373	Furniture Design
	INTD 391	Applied Project II
	INTD 482	Computer Visualisation Techniques
THEORETICAL	INTD 141	Information Technologies for Interior Architects
	INTD 161	Design Principles for Interiors
	INTD 182	Construction
	INTD 192	Interior Analysis Systems I
	INTD 271	History of Architecture II
	INTD 371	History of Architecture III
	INTD 417	Construction Management & Economics
	INTD 451	Design Principles in Historic Buildings
	INTD 461	Acoustics
	INTD 481	Smart Buildings & the Life of the Future

Figure 1. Practical lectures (By authors, 2022).

3.2 Participants

Participants of this study are chosen by using a stratified sampling method among students who participated in online education during their studies in the Interior Architecture Department at Yeditepe University. The most important point that is paid attention to was to reach as many participants as possible representing the students' profile of each lecture. Other factors such as age, gender, or grade were excluded. 925 students have participated in the online survey in total. Participants represent students from all grades namely 1st, 2nd, 3rd, and 4th.

3.3 Data Collection and Analysis

Surveys are prepared by using google forms. The links belonging to each lecture were shared with the participant students via email 2 weeks prior to the end of the semester to be completed before the starting of final exams. After the deadline, all the answers were collected digitally by using google drive. Answers that are obtained as pdf documents via google forms are converted to data files in an excel format. 8 of the 24 questions were directly related to online education. Therefore, answers to these eight questions are under the focus of this study. The first question is about students' attendance rate and constitutes three multiple-choice answers as follows, 100%, 80-100%, and 80%. The second question is about which electronic device is preferred by students. Multiple-choice answers include three options, namely,

computers, smartphones, and tablets. The 3rd, 4th, 5th, 6th, and 7th questions are about the process of evaluating lecturers and materials during online education. For these questions, 5-point Likert scale is used, ranging from strongly disagree to strongly agree. In the end, all the answers are analyzed by using IBM SPSS version 22.0 software comprehensively. During the data analysis, the correlation between the type of the lecture and the level of attendance, the effectiveness of the online classes, the level of communication between students and the lecturers, sufficiency of information and online materials that are shared, and convenience of reaching to the content are analyzed within each semester separately which are fall term 2020 and spring term 2021. Additionally, factors that might influence the effectiveness of the online learning method such as which device students used to connect were also analyzed.

4. RESULTS OF THE EXPERIMENT

Results show a high degree of attendance to the online courses. 58.7% of students in fall semester 2020 and 57.3% of students in spring semester 2021 attended 100% of the online courses. While attending online courses, the most preferred electronic device is the computer with 91.6% in fall semester 2020 and with 93.3% in spring semester 2021. Smartphones follow it with 6.1% in fall semester 2020 and with 4.4% in spring semester 2021. Tablet is the less frequently used electronic device. Computers are used more often during practical and theoretical lectures than project lectures.

Considering the results of the third question, evaluating the effectiveness of online classes, while 2.3% of students who attended the project lectures strongly disagreed, 3.3% of students strongly agreed that online classes were effective in fall semester 2020. During spring semester 2021, the number of students who strongly agreed that online classes were effective, has increased to 7.5%. Comparing different lecture types in between each other, the number of students, who strongly agree that online classes were effective, is higher among the ones who attended practical and theoretical lectures than project lectures. In total, 33.6% of students in fall term 2020 and 48% of students in spring term 2021 have strongly agreed that online classes were effective.

Question 4, question 5, question 6, and question 7 are related to the process, evaluation of lecturers, and materials during online education. According to the answers to the fourth question, while 61.8% of students in fall term 2020 strongly agreed, 3% of students strongly disagreed that their communication was adequate with the lecturer. Similarly, during spring term 2021, 70.4% of students strongly agree that their communication was adequate with the lecturer; however, 3.4% of students have strongly disagreed with that. The highest number of students who strongly agree that their communication with the lecturer was adequate are the ones who attended practical lectures.

In total, 54.1% of students in fall term 2020 and 70.4% of students in spring term 2021 strongly agree that the given information was adequate. 38.5% of students in fall term 2020 and 48.8% of students in spring term 2021 strongly agree that online materials were adequate. 55.7% of students in fall term 2020 and 63.7% of students in spring term 2021 strongly agree that content was easily accessible. Considering the answers to each type of lecture separately, the highest percentage of students who strongly agreed to question 4, question 5, question 6, and question 7 are the ones who attended practical lectures. The ones who attended theoretical lectures followed them. More comprehensive results of the analysis can be found in Table 1.

Table 1. Analysis of answers to 7 questions regarding the type of the lecture and term.

		Project Lectures		Practical Lectures		Theoratical Lectures		TOTAL	
		2020 Fall	2021 Spring	2020 Fall	2021 Spring	2020 Fall	2021 Spring	2020 Fall	2021 Spring
Q1 (Attendance Rate)	100%	7%	10.3%	31.2%	33.9%	20.5%	13.1%	58.7%	57.3%
	80%-90%	4.2%	5%	22.6%	26.2%	14.2%	11.5%	41%	42.7%
	80%	-	-	0.2%	-	-	-	0.2%	-
Q2 Electronical device used	Computer	10.5%	14.3%	49.9%	56.5%	31.1%	22.6%	91.6%	93.3%
	Tablet	0.2%	0.4%	0.7%	1.2%	1.4%	0.6%	2.3%	2.2%
	Smart Phone	0.5%	0.6%	3.5%	2.4%	2.1%	1.4%	6.1%	4.4%
Q3 Online Classes are effective	Strongly disagree	2.3%	2.0%	11.9%	5.0%	4.4%	2.4%	18.6%	9.5%
	Disagree	0.9%	1.6%	6.3%	4.8%	2.1%	0.8%	9.3%	7.3%
	Neutral	1.9%	2.6%	9.1%	12.7%	6.1%	4.6%	17%	20%
	Agree	2.8%	1.6%	11%	10.1%	7.7%	3.6%	21.4%	15.3%
	Strongly agree	3.3%	7.5%	15.9%	27.4%	14.5%	13.1%	33.6%	48%
Q4 Communication with the lecturer is adequate	Strongly disagree	0.5%	1.4%	1.6%	2%	0.9%	-	3%	3.4%
	Disagree	0.5%	1.2%	2.8%	0.8%	0.2%	0.2%	3.5%	2.2%
	Neutral	1.2%	0.4%	5.4%	5%	1.4%	0.6%	7.9%	6%
	Agree	4.0%	2.6%	11.2%	11.5%	8.6%	3.8%	23.8%	17.9%
	Strongly agree	5.1%	9.7%	33.1%	40.7%	23.5%	20.0%	61.8%	70.4%
Q5 Given information is adequate	Strongly disagree	0.5%	1.4%	0.9%	2.2%	0.2%	0.2%	1.6%	3.8%
	Disagree	0.5%	0.4%	2.3%	1.0%	0.5%	-	3.3%	1.4%
	Neutral	1.9%	1.2%	6.5%	5.4%	2.8%	0.6%	11.2%	7.3%
	Agree	4.2%	3.0%	15.9%	10.7%	9.8%	3.4%	29.8%	17.1%
	Strongly agree	4.2%	9.3%	28.4%	40.7%	21.4%	20.4%	54.1%	70.4%
Q6 Online Materials are adequate	Strongly disagree	1.4%	1.4%	4.7%	2.0%	2.8%	0.8%	8.9%	4.2%
	Disagree	0.5%	1.0%	3.7%	1.8%	0.5%	0.8%	4.7%	3.6%
	Neutral	1.4%	2.2%	8.2%	10.1%	4.9%	3.4%	14.5%	15.7%
	Agree	5.1%	4.6%	17.0%	16.5%	11.4%	6.5%	33.6%	27.6%
	Strongly agree	2.8%	6.0%	20.5%	29.6%	15.2%	13.1%	38.5%	48.8%
Q7 Content is easily accessable	Strongly disagree	0.7%	0.8%	1.2%	1.2%	1.2%	0.6%	3.0%	2.6%
	Disagree	-	0.4%	1.2%	0.8%	0.5%	0.2%	1.6%	1.4%
	Neutral	1.9%	2.0%	4.4%	3.8%	2.6%	2.0%	8.9%	7.9%
	Agree	4.0%	3.2%	17.0%	15.5%	9.8%	5.6%	30.8%	24.4%
	Strongly agree	4.7%	8.9%	30.3%	38.7%	20.7%	16.1%	55.7%	63.7%

5. DISCUSSION

The main focus of this study is to analyse the efficiency and outcomes of online learning methods in interior architecture education. Even though the negative effects of the Covid-19 Pandemic will decrease, it is important to maintain positive habits that are gained and adapted into interior architecture education during online semesters. Since online education ensures accessible and practical solutions for both students and lecturers, it was also expected that the efficiency of online education during fall term 2020 and spring term 2021 would be high. This expectation is proved with the results. However, the number of students in spring term 2021 who strongly agree that online classes were effective is higher with 48% than those students with 33.6% in fall term 2020. We assume the reason for this difference might be the increasing familiarity of students with the online learning system. Even though the attendance rates do not differ much between fall term 2020 and spring term 2021, percentages of the students who strongly agreed to other questions are higher in spring term 2021 than fall term 2020.

According to Moore and Kearsley (2011) with the increasing numbers of using internet technologies starting from the 1990s until today, distance education has been provided through devices such as computers, tablets, and mobile phones. Therefore, within the frame of the second question, we provided these options to participants as answers. The most frequently used electronic device is the computer with 91.6% in fall term 2020 and with 93.3% in spring term 2021. The reason for this preference might be the convenience and accessibility functions of computers compared to other devices such as tablets and smartphones, which have smaller screens and lower-speed processors.

Students think that their communication with their lecturer was the most adequate during practical lectures in spring term 2021 with 40.7%. Based on the nature of practical lectures, it is essential to have closer contact and efficient communication with the lecturer. Theoretical lectures during fall term 2020 follow it with 23.5%. Regarding the project lectures, even though the attendance for those lectures is either between 80-100% or 100%, the communication between students and lecturers is evaluated with the lowest percentage. This shows that because of the nature of project lectures, although the attendance rate was high, students might not have a high level of communication with the lecturers because of a number of reasons such as a lack of in person interaction during online classes, the unfamiliarity of lecturers with the digital technologies and software programs, inadequacy of software programs such as AutoCAD and PowerPoint in distance communication, and small sizes of computer or tablet displays during critics.

Considering the answers to the fifth question, students think that the information, which was provided by the lecturer via online tools such as google classroom, was adequate in the spring term 2021 with 70.4% compared to fall term 2020 with 54.1%. This shows that with the increasing familiarity with the online education system, during the second semester, academic staff were more experienced about what kind of information to share with students via using which platforms and this experience enhanced the satisfaction of the students. In relation to this, according to the answers to the 7th question about the accessibility of online materials such as syllabus, worksheets, sample drawings, online presentations, online critics and seminars, the percentage of students who strongly agree that the content and materials were easily accessible has increased 8% after the fall term 2020 from 55.7% to 63.7%. Similarly, 48.8% of the students during spring term 2021, and 38.5% of the students during fall term 2020 find online materials adequate in total. Surprisingly, the number of students who strongly agree that online materials were adequate for practical lectures is higher than the ones for theoretical lectures. This shows that even though practical lectures are in need of a hands-on approach in education and closer contact with the lecturer, conducting online lectures via google meets and sharing the rest of the content via other digital tools such as google classroom, YuLearn or emails were effective to carry out those lectures even at a distance and there wasn't any disadvantage compared to theoretical lectures.

6. CONCLUSION

The Covid-19 pandemic, which occurred in March 2020 in Turkey for the first time, affected our lives in many aspects. Education has been one of the major areas which had to stop its' maintenance at the beginning but also the one should revise itself in order to prevent bigger problems. To cope with the negative effects of the Covid-19 pandemic Interior Architecture Department at Yeditepe University adapted an online learning system during spring term 2020, fall term 2020, and spring term 2021 of which results are explained above in detail.

A general summary of the results are listed below:

- 58.7% of students in fall semester 2020 and 57.3% of students in spring semester 2021 attended 100% of the online courses.
- The most preferred electronic device while attending online lectures is the computer.
- The majority of the students who find the online lectures effective are the ones who attended practical and theoretical lectures during spring term 2021.
- The communication level of students with the lecturers is evaluated with the highest percentage in spring term 2021.
- The given information to students by lecturers is evaluated as the most adequate during spring term 2021.
- The adequacy of online material offered to students is evaluated as the highest during spring term 2021.

- The accessibility of the content and materials were easier for students in spring term 2021.
- According to the results, theoretical and practical lectures can be conducted online effectively, and this does not decrease the communication level between students and the lecturers.

To this respect, it's important to maintain positive gains of this period in order to provide a more accessible and effective learning environment for interior architecture students with the awareness of their needs, necessities of the nature of interior architecture education, and also with the demands of our global world. With the enlightenment of the results of this study, a couple of suggestions for instructors regarding online education in interior architecture are listed below:

- Instructors are recommended to attend seminars, workshops and encouraged to self-based learning and self-improvement to enhance their digital skills in order to be ready and informed about combining different tools and techniques during online education.
- Instructors are suggested to review lecture contents and flows, update them based on the necessities of online education and flipped learning.
- Considering the high interest of students towards digitalizing, instructors are recommended to include new digital technologies and trends into their existing syllabus to engage students' attention.
- However, during project lectures even though the attendance rate is high, the sufficiency and accessibility of materials and content are adequate, students need more in-person interaction with the lecturer. Considering this need, informal sessions appropriate to Covid-19 Pandemic precautions can be organized.
- Campuses are recommended to reorganize physical and infrastructural facilities that enable online and flipped learning for many students at the same time.

REFERENCES

Demirkan, H., & Afacan, Y. (2012). Assessing Creativity in Design Education: Analysis of the Creativity Factors in the First Year Design Studio, *Design Studies*, *33*(3), 262-278.

Lexico. (n.d.). *Money*. Lexico. Retrieved December 28, 2021, from https://www.lexico.com/definition/money

Li, C.S., & Irby, B. (2008). An Overview of Online Education: Attractiveness, Benefits, Challenges, Concerns and Recommendations. *College Student Journal, 42*(2), 449–458.

Lyons, J.F. (2004). Teaching U.S. history online: Problems and prospects. *The History Teacher, 37*, 447-456.

Moore, M.G., & Kearsley, G. (2011). *Distance education: A systems view of online learning*. Belmont: Wadsworth.

Özker, S. (2014). Role of Expression Techniques in Interior Architecture Education. *Procedia - Social and Behavioral Sciences, 152,* 41–46. https://doi.org/10.1016/j.sbspro.2014.09.151

Petermans, A., & Nuyts, E. (2016, September 27-30). Happiness in place and space: Exploring the contribution of architecture and interior architecture to happiness [Paper presentation]. *Celebration & Contemplation, 10th International Conference on Design & Emotion*, Amsterdam, Netherlands.

Vanhee, S., Vandevoort, B., Floré, F., & De Vos, E. (2021). Beyond Distinction-Based Narratives. Interior Design's Educational History as a Knowledge Base. *Journal of Interior Design*, *46*, 13-25. https://doi.org/10.1111/joid.12208

Wikipedia contributors. (2008, June 11). *İç mimarlık*. Vikipedi. https://tr.wikipedia.org/wiki/%C4%B0%C3%A7_mimarl%C4%B1k

Interactive Tools for Graphic Communication Studio during COVID-19 Pandemic:

The case of Eastern Mediterranean University

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ABSTRACT

The ability to communicate effectively is of greatest importance in all professional fields, essentially in architecture where professionals from the discipline are required to communicate details and spatial relationships of certain complexity using written, graphical, and verbal communication. This practice in conventional pedagogical environments relies on the use of artefacts such as drawing equipment, orthographic, paraline, and perspective drawing knowledge to structure critically important visual and verbal exchanges between and among constituents.

Together with the spread of the Covid-19 pandemic around the world beginning with 2019, face-to-face teaching environments rapidly left their place for online classes and studios where various innovative educational tools were utilized to create more interactive environments for effective learning. As involvement in understanding and realizing the given task is an effective means of attaining knowledge, students of the introductory graphic communication course at the Faculty of Architecture of Eastern Mediterranean University were introduced with Lego Digital Designer software to create an interactive gaming environment where students would engage in a mode of learning by doing. The pedagogical benefits of simulation gaming are extensively recognised, as they provide practical decision-making and management experiences to students. Additionally, these environments help students collaborate and create solutions for various situations utilizing techniques they learned in the classroom.

Bearing in mind that hands-on learning experience is a critical component of studio education in design-based disciplines; this paper clarifies how Lego Digital Designer Software served as a fully-engaging, distance learning approach in studio-based introductory Graphic Communication course during Covid-19 Pandemic, focusing exclusively on the experiences of 2020-2021 Fall Semester where unstructured observations are utilized to collect relevant data. The paper concludes with comments on the potential of simulation games as curriculum evaluation tools for online graphic communication education.

Keywords: Graphic Communication, Lego Digital Designer, Covid-19 Pandemic, Online Education, Learning by Doing

1. INTRODUCTION

What makes architectural education unique is the studio-based learning environment it offers to its counterparts that requires analysis, synthesis, application, and sharing of knowledge during the process. Architectural education is unique owing to the studio environment it comprises, placing its stakeholders in distinctive circumstances to continually re-invent it to meet the changing needs of the profession.

The architectural design studio is a physical environment where students are primarily taught three aspects of design education: (1) a new language, (2) a number of new skills such as visualization and representation, and (3) architectural thinking. Individual work in the design studio and also the interaction of students in the absence of the instructor is seen as an important part of the education of the architect in many schools, and this dynamic is usually referred to as the “studio culture” (Ledewitz, 1985).

The conventional design studio is located within an institutional set-up with all the infrastructure created to collaborate, brainstorm, learn by doing, and engage in reflective practice (Orbey & Sarıoğlu Erdoğdu, 2021). Moreover, it is identified as a physical container created for the social interaction of students and design tutors (Corazzoa, 2019). The physical boundaries of the conventional design studio are limited to an academic or an institutional environment (Brocato, 2009). It provides architectural students with the skill to work in both intuitive and practical contexts. In the conventional design studio, students express their architectural ideas and creativities through numerous communication techniques and methods such as in the forms of drawings, physical models, computer models, photography, video clips and others they learn in graphic communication courses (Ibrahim and Utaberta, 2012).

As a key component of the architectural education curriculum, graphic communication courses are there to offer design students the necessary skills on how to communicate and express their ideas in the design studios; helping them visualize their ideas in two and three-dimensional forms. In realizing this, the graphic communication courses require studio-based learning environments where students and tutors work together to share ideas, test the accurate solutions and display the results (Figure1). This studio-based process creates an interactive knowledge sharing, practice-based learning culture where students learn through problem solving in action. This pedagogical practice is a unique learning culture. However, this collaborative learning culture is not limited only to conventional design studios; it can be seen in non-conventional, virtual, blended, or online design studios (Hettithanthri & Hansen, 2021).

Figure 1. Graphic Communication-I studio environment, Eastern Mediterranean University, February 2022

This research focuses on a non-conventional, online design studio experience carried out during the Covid-19 pandemic in the 2020-21 fall semester at the Faculty of Architecture of Eastern Mediterranean University (EMU). Together with the commencement of the Covid-19 pandemic, the graphic communication studio (FARC 103) had to shift to an online platform where the conventional design studio context was interrupted. After stepping into the challenge of having to communicate with the graphic communication students from a distance, an experimental approach was introduced to complement the classroom lectures and practices and also increase the active participation of the student and their learning through a hands-on experience.

Lego Digital Designer was integrated to provide students with relevant active learning tools and hands-on, game-based experience to reinforce the material learned in the class lectures and generate interest in a distant learning environment where it was not possible to directly engage with the student and observe their active involvement. With its game-based conception, the Lego Digital Designer provided an opportunity for the student to virtually assemble Lego blocks to produce various compositions; and view these compositions in orthographic and paraline views. The program provided students with hands-on projects that could be carried out individually or as a group whilst applying concepts learned in the classroom. This tool provided an interactive learning environment for the student and the tutor whilst enhancing the creativity of the student.

Based on the perspective mentioned above, the research utilizes unstructured observations of three-course instructors to portray the experience gained during the 2020-21 fall semester at the Faculty of Architecture of Eastern Mediterranean University. To present this research, the paper embraces a theoretical study on studio-based architectural education that involves learning by doing through game-based applications. The theoretical discussions are followed by the methodology of the study, where observations of the studio instructors are presented based on the student submissions. To conclude, recommendations relating to the inclusion of this approach in graphic communication studios are given.

2. ARCHITECTURAL EDUCATION

MacKenzie, Muminovic, and Oerlemans (2017:47) indicate that “design and architectural education traditionally relies on personal interactions between tutor and student in a physical space called the studio.” Bregger (2017) highlights the aim of architectural education as a systematic approach to ensure that students become aware of their creative potential and enrich their potential while dealing with diverse problems under different circumstances. Studios are more active spaces where students and tutors can be engaged intellectually and socially compared to typical classrooms (Megahed and Hassan, 2021).

Schön (1987:41–43) defines the design studio through four central learning concepts. He explains the design studio as (1) a culture where students and lecturers work together, (2) a physical fixed space where teaching and learning can occur, (3) a way of teaching and learning, and (4) a program of activity. As part of its mission, the design studio aims to initiate a dialogue between the tutor and the student and in between the students so that creative ideas can emerge. The studio is also liable to create the real-life conditions of an architectural office where students learn how to observe, work in teams, and respond to various situations. The studio also provides a basis for decoding students’ values and cultural backgrounds and in return, exchanging global values that help create better environments.

The architectural curriculum offers both theoretical and studio-based courses to prepare the students for professional life. Besides architectural design courses, construction, tectonics and graphic communication courses also employ a studio as a physical setting where learning by doing methods and other interactive learning tools are utilized to teach architecture.

However, in some schools of architecture where distant learning programs were in action, many of the theoretical courses were realized on-line, yet studio-based courses were done in physical settings. With the Covid-19 pandemic, the interactive learning environment was interrupted, thus negatively affecting tutor-to-student learning as well as student-to-student learning (AIAS Studio Culture Task Force, 2002). In the design studio, students share a sense of companionship and respect. The environment provides an appropriate space and access to tools and equipment that some students might otherwise not have access to. Lastly, the structure of studio learning was interrupted. Here, structure means the way that the studio is run. Usually, a power differential between the student and the tutor is evident, the design studio takes up most of the students' time (Stevens, 1998), and each studio is run differently by different professors, discouraging consistency. Being unique is a quality that is encouraged in the design studio environment, giving students the opportunity to understand differences and make choices based on those differences (AIAS Studio Culture Task Force, 2002).

These challenges were tackled with new pedagogical tools, in specific interactive learning tools that helped engage the student with on-line education.

2.1 Interactive Learning Methods (Learning by Doing and Game-Based Learning) as Tools in Architectural Education

As indicated by Hill (2017), traditional design studio education is a unique and effective way of problem-based learning and teaching since students learn by 'doing' where they develop solutions to design problems with varying degrees of guidance from an instructor. Reese (2011:1) also indicates that learning by doing is a more active and effective learning tool since "learning from experiences resulting directly from one's own actions, is differentiated from learning from watching others perform, reading others' instructions or descriptions, or listening to others' instructions or lectures" in a passive manner. Mayuk and Coşgun (2020:5) identified learning by doing as "a method that covers the learning activities and experiences of the students by living and feeling them". Erbil (2008), Şahin (2013), and Mayuk and Coşgun (2020) agree that the learning by doing method is based on various topics such as thinking and doing, cooperation (teamwork, unity of purpose, and awareness of responsibility), service to the community and communication skills. There is a sense of pride that comes when something is created. That is an important experience, which will remain with the students through the rest of their lives rather than the lecture that will soon be forgotten.

Game-based learning, which is accepted as a form of education by many scholars, accompanies learning by doing and together they create a common experimental ground for studio-based education. As mentioned by Farivarsadri and Alsaç (2006:43-44) "Play serves various functions. The most important one is learning... It can develop mentally and bodily skills, supports fantasy, imagination and creativity...Play can encourage improvisation, innovation, inventiveness." Games can introduce goals, interaction, feedback, problem solving, competition, narrative, and fun learning environments, elements that can increase student engagement and sustain motivation. Therefore, they are utilized as an active learning pedagogical approach to increase student engagement, specifically in distant learning environments. The student learns from playing the game and promotes critical thinking and problem-solving skills that allow students to experience the learning firsthand.

Overall, interactive learning approaches are essential for developing students' skills to apply the material learned in the classroom and to stimulate their understanding, motivation, and creativity. The adoption of active learning techniques has demonstrated several benefits to student learning outcomes such as increased student engagement, and increased conceptual understanding (Lai-Yuen, 2008). This approach is also highly beneficial for applied courses such as design studios and graphic communication courses in architecture.

2.2 Interactive Learning Methods as a Tool in Graphic Communication Course at EMU

Architectural education includes various concepts such as “imagination, intuition, flexibility, and creativity” (Mayuk & Coşgun, 2020). All of these play a vital role in the graphic communication courses where the aim is to equip the students with appropriate techniques to graphically express themselves. Although the course content and methodology may change from one institution to the other, the course always aims to support the design studio.

As a compulsory course in the foundation year of the Faculty of Architecture/EMU, the course covers the principles of orthographic, paraline, and perspective drawing and introduces different graphic presentation methods. The students assigned for this course are expected to fulfil the following outcomes:

- Effectively use appropriate representational media, such as traditional graphical skills to convey essential formal elements at each stage of the programming and design process.
- Recognize the importance of perception in the understanding, creation, and communication of design ideas;
- Effectively construct, craft plan/section/elevation, perspective sketches (Farc103, 2020-2021 fall semester course outline).

Generally, weekly lectures are held to present the theoretical knowledge and regular classwork and homework assignments are given to enhance the theoretical knowledge given. In the first week, together with lettering and line exercises, the students experiment with the drawing materials whilst trying to solve problems.

Together with the Covid-19 pandemic, a new communication system was established where visualization was achieved through another medium between the tutor and the student, the computer screen. Considering various backgrounds of first-year students with little knowledge of descriptive geometry and lack of necessary drawing skills, the distance/online education during the Covid-19 pandemic demanded new modes of communication as tutors and the student could not engage physically and socially to interact and learn. Bearing in mind, the limited knowledge of students on digital media, including 2D and 3D programs, and limited resources for making physical models, an easily accessible tool -Lego Digital Designer Software- was used as an interactive learning tool in the Graphic Communication course.

3. METHOD OF THE STUDY

The objective of this paper is to explain how Lego Digital Designer Software was incorporated into the Graphic Communication course to provide students with a game-based, hands-on activity that will help them better understand the principles of graphic communication from a distance. With the help of Lego Digital Designer, the semester was organized to achieve the following pedagogical objectives:

a) Increase student conceptual understanding by integrating theory with practice using Lego Digital Designer Software,

b) Develop students’ critical thinking,

c) Improve students’ graphic communication skills,

d) Engage students in a creative activity,

e) Increase students’ engagement through meaningful and fun activities during the Covid-19 pandemic.

This process was observed on three different online platforms by the tutors of the course and progressively shared on a common platform to evaluate the success of the tool. After the first week of the course, students were encouraged to download the program and utilize it as a 3D tool to re-construct the given classwork and homework assignments. The program provided the necessary means to view the compositions not only in 3D but also from the top view, front view, and side views. This provided opportunities for engaging the student in the process, helping them visualize the 2D drawings of the compositions they were given. The color of Legos increased the possibility of mutual understanding between the tutor and the student. Moreover, it made it possible to discuss proportion and scale as well as organizing principles in design.

3.1 The Lego Digital Designer Software and its Use in the Class Exercises

Lego Digital Designer is a free 3D modelling and building system that allows students to virtually build their own designs using a variety of Lego blocks. Through the computer, students can select and drag a variety of Lego blocks and create any design they can imagine (Shih and Hudspeth, 2001). Lego Digital Designer application allows using different colors and elements such as overhead and base planer elements, and vertical and horizontal elements while creating 3D compositions.

Lego Digital Designer (LDD) was released in 2004 as the Lego Group's 3D building tool to make building activity on a computer accessible and fun for children – to play with and share their creations online. LDD pioneered real-time rendering of Lego bricks and virtual brick connectivity, which after almost two decades managed to create an enthusiastic virtual building community. After being neglected in the last few years with a lack of updates, on 31st January 2022, Lego Digital Designer was replaced by BrickLink Studio as the officially supported and maintained 3D building application. The BrickLink Studio software was created in 2014 as a free virtual LEGO building tool including useful features such as model stability checking and built-in photo-realistic rendering (www.brickfinder.net).

The compositions used throughout the semester were prepared by instructors and every week a different problem or composition was shared with students, successively getting more complicated. The students were expected to produce orthographic, paraline and perspective drawings of the given compositions (Figures 2, 3 and 4).

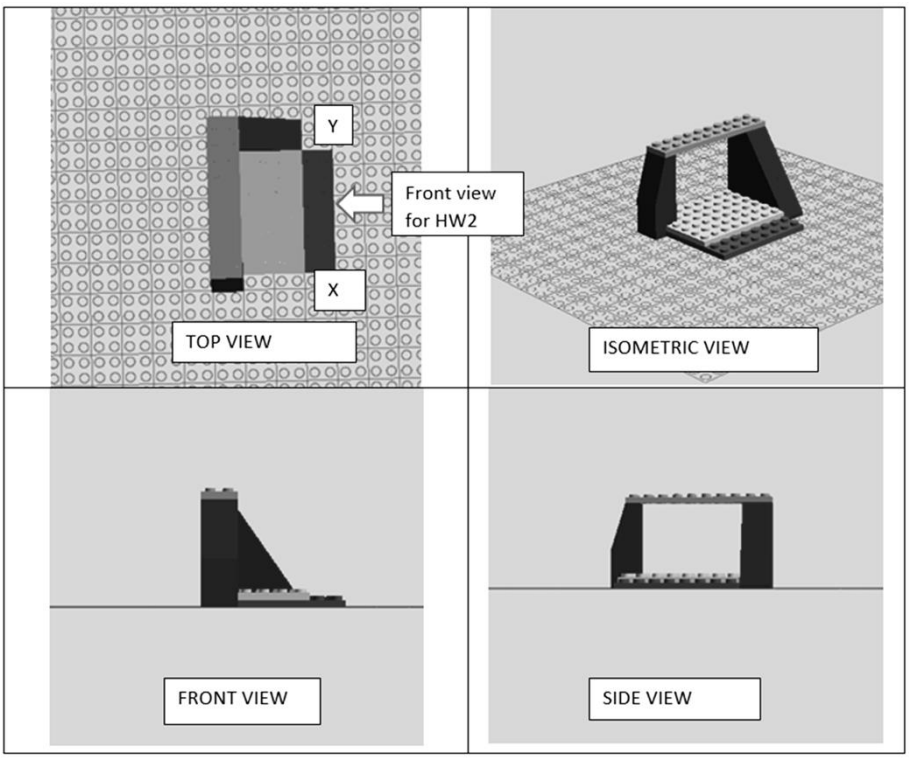

Figure 2. First class assignment using Lego Digital Designer Software

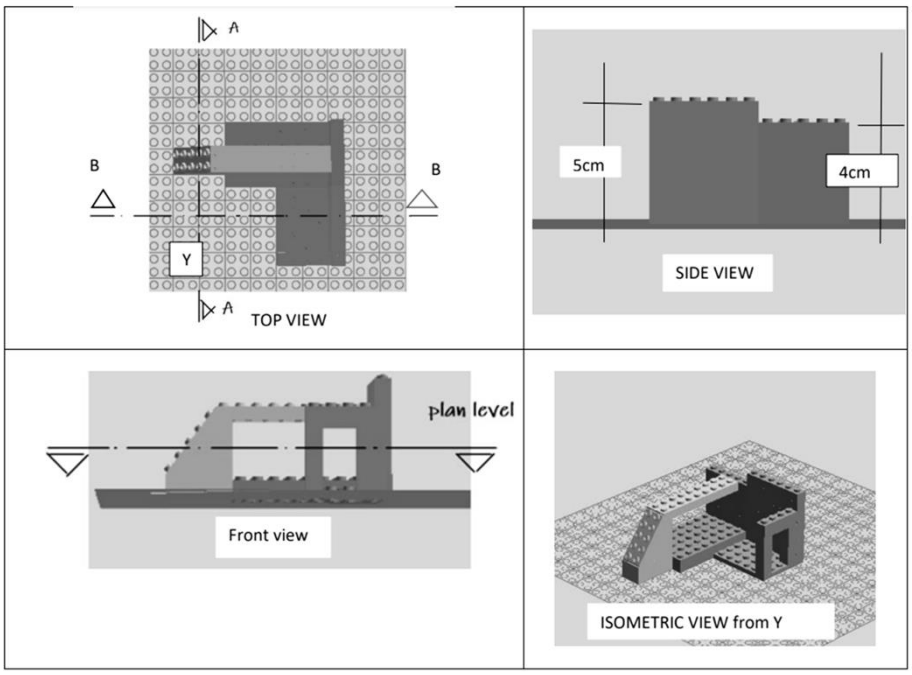

Figure 3. Second class assignment using LEGO Digital Designer Software.

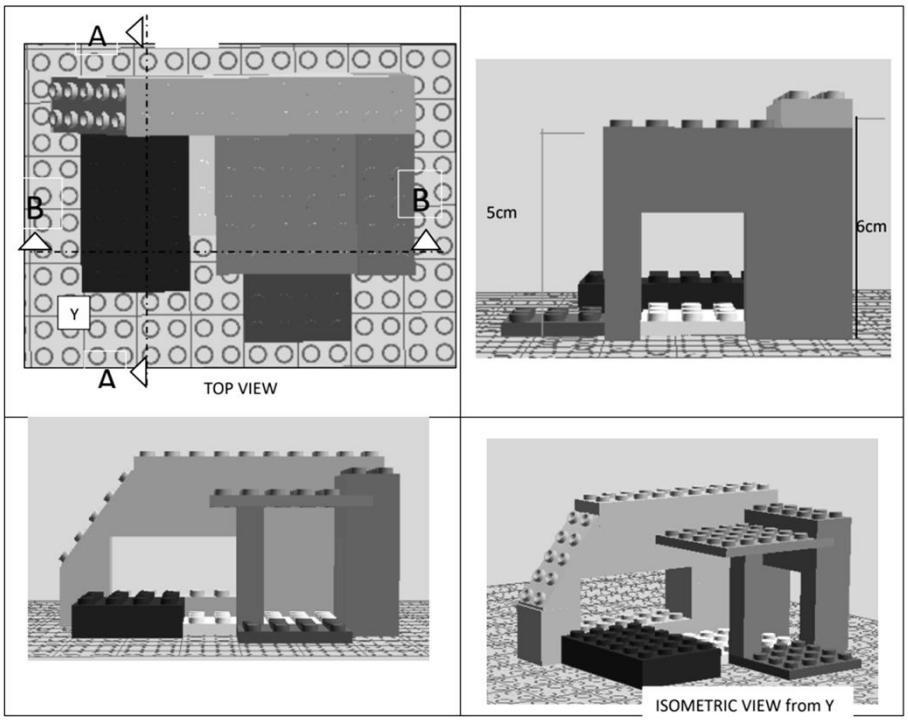

Figure 4. Third class assignment using Lego Digital Designer Software

Integration of Lego Digital Designer through classworks and homeworks provided several positive outcomes. One common observation on graphic communication students was the difficulty they encountered in visualizing how an object can be exploded to 3D from the given 2D drawings. Since students were actively using the program and were able to navigate around the given composition, it became much easier for them to read the compositions and comprehend underlying principles. Usage of different colors, modules and forms of the blocks, offered a wide variety of options to create gradually more complex spaces with solid/void relationships. Additionally, the modular base offered by the program created a sense of scale for the students that was a crucial learning outcome of the course.

Halfway through the semester, a term project was introduced where students were expected to create their compositions using Lego Digital Designer. There was not any limitation for the expected composition. The height of the composition, the usage, dimensions, and size of the elements, and colors belonged to the student's choice. However, to create equality amongst all, the number and type of blocks were kept as standard. The expectation was the creation of a complex form with a spatial quality. This required the composition to have an open and semi-open space definition, a form of an enclosure with openings.

Students' composition preparation process: After the announcement of the requirements, the design process started. This approach had its advantages for both the student and the tutor. Firstly, it helped create a variety of samples that were unique, making sure each student had a different composition to draw, and a different problem to solve. Drawing their compositions from Lego Digital Designer helped students complete their drawings with fewer mistakes in a more mindful way.

This term project (Figures 5, 6, and 7) which aimed to enhance student productivity, helped to create a playful environment; increased students' self-esteem, participation and interest in the course as they were encouraged to share their compositions during the online classes. In addition, the feedback given by the tutors was one-to-one communication, which increased the interaction between students and tutors.

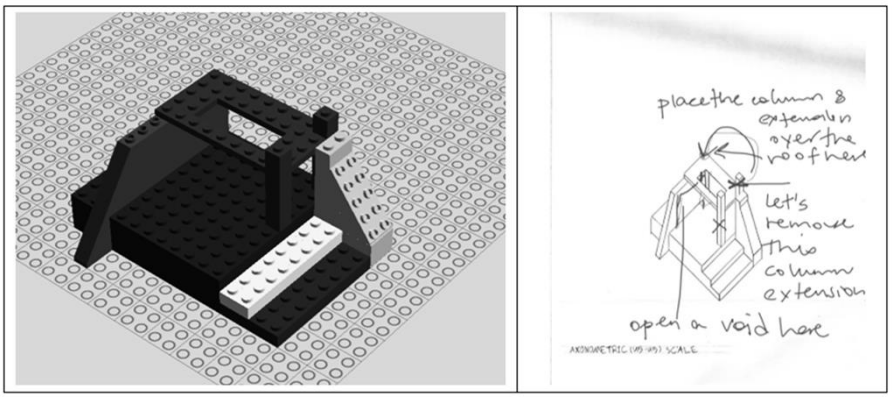

Figure 5. Composition of Bayan Khaled Ahmed Dawman

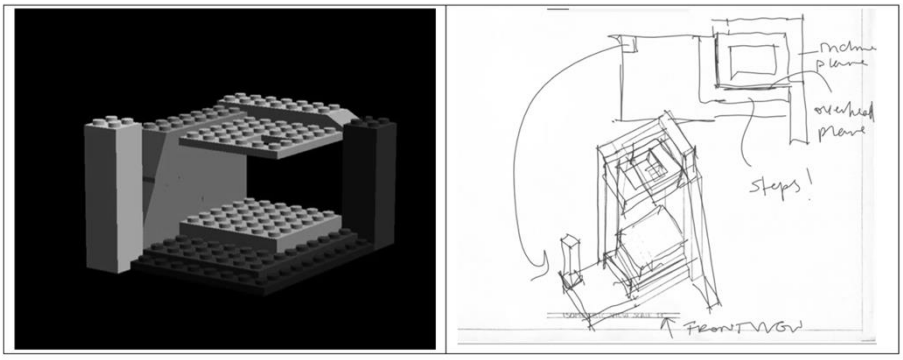

Figure 6. Composition of Ezgi Yumurtacıoğlu

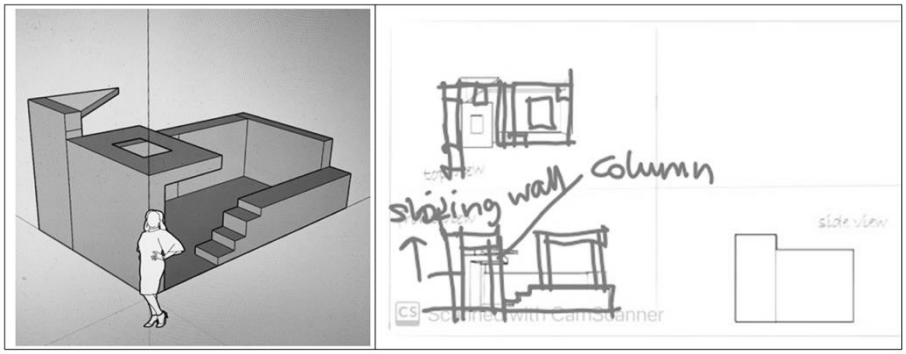

Figure 7. Composition of Mohamead Aldouqrah

Feedback process of compositions: Feedback is important for improving students' knowledge and it is "the most powerful method of engaging with students and can be used to improve learning" (Hattie and Timperley, 2007; Hattie, 2009; cited in MacKenzie, Muminovic, Oerlamans, 2017:49). Winne and Butler (1994) defined feedback from the perspective of the learner, as the "information with which a learner can confirm, add to, overwrite, tune, or restructure information in memory, whether that information is domain knowledge, meta-cognitive knowledge, beliefs about self and tasks, or cognitive tactics and strategies" (MacKenzie, Muminovic, Oerlamans, 2017:49-50).

The feedback process started with the submission of the compositions. They were downloaded from Moodle and brought to the digital learning environment for discussion. The feedback was targeted toward questioning whether the submission met the requirements and improving the compositions without major changes. During the session, the names of the

students were called one by one and feedback was given on the 3D model of the composition. Based on the given feedback, the students were asked to rearrange their 3D models and draw orthographic drawings (top view, front view and side view) (Figure 8).

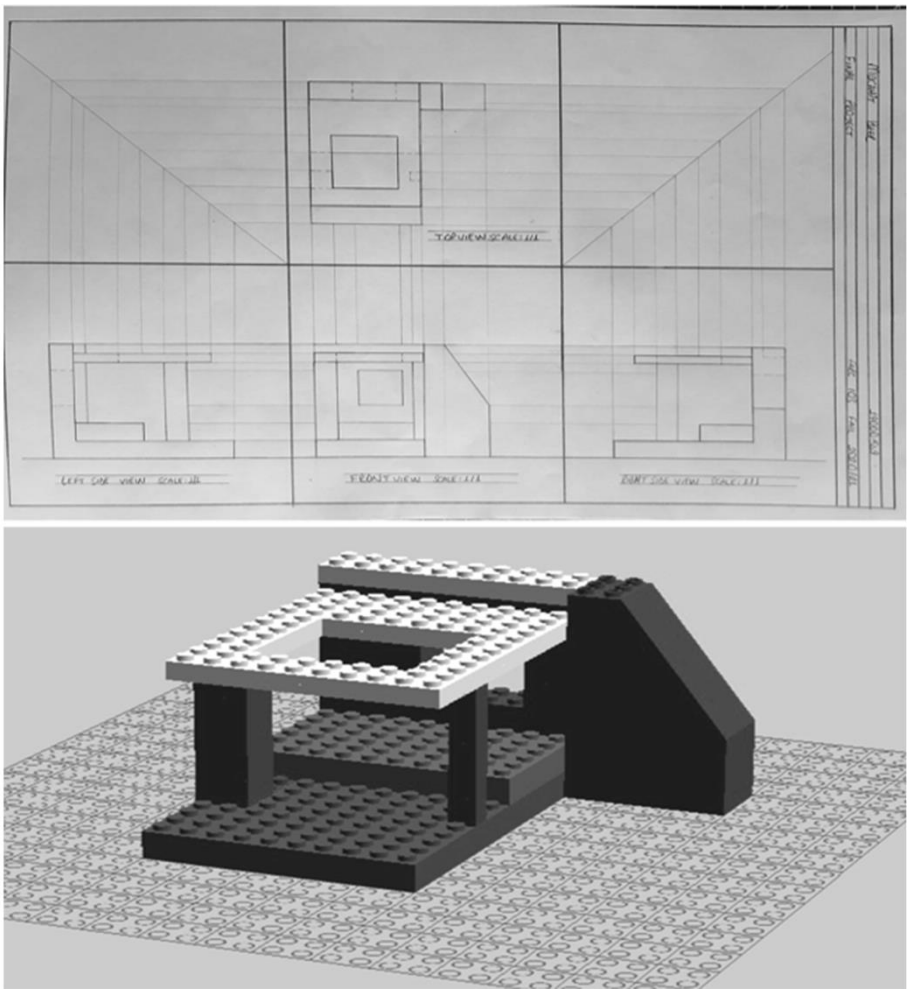

Figure 8. Orthographic drawings and 3D view of the composition of Mücahit Özer

After the first feedback, the second feedback process involved the drawing of the isometric and axonometric views (45/45) and elevation oblique of the composition (Figure 9).

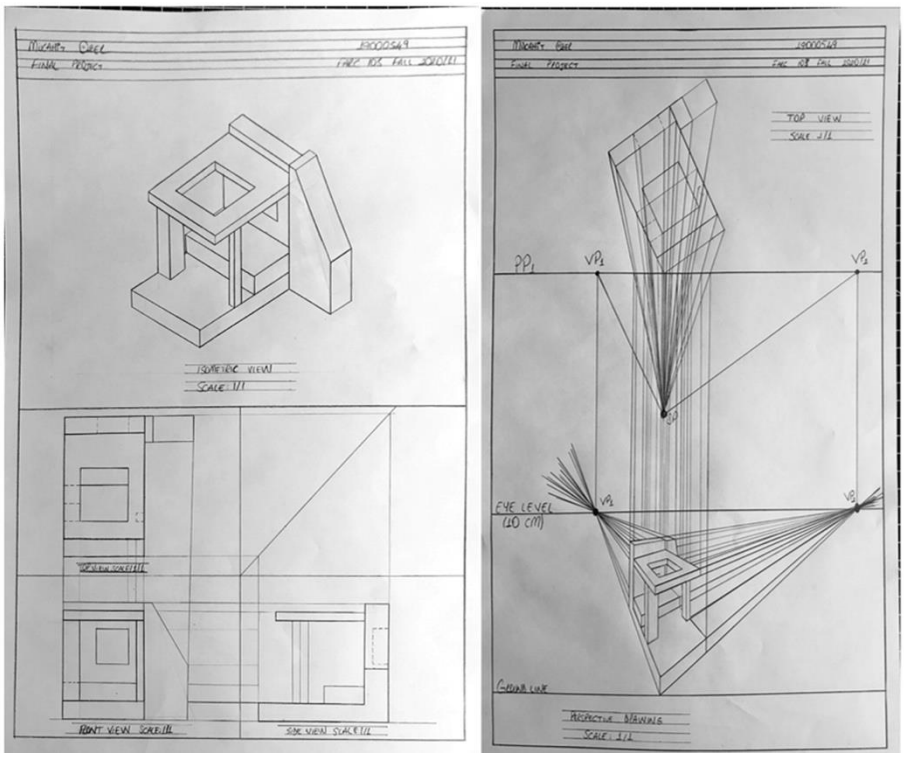

Figure 9. Edited orthographic drawings and isometric drawing of the composition of Mücahit Özer

This feedback process was followed by the final exam (Figure 10). During the final exam, students were expected to draw a plan, section, and front elevation oblique of the composition.

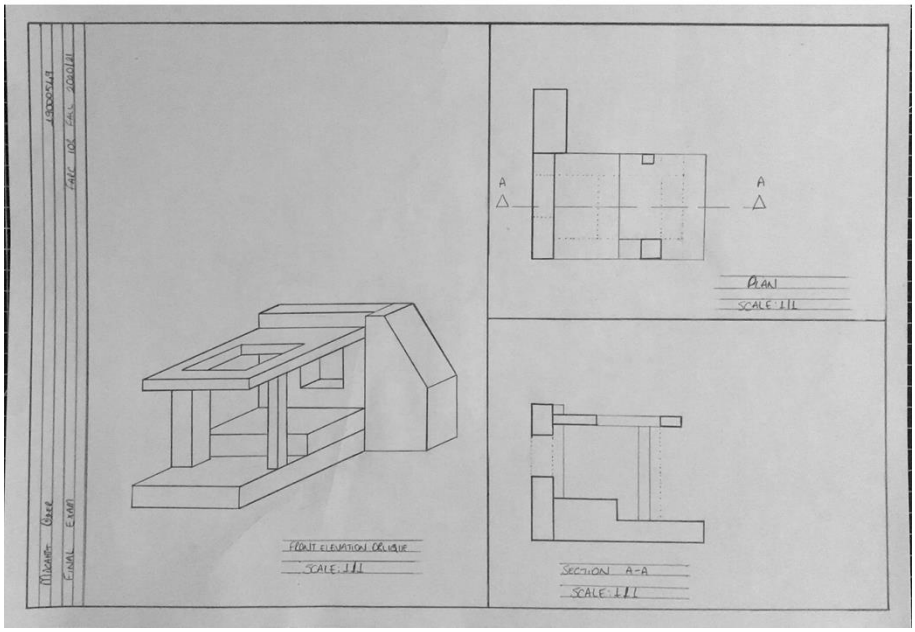

Figure 10. Final exam drawings of the composition of Mücahit Özer

4. CONCLUSION & COMMENTS

Worldwide, the COVID-19 pandemic has caused lengthy disruptions in the education process, interrupting the face-to-face education model, which was of crucial importance for applied courses such as architectural design studio and graphic communication courses. In architecture, the physical design studio (PDS)-where face-to-face, student-teacher, and

student-student interactions form the backbone of education - had to shift to online classes. In next to no time, these PDSs had to be redesigned with the aim to organize them in a completely online manner.

Teaching graphic communication online requires novel pedagogical approaches due to the difficulties it poses in engaging the students with the ongoing educational activity. Based on the quality of their enclosing environment, students can easily be distracted from the process. However, during conventional face-to-face studios, the tutor has the ability to observe and interact with the students and help as the need arises. Online education preserves its ambiguities as it creates multiple environments that take the attention away from the main activity. Understanding how the student responds to the problem and engaging them with the educational activity are the utmost challenges of online education.

Gaming in architectural education may provide a useful tool for interactive learning and the experience with Lego Digital Designer somehow proved that it is a tool capable of increasing students' motivation and engagement in the given task. It helped improve students' interaction and collaboration abilities with their peers. The colorful Lego pieces provided multiple prospects for designing problems for both group and individual work where effective communication was possible. Visualization of orthographic views from paraline construction was much easier for students.

Results from students' projects showed that the Lego Digital Designer increased students' understanding of graphic communication concepts whilst increasing their learning motivation. The gaming tool and designated exercises also promoted the development of problem solving, teamwork and communication skills. To conclude, Lego Digital Designer can be a tool to enhance online learning at graphic communication courses.

REFERENCES

Bregger, Y. A. (2017). Integrating Blended and Problem-Based Learning into an Architectural Housing Design Studio: A Case Study. *Journal of Problem Based Learning in Higher Education*, *5*(1), 126-137.

Brocato, K. (2009). Studio based learning: Proposing, critiquing, iterating our way to person-centeredness for better classroom management. *Theory into practice*, *48*(2), 138-146.

Corazzo, J. (2019). Materialising the Studio. A systematic review of the role of the material space of the studio in Art, Design and Architecture Education. *The Design Journal*, *22*(sup1), 1249-1265.

Erbil, Y. (2008). Mimarlık eğitiminde yaparak / yaşayarak öğrenme. *e-Journal of New World Sciences Academy Social Sciences* [online]. *3*(3), 579-587. https://dergipark.org.tr/en/download/article-file/186420.

FARC 103. (2020). *Graphic Communication 1*, 2020-2021 Fall Semester Course Outline, Famagusta, EMU.

Farivarsadri, G., & Alsaç, Ü. (2006). Let's play design. *Open House International*, *31*(3), 43-50.

Hettithanthri, U., & Hansen, P. (2021). Design studio practice in the context of architectural education: a narrative literature review. *International Journal of Technology and Design Education*, 1-22.

Hattie, J. (2009). *Visible learning: a synthesis of over 800 meta-analyses relating to achievement.* Routledge.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, *77*(1), 81-112.

Hill, G. A. (2017). The 'tutorless' design studio: A radical experiment in blended learning. *Journal of Problem Based Learning in Higher Education*, *5*(1), 111-125.

https://www.brickfinder.net/2022/01/13/lego-bricklink-studio-replace-lego-digital-designer/#:~:text=Billund%2C%20Denmark%20%E2%80%93%20January%2012th%2C,LEGO%20building%20software%20going%20forward dated in 13.05.2022

Ibrahim, N. L. N., & Utaberta, N. (2012). Learning in architecture design studio. *Procedia-Social and Behavioral Sciences*, *60*, 30-35.

Lai-Yuen, S. (2008). Using Lego To Teach and Learn Micromanufacturing and Industrial Automation. Paper presented at *2008 Annual Conference & Exposition*. Pittsburgh, Pennsylvania. doi:10.18260/1-2—3124.

Ledewitz, S. (1985). Models of design in studio teaching. *Journal of Architectural Education*, *38*(2), 2-8.

MacKenzie, A., Muminovic, M., & Oerlemans, K. (2017). The Intentional Use of Learning Management Systems (LMS) to Improve Outcomes in Studio. *Journal of Problem Based Learning in Higher Education*, *5*(1), 47-63.

Mayuk, S. G., & Coşgun, N. (2020). Learning by doing in architecture education: Building science course example. *International Journal of Education in Architecture and Design*, *1*(1), 2-15.

Megahed, N., & Hassan, A. (2021). A blended learning strategy: reimagining the post-Covid-19 architectural education. *Archnet-IJAR: International Journal of Architectural Research*.

Orbey, B., & Sarıoğlu Erdoğdu, G. P. (2021). Design process re-visited in the first year design studio: Between intuition and reasoning. *International Journal of Technology and Design Education*, *31*(4), 771-795.

Reese, H. W. (2011). The learning-by-doing principle. *Behavioral Development Bulletin*, *17*(1), 1-19.

Shih, A. C., & Hudspeth, M. C. (2001). Using the Lego Robotics Kit as a Teaching Tool in a Project-Based Freshman Course. *Proceedings of the American Society for Engineering Education Annual Conference & Exposition*, Session 1353.

Schön, D. A. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. Jossey-Bass.

Stevens, G. (1998). *The favored circle: The social foundations of architectural distinction.* The MIT Press.

Şahin, A. (2013). *Mimarlık eğitiminde bir stüdyo yöntemi: tasarla-yap stüdyosu.* Unpublished MSc thesis. Istanbul, Istanbul Technical University.

The AIAS Studio Culture Task Force. (2002, December). *The redesign of the studio culture: A report of the AIAS studio culture task force.* American Institute of Architecture Students.

Winne, P. & Butler, D. (1994). Student cognition in learning from teaching. *International Encyclopaedia of Education (2nd ed).* T. Husen and T. Postlewaite. Oxford, Permagon.

Creating Motivation during Distance Education in Pandemic: An Administrative Perspective

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ABSTRACT

Covid-19 pandemic brings a new lifestyle to the World in all ways. Whether being ready to a change or not, everybody is forced to a new understanding of life. Education is one of the fields that had to convert its tools and mediums for this new unexpected situation to distance education. Being online, digitalized and remote have affected both the students and the instructors. Long hours of exposure to screens, unsocialized environments, and lack of eye contact, loneliness, and issues like the ones listed have formed exhaustion and demoralized people. Therefore, distance education has needed extra effort to pump motivation. One of the explanations of motivation is “the process of stimulating people to actions to accomplish the goals”. In that sense, this study aims at focusing on what sort of actions have taken place during distance education in pandemic, at faculty level for architectural education. Actions taken to create motivation for all the actors of education including the administrators, instructors, and students have been done experimentally, according to the situation of pandemic. Therefore, this experimental approach is believed to create a platform for discussion in the sense of forming various flexibilities in architectural education for the future as well.

Keywords: Pandemic, Distance Education, Motivation, Administrative Perspective, Architectural Education

1. INTRODUCTION

Since the beginning of 2020, the World is facing a global problem: pandemic. It is something unimaginable, unexpected and for all people across the World, unprepared. All the systems we know have collapsed in terms of education, business sectors, and lifestyles. Therefore, new systems should be formed. It is understood that locking down, staying home, and getting distant from people and crowds are obligatory and definitely not humane because humans are social beings.

Almost many of the public buildings became empty, since distant working and learning was the necessity. In that regards, communication, meetings, education, working, exercising, socializing and many actions of human beings have transformed to a new version of digitalization. So, digitalization has led the actions into a different understanding. Mobile phones, tablets, and computers have now new duties. New applications have been introduced to us such as Zoom, Microsoft Teams and like. These help people to be able to attend courses through distant learning, join meetings, doing work, socializing, participating webinars, watching movies, video-talking, and so on.

This new version of living has led some problems such as lack of motivation, unhappiness, feeling lonely, and depression as well. This paper focuses on distant learning and working at the Faculty of Architecture, Eastern Mediterranean University, especially in terms of motivation. Actions taken into consideration to increase motivation will be listed down as set of strategies for all the actors of education including the administrative people, instructors and students. The methodology of the paper will be qualitative method based on observation and own experience as expertise.

As conclusion, the set of strategies that have been experimentally developed will be discussed beyond pandemic times; and will offer insights regarding new working environments that support motivation.

2. CONTEXT

According to Merriam-Webster dictionary, pandemic means “occurring over a wide geographic area (such as multiple countries or continents) and typically affecting a significant proportion of the population” (Merriam-Webster Dictionary, 2022). In the article “What is a Pandemic”, Morrens et al. (2009, p.1018) support the intuitive idea that a pandemic is a very large epidemic and raises questions whether pandemics must be new, explosive, or severe; infectious; or rapidly spread globally. In addition, Grennan, D. (2019) says that “an epidemic that spreads globally is a pandemic”. The most known example of the pandemic is the Spanish Influenza occurred in 1918 and infected one third of the World population. Therefore, it is understood that a global effect of an epidemic has let us to experience such pandemics. First noted in the earlier centuries, then faced with the most famous one in 1918, and now living the newest unexpected one in 2020s. How this latest pandemic declared? To remember, it may be stated that “an outbreak of pneumonia of unknown origin was reported in Wuhan, Hubei Province, China” in December 2019 and with the global spread of SARS-CoV-2 and the thousands of deaths caused by coronavirus disease (COVID-19), World Health Organization declares a pandemic on 12 March 2020 as stated by Ciotti, M et al. (2020). In regards to this declaration, then the World Health Organization (WHO) presents information and guidance regarding pandemics and help people to adjust and adapt their lives and behaviors accordingly.

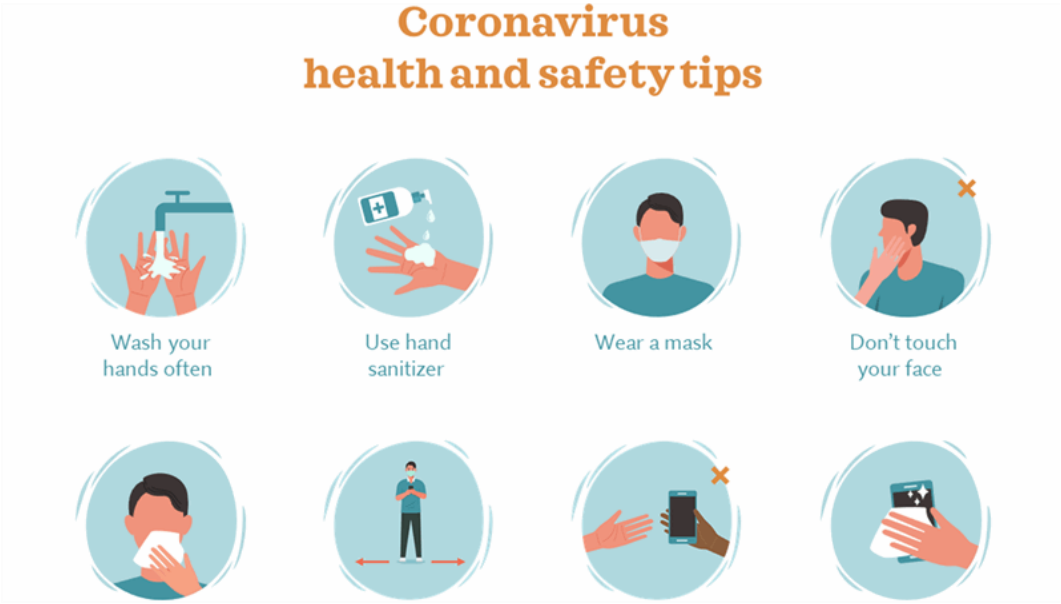

Figure 1. Coronavirus health and safety tips (Microsoft Office templates)

Regarding this, there are new norms in our lives about washing hands, wearing masks, not touching face, not sharing objects, how to cough and sneeze, keeping distances among people, and being clean. Especially, for the employers and workers, WHO demonstrates visuals and infographics regarding protecting oneself, preventing further spread of the virus and providing updated information in terms of Covid-19. The main issue in this pandemic is that, emotionally, it is very difficult to cope with unprecedented developments happening day to day.

Figure 2. WHO posters (https://www.who.int/health-topics/coronavirus#tab=tab_1)

This kind of uncertain situations dealt in life directly affects people's motivation. According to Cambridge Dictionary, motivation means "enthusiasm for doing something". Merriam-Webster gives the meaning of motivation as "the act of process of giving someone a reason for doing something" and "the condition of being eager to act or work". Urdan, T and Schoenfelder, E. (2006:332) state that "motivation is a complex part of human psychology and

behavior that influences how individuals choose to invest their time, how much energy they exert in any given task, how they think and feel about the task, and how long they persist at the task". Motivation is also defined as an internal condition that functions to activate and direct the behavior (Halif, M. M. et al., 2020, Kleinginna & Kleinginna, 1981).

Motivation can be influenced by the features of achievement situation as a focus adopted by some theories. One of them is Behaviorism as stated by Skinner (1954). In this theory, if an individual is reinforced for working on his/her multiplication tables s/he is likely to willingly engage in similar multiplication tasks in the future. Beside this perspective, recently a social-cognitive perspective has been emphasized in motivation research and theory. According to this, "the cognitions of individuals regarding academic work such as beliefs about their academic ability, expectations about the outcomes of engaging in the task, goals for the task) are influenced by social-contextual factors, such as messages from the instructor about the difficulty of the task, perceived abilities of classmates, information about the importance of learning the material and so on" as mentioned by Urdan, T and Schoenfelder, E. (2006:333). This paper will not focus on the theories of motivation, but rather use the meaning of motivation to describe how it was used through a defined period of time in the quarantine days of pandemic for the distance education.

There are a lot of scientific papers written for the Covid-19 pandemic period including education under different headings such as distance education, online learning, and remote education to discuss strategies and explore the impact of pandemic on students. As Daniel, J. (2020:91) says the Covid-19 pandemic has been the greatest challenge to educational systems, since many governments have ordered educational institutions to switch face-to-face instruction to online teaching and virtual education, almost overnight. As stated by Elnikova et al. (2020:3524), a significant part of educational institutions closed in 165 countries of the world, due to the pandemic in March 2020, according to UNESCO. As a result of this, more than 1.5 billion students were forced to leave lecture halls and classrooms, where the education system as whole is facing a serious crisis on a global scale.

In this regards, researchers have published many scientific articles. Mahmood, S. (2021) discusses instructional strategies for online teaching in Covid-19 pandemic; Al-Kumaim et al. (2021) explores the impact of the Covid-19 pandemic on university students' learning life from the perspective of an integrated conceptual motivational model for sustainable and healthy online learning; Ghazi-Sadi, L, et al.(2020) interprets moving from face-to-face to remote instruction in a higher education institution during a pandemic from the viewpoint of multiple case studies. Chen, Z. et al. (2021) discusses a mixed-method analysis of live streaming based on remote education experience from the perspective of learning from home, in Chinese colleges during Covid-19 pandemic. This huge body of literature and obtained experience will help to maintain sustainability of education beyond pandemic times, and blend new techniques and technologies to education systems as well.

3. STRATEGIES

The primary aim of this paper is to focus on raising motivation both for the academics and for the students of the faculty of architecture during Covid-19 pandemics from an administrative perspective. Kulikowski, K. et al. (2021) opens a debate on the motivation of academics in remote teaching during the Covid-19 pandemic in the case of Polish universities and tests some hypothesis regarding the motivation level of academic instructors. As cited by Kulikowski, K. et al. (2021: 2762), Moriera et al. point out that instructors who do not find themselves "digitally efficient and well supported from an institutional point of view, experience intense negative emotions when teaching online and are less motivated". In the article

"Teacher Well-Being at Work in Schools and Further Education Providers" (OFSTED,2019), during pandemic-forced e-learning, "the lowered motivating job potential might influence not only the teachers' subjective well-being, but possibly also how they interact with students, leading to less effective teaching". With this negative emotion and instructors' loss of motivation might discourage instructors for further implementation of e-learning in post-pandemic times. This shows that motivation of academics is highly important in higher education. This section of the paper is going to discuss the experimental strategies of the Eastern Mediterranean University Faculty of Architecture to raise the motivation of academics and students during Covid-19 pandemic based on strategies implemented experimentally. Below, Table 1 illustrates the steps of preparation or transformation to distance education.

Table 1. Transformation to distance education as steps

Branches of Administration	**Transformation to Distance Education as Steps**
Eastern Mediterranean University	-Structuring the online learning platform which is Microsoft Teams (later Moodle added too) -Giving tutorials to instructors how to use this new platform -Providing internet to those in need -Including all the academic instructors, students and staff to this platform -Designing informative posters about masks, hygiene and distance -Forming informative booklets in terms of arrangement of entrances, exits and circulations -Measuring temperature
Faculty of Architecture	-Arranging meetings with both the Departments and the Rector's Office to create coordination -Organizing events and actively use technology for online and live events -Asking events from the Research Centers of the Faculty -Preparing posters for all special days -Rearranging spaces, starting new projects within the faculty, renewing the central heating cooling systems -Rearranging working hours and days in coordination with the Rector's Office and the departments -Arranging entrance and exit doors in addition to circulation paths within the buildings with informative arrows and lines
Department of Architecture and Department of Interior Architecture	-Arranging meetings with the instructors -Actively including research assistants as body of help to the instructors who are in need of learning this new online platform -Always being in touch with all the students as grouped under Microsoft Teams and be informed about their current situations and needs. -Finding contacts to supply laptops to the students in need -Organizing webinars, virtual exhibitions, online ceremonies, online conferences, and online juries

	-Organizing online summer practices and online technical trips
Course Instructors	-Being available all the time to the students -Organizing webinars as part of the courses -Arranging meetings with the colleagues and the research assistants -Transforming the courses to online courses to digital platforms

Unexpectedly facing the lockdown during pandemic led all the educational institutions to close down and to a sudden switch of traditional education to distance education by means of online learning. Eastern Mediterranean University, emergently structured an online system on the Microsoft Teams; and in cooperation with all the administrative branches of the university including Distance Education Institute and Faculties, meetings were arranged to explain how online learning and distance education implemented. All the students have been included to this new platform, the Microsoft Teams, and teams of classes have been created. Parallel to this, staff teams have been created as well for meetings and coordination. To be able to adapt to this drastic change, faculties and departments made a lot of meetings whenever necessary; and instructors became available for students whenever they need. So, in the first lockdown, there were no definition of time for the administration and academics. Based on the curricula, every instructor had to find new implementation methods for specific courses, and made students understand these new techniques. The best part of this situation was that young generation was very ready for the online learning methods due to their close relation to technology.

Architectural education is unique, since it needs practice and one-to-one critics for the development of projects. Additionally, it shelters a lot of extracurricular activities such as technical trips, workshops, seminars, conferences, and so on. These activities include a lot of socializing and teamwork. Therefore, cutting the face-to-face relation suddenly, and not being able to hold the sketch pencil and discuss any projects face-to-face was one of the main challenges. So, to be able to find a way in order to make courses was very time consuming. From the perspective of university, our institution has provided the academics and students the platform for the distance education, has given immediate courses on how to use this new online platform, and has included all the academics and students to this platform as mentioned earlier.

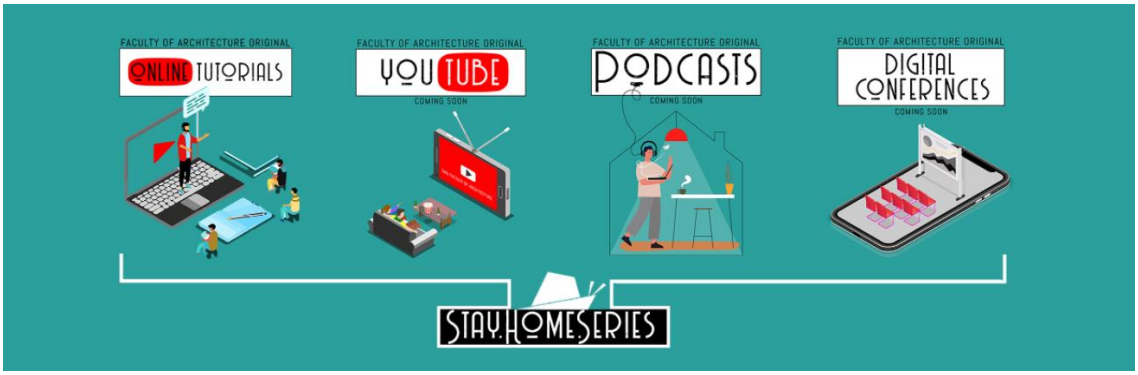

Figure 3. Stay home series (https://farc.emu.edu.tr/tr)

From the perspective of the faculty administration, it was observed that this drastic change of the education model, sudden changes of the daily routines, and changes of the new rules set by the Infectious Diseases Board have led the academics and students to a lower level of motivation. So, the first attempt was not stopping the seminars, conferences and such academic gatherings. Instead, a Stay Home Series planned that included podcasts, webinars, and online tutorials (Figure 3). The Stay Home Series have been uploaded to the YouTube channel of the faculty as well.

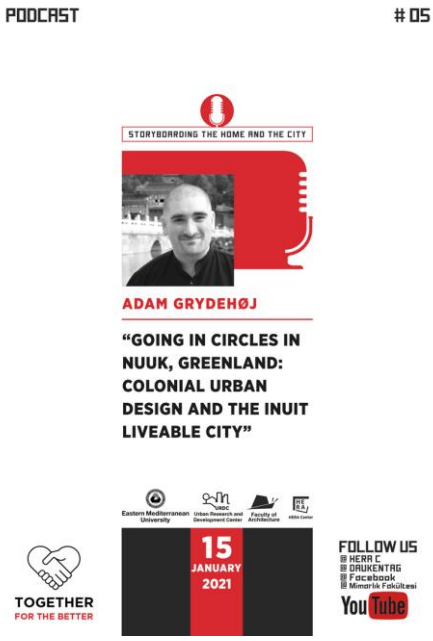

Figure 4. Storyboarding the home and the city (https://www.youtube.com/watch?v=uB6T8-qrhG4)

Figure 5. Educational events series (https://www.youtube.com/watch?v=XfpO99gYf94)

Beside, this Research Centers of the Faculty started series of webinars including Storyboarding the Home and the City (Figure 4), and educational events series (Figure 5).

Department of Architecture and Department of Interior Architecture organized various activites from webinars, architectural talks to virtual exhibitions (Figure 6) and high honour and honour ceremonies.

Figure 6. Virtual exhibition

After the first lockdown, when all instructors returned back to the offices, they found a note says *"Glad to be together again with good health"* on a card at their working desks. Welcome songs were played to raise the mood as well. Additionally, it was noticed that being understanding to different dynamics of lives of instructors and studens; and trying to offer alternative solutions for various excuses regarding Covid-19 lower the stress level of individuals. To summarize from another perspective, it was obvious that being humane with all the particles of flexibility, understanding, and positive generally sorts many problems.

4. CONCLUSION

The pandemic period with all its lock-downs and unprecedented new norms and rules has proven the humanity that we can adapt ourselves to different situations whenever it is needed. Especially, when it comes to distance education, on the focus of architectural education, that is needed one-on-one relation of instructor and student, these adaptations to digital platforms by means of online learning, new education models can be structured. Although, it was a very tough period, pandemics has shown us that real distances have become very short in terms of digital manners. For example, a peer of the profession can be reached much more easily and can be contacted to deliver a speech on online platforms. Therefore, this kind of opportunities should be alternative options even after pandemics.

When it comes to the sudden preparation of a new education model, it is obvious that parameters such as being planned, organized, well-communicated, and coordinated with all levels of administration, and academic instructors and students definitely create success. Although being this sudden and unexpected brought exhaustion and depression as well, since such adaptations need a lot of effort.

As mentioned earlier, both the set of preparations and the strategies that have been experimentally developed will offer us new insights regarding new working environments that support motivation. As a result of the applied strategies, it was observed that creating flexible working hours, being able to access courses, meetings or webinars online, organizing working

environments with healthy central heating/cooling systems, doing small gestures, giving little gifts, sharing positive affirmations or notes, and being together to share all the problems and good news are the parameters for support and raising motivation.

To conclude, this paper generally relied on the qualitative methodology based on observation and own experience as expertise. For the future, to be able to highlight the most efficient ways, interviews and questionnaires can be prepared for the administrators, academic instructors, and students to measure their opinions as well. However, for now, setting the preparations as steps and discussing the experimental strategies are believed to shed a light on the experiences obtained for this defined period time of pandemics.

REFERENCES

Al-Kumaim, N. H., Alhazmi, A. K., Mohammed, F., Gazem, N. A., Shabbir, M. S., & Fazea, Y. (2021). Exploring the impact of the COVID-19 pandemic on university students' learning life: An integrated conceptual motivational model for sustainable and healthy online learning. *Sustainability*, *13*(5), 2546.

Cambridge Dictionary. Available at https://dictionary.cambridge.org/dictionary/english/motivation. Retrieved on 11.01.2022.

Ciotti, M., Ciccozzi, M., Terrinoni, A., Jiang, W.C., Wang, C.B., & Bernardini, S. (2020). The COVID-19 pandemic. *Critical Reviews in Clinical Laboratory Sciences*, *57*(6), 365-388. https://doi.org/10.1080/10408363.2020.1783198

Chen, Z., Cao, H., Deng, Y., Gao, X., Piao, J., Xu, F., & Li, Y. (2021, May). Learning from Home: A Mixed-Methods Analysis of Live Streaming Based Remote Education Experience in Chinese Colleges during the COVID-19 Pandemic. *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems,* 1-16.

Daniel, J. (2020). Education and the COVID-19 pandemic. *Prospects*, *49*, 91-96. https://doi.org/10.1007/s11125-020-09464-3

Elnikova, G. A., Nikulina, N. N., Gordienko, I. V., & Davityan, M. G. (2020). Distance education in universities: Lessons from the pandemic. *European Journal of Molecular and Clinical Medicine*, *7*(1), 3523-3529.

Ghazi-Saidi, L., Criffield, A., Kracl, C. L., McKelvey, M., Obasi, S. N., & Vu, P. (2020). Moving from face-to-face to remote instruction in a higher education institution during a pandemic: Multiple case studies. *International Journal of Technology in Education and Science*, *4*(4), 370-383.

Grennan, D. (2019). What Is a Pandemic. *JAMA*, *321*(9), 910. https://doi.org/10.1001/jama.2019.0700 Available at https://jamanetwork.com/journals/jama/article-abstract/2726986

Halif, M. M., Hassan, N., Sumardi, N. A., Omar, A. S., Ali, S., Aziz, R. A., Majid, A. A., & Salleh, N. F. (2020). Moderating Effects of Student Motivation on the Relationship between Learning Styles and Student Engagement. *Asian Journal of University Education*, *16*(2), 94-103. https://doi.org/10.24191/ajue.v16i2.10301

Kleinginna, P. Jr., & Kleinginna, A. (1981). Categorized List of Emotion Definitions, With Suggestions for a Consensual Definition. *Motivation and Emotion*, *5*, 345-379. Lazarus, R.S. (1991).

Kulikowski, K., Przytuła, S., & Sułkowski, Ł. (2021). The motivation of academics in remote teaching during the Covid-19 pandemic in Polish universities—Opening the debate on a new equilibrium in e-learning. *Sustainability*, *13*(5), 2752.

Mahmood, S. (2021). Instructional strategies for online teaching in COVID-19 pandemic. *Human Behavior and Emerging Technologies*, *3*(1), 199-203.

Merriam-Webster Dictionary. (n.d.). *Motivation*. Retrieved November 01, 2022 from https://www.merriam-webster.com/dictionary/motivation

Merriam-Webster Dictionary. (n.d.). *Pandemic*. Retrieved January 17, 2022 from https://www.merriam-webster.com/dictionary/pandemic

Moreira-Fontan, E., Garcia-Senoran, M., Conde Rodriguez, A., & Gonzalez, A. (2019). Teachers' ICT-related self-efficacy, job sources, and positive emotions: Their structural relations with autonomous motivation and work engagement. *Comput. Educ*., *134*, 63-77.

Morens, D. et al. (2009). What is a Pandemic. *The Journal of Infectious Diseases, 200*(7), 1018-1021.

OFSTED. Teacher Well-Being at Work in Schools and Further Education Providers. (2019). Retrieved 20 December 2020 from https://assets.publishing.service.gov.uk/government /uploads/system/uploads/attachment_data/file /936253/Teacher_wellbeing_report_110719F.pdf

Rahiem, M. D. H. (2021). Remaining motivated despite the limitations: University students' learning propensity during the COVID-19 pandemic. *Children and Youth Services Review*, *120*(105802). https://doi.org/10.1016/j.childyouth.2020.105802

Skinner, B. F. (1954). The science of learning and the art of teaching. *Harvard Educational Review*, *24*, 86-97.

Urdan, T., & Schoenfelder, E. (2006). Classroom effects on student motivation: Goal structures, social relationships, and competence beliefs. *Journal of School Psychology*, *44*(5), 331-349. https://doi.org/10.1016/j.jsp.2006.04.003

A Study on Student Awareness of Special Needs Population within the Built Environment

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ABSTRACT

Worldwide there has been an increase in the special needs (disabled) population demographics. Due to limitations within their physical conditions, they interact with many difficulties within the surrounding built environment concerning accessibility and design of these environments. Young architects represent future of the world and should be prepared and aware about designing environments that are accessible for every one especially special needs population. Universal Design refers to equal and accessible design of built environments, spaces, or products especially for those facing any physical limitations and enhances their engagement with their surrounding world. Universities as a starting point for young architects should encourage and teach their students about the concept of universal design and its principles in order to provide a surrounding environment that reduces those difficulties the environment imposes on this population to its maximum limits. This study aims to assess the awareness of students within department of architecture at EMU about the application of the principles of universal design in their projects. Through qualitative methodology literature review has been done, then projects of last year architecture students of ARCH 491 and 492 in the year book of (2020 - 2022) have been evaluated according to a prepared checklist that is based on the principles of universal design for providing better accessibility for special needs population. The findings indicated more need from students to be aware about designing and solving their projects according to ways and techniques that lets it be usable by everyone and not just try to design odd and nice views without taking accessibility as a main point of focus. The study concluded that Universities and architecture schools should always be trying to apply more creative and developed ways that attracts student's attention and awareness about accessibility and universal design concerns especially within our current fast growing world.

Keywords: Special Needs Population, Universal Design, Accessibility, Awareness, Education

1. INTRODUCTION

Worldwide it has been proven that groups with special needs consist 15% of the population (WHO, 2015). Current policies governing services for people with disabilities in Western countries aim to maximize their social inclusion, independence, and empowerment. Around the globe, policies and services for this population are being put in place to assert their rights and tackle barriers to their inclusion (WHO, 2007). All of these people need access to everyday utilities, unhindered access and the easy use of space as well as products in order to avoid stigmatization, marginalization and to also be engaged socially and democratically. The inclusiveness of those suffering from a disability lies in the concerted efforts of designers to create spaces and products within the built environment that are easily accessible.

Throughout the 20th century, the idea of Universal Design has been created with the increase in the demographics of especially abled groups (The Center for Universal Design, 1997). Universal Design is counted as a philosophical idea integrated within products and spaces design. Highlighting the necessity for a design for all populations appeared firstly in Europe then it spread around the world (Kennig and Ryhl, 2002). The concentrated target of this idea was to eliminate inequity and injustice considering access to daily life products and spaces between those who are normally abled and those who might be suffering from a limitation in their abilities. Still, literature reveals that awareness about universal design and its principles lacks in creations and designs of products and spaces by architects and designers, with immediate need to take action concerning these issues. Taking actions should be starting from those environments and institutions that are responsible for creating designers and architects that will be representing the future of design. Within this regard, the main aim of this study is to assess the awareness of architecture students within department of architecture at EMU about application of the principles of universal design within their projects. It tries to shed light on important universal design points that could be lacking or existing within the final projects of final year students.

2. UNIVERSAL DESIGN AND SPECIAL NEEDS POPULATION

Universal Design (UD) is defined as “an approach to creating environments and products that are usable by all people to the greatest extent possible” (Mace, 1985). It is the best way to integrate access for everyone into any effort to serve people well in any field (Story, Mueller and Mace, 1998). They also added that Universal Design promotes design for children, older people, and people with disabilities without considering each as a separate group of users; it presumes that people comprise a continuum of needs and abilities. The ADA (Americans with Disabilities Act of 1990) considers people with a disability to be any individual who is found to have a physical or mental impairment that substantially limits one or more major life activities of such individual. Accessible, usable, and Universal Design processes are proactive approaches to ensure access for groups of potential participants. Universal Design integrates both accessible and usable design features and seeks to make it possible for everyone to participate in an inclusive setting where no one is signed out.

The center of universal design with its designers and architects modified seven principles as guideline for spaces creation and designs with providing special indication and application considerations for each principle. Principle One: Equitable Use which indicates promotion and usability of design by variously abled bodies with all its means. It is obtained by providing the same means of use for all users, enabling provisions for privacy, security, and safety equally available to all users, and making the design appealing to all users. Principle Two: Flexibility in Use means the design accommodates a wide range of individual preferences and abilities. It is obtained by providing choice in methods of use and adaptability. Principle Three: Simple and Intuitive Use, which indicates easy to understand design without taking their knowledge, background into consideration. Principle Four: Perceptible Information, which indicates ease of information transfer between the design and its user regardless of any differences in abilities. It

is indicated by providing easy to see representations. Principle Five: Error Tolerance, which indicates eliminating, chances of errors and wrong use through organizing the aspects of the design to reduce chances of having hazards. Principle Six: Low Physical Effort, which indicates satisfying and adequate use through decreasing repetition in use and adequate usage. Principle Seven: Size and Space for Approach and Use, which indicates providing convenient dimensions for usage without difficulties in dealing with different body sizes and positions.

A. Universal Design and Education

When trying to design spaces or environments factors like standards, architectural solutions aesthetics, and safety should be highlighted. Often designers recognize an average user but for universal design its promoting adequate use of potential users with varying characteristics. Disability is just one of many characteristics that an individual might possess. Accredited design programs and universities should consider UD principles as the basis for their design projects in order to enhance the function and quality of designs. The development of Universal Design in education is undoubtedly intertwined with the acceptance and evolution of Universal Design as a concept (Welch and Jones, 2001). The most important criterion for addressing Universal Design in a university curriculum was thinking of UD both in terms of teaching strategies and design process itself (Goonewardene and Pedersen, 2000).

B. Application of Universal Design Awareness

To give an understanding of the concept of UD is essential in design process of interior and exterior environments and everyday products to provide a design in such a way that all people with or without any disability can use it in the same way. This approach causes the necessity of integration of Universal Design into design education process. In 1960s and 1970s, Universal Design teaching began due to the attention to users' needs in design schools (Afacan, 2011). Also, Olguntürk and Demirkan (2009) highlighted the importance of constituting a synthesis of UD into design curriculum both as a separate course on its own and within the context of design studios. Thus, there are a number of efforts to teach UD at school of design and architecture with diverse methods around the world such as in United Kingdom in (Kennig and Ryhl, 2002) or in Japan (Kose, Sakamoto, Miyoshi and Sako, 2007) or in Turkey (Olguntürk and Demirkan, 2009). The efforts in order to enhance new curriculum materials and different teaching models that contain the concept of Universal Design are still in progress around the world though the exact awareness is not obtained yet. There is a growing awareness of Universal Design among both design educators and practitioners in order to satisfy the needs of the diversified users in many countries.

3. METHODOLOGY

The main aim of this paper is to study architecture student's awareness of universal design through examining the projects of last year architecture students of the courses ARCH 491 and ARCH492 in Eastern Mediterranean University. Since Universal Design is being taught within this university, this work should reflect on the importance universities give to Universal Design within their curriculum. This work hypothesizes that there is a need to increase awareness of UD in the professional realm. The literature review shows that such awareness is missing in academia and that incorporating further studies and information would help students be more appreciative of the needs of disabled and elderly people when designing and creating built spaces and products. The study is of a qualitative method, literature review was conducted on universal design, disability, and the importance of student's awareness regarding these concerns. Data collection have been done according to physical analysis of students projects and evaluating it through a prepared checklist with the seven characteristics of Universal Design and those limitations that occurs with disabled people which creates obstacles for their quality of life

4. CASE STUDY

The Department of Architecture in EMU offers a learning environment with a contemporary approach to education for young people of diverse cultural backgrounds since 1990. The aim is to provide opportunities for future architects to be equipped with necessary knowledge and skills to cope with rapid global changes, to react rationally as well as creatively to contemporary issues in architecture, its problems, and challenges, within an interdisciplinary approach to education through its distinguished academic infrastructure. The graduates are expected to contribute to the improvement of quality of life as dynamic individuals with a high sense of responsibility and leadership, capable of assuming central roles in teamwork, a global reality of our day. With increasing demand for enrollment, the student body in the Department is increasing in number, but one to one relationship between the student and the instructors in design studios is still sustained; in a democratic milieu of education where free discussions and creativity are valued. Within this regard last year education in this university is being given much importance but at the same time students are being treated as young architects who are about to go out to the outside world and design for better living. Their projects are being designed totally by their own opinions, but being modifies on weekly basis according to their teachers recommendations. Within this regard and through the checklist their projects have been evaluated in order to evaluate their awareness for better accessibility and special needs population needs (Table 1).

Table 1. Checklist for evaluating students projects according to universal design principles (UD1= Equitable Use, UD2= Flexibility in Use, UD3= Simple and Intuitive Use, UD4= Perceptible Information, UD5= Tolerance for Error, UD6= Low Physical Effort, UD7= Size, by author.

Characteristics	**Evaluating the physical characteristics according to the 7 principles of Universal Design**						
	UD1	**UD2**	**UD3**	**UD4**	**UD5**	**UD6**	**UD7**
Entrance	■		■		■		■
Colors		■	■		■	■	■
Textures	■	■		■	■		■
Barriers		■	■		■	■	■
Seating Spots	■	■	■	■	■	■	■
Proper Flooring Material		■	■		■	■	
Lighting	■	■		■			
Elevators	■			■	■		
Ramps		■	■		■	■	■
Clear Passages	■				■		
Grab Bars		■	■			■	

Dimensions between Facilities	[redacted]		[redacted]		[redacted]

5. ANALYSIS

The projects were four types (Theatre Complex, Reconciliation Center, Sustainable Community Center and Aqua center) and they were analyzed according to three critical characteristics of universal design, which are visual characteristics, surrounding environment, and circulation.

A. Visual Characteristics

Containing (colors, textures, and lighting) some projects used calm and convenient colors, which was counted as positive aspects and user friendly, yet some used colors that could cause discomfort ability for others especially because its contrast level with surrounding environment was reaching its maximum levels.

Also, the patterns of contrast in colors in differing zones in order to separate them, although it is one of the techniques of design but special consideration should be given to know which types of spaces should be given which tones of colors and which kinds of users might be entering these spaces mostly. Considering textures, it can be said that most of the studied projects used non-vague and non-glittering textures especially regarding the floors, as it is the number one cause of falls and death for people with special abilities. Lighting within the projects were good especially by analyzing the plans it appeared that some of them even tried to guide the users of the spaces through lightning their passageways and designing it as direction indicators. The overall interior visual domains and repetitions might sometimes create a feeling of being lost within a space.

B. Surrounding Environment

Containing the points of (entrance, barriers, seating spots, flooring material, grab bars and dimensions between facilities), architecturally the projects tried to define their entrances as detailed as they can as especially the entrance is a very important feature of design. Regarding the availability of barriers there is no special problems about it and it can be said that they are convenient, just there might be some obstacles regarding the floor as some of them tried to use slippery materials. Some of the seating spots might not be not comfortable or even have the ability to be sit on by people with differing abilities regarding their design or the used materials and need a physical effort in just sitting on them. There is also the need to say that some of them have tried to use stairs as seating spots, these kind of techniques needs special considerations to be used by several ability people especially as the material is hard to sit on and one might even hurt their back bone or spine as there is no support available to lean on. No back for the seats for the elderly to put their backside on and relax which might cause them more spinal hurts than they already have, with having no efficient space on them. Yet some of the designs have tried to apply comfortable and appropriate seating spots. Grab bars are another point that is lacking in the designs there is no efficient application of grab bras especially on specially designed stairs or passages.

C. Circulation

The circulation is evaluated according to (vertical and horizontal circulation and movement passages). For vertical circulation, many of the projects had elevators, yet the size needs to be considered, as there might be the possibility of people entering with movement tools. Generally, there were lacks of ramps application. In a few of the projects there were only ramps in front of the main entrance which needs a walking distance in order to reach it, but its dimensions could be counted as good and appropriate. For movement passages, it can be said that features and columns are designed in a way that they create clear movement passages for the people of

differing capabilities and have good dimensions and they are sometimes differentiated according to lighting patterns or contrast in colors.

6. CONCLUSION

To conclude it can be said that the aim of UD is enabling all people to experience the benefit of not only environments but also products that surround us regardless of our ages, sizes, or abilities. There is an increasing interest not only in understanding of the importance of Universal Design but also in actively trying to provide constructive and qualitative design solutions based on professional background or personal experiences (Kennig and Ryhl, 2002). Universal Design is a concept and a theoretical premise that when embedded into an overall design ethos would allow all users of living spaces and environments to use them equally, without specific adaptations, stigma, or disconcert. It should be Incorporated as a theoretical, mainstream subject, with proper definitions, practices, and use with its tangible and intangible benefits (Afacan, 2011; Hosny & Anous, 2015; Olguntürk & Demirkan, 2009; Türk, 2014). The design process should involve disabled users and recognition of their considerations should be included in practice (Ergenoglu, 2013). Explore newer avenues through collaboration with a wider spectrum of designers across professional, socio-cultural, and national boundaries to evolve designs that transcend codes and regulations (Singh & Tandon, 2018). Designers create spaces for clients considering aesthetics, utility, lived experiences, and interactions with built environments. However, experiences can be subjective and prone to change. All designers, architects, engineers, clients and users should be aware enough to look beyond their own needs and experiences in built spaces and products and should seek to engage all users, irrespective of their abilities and limitations in order to access all facets with equality and moreover, without stigmatization or marginalization. Although researchers seek to emphasize the importance of, and lack of awareness of Universal Design by defining it as a social, academic and professional movement (Hitch, Dell and Larkin, 2016; Olguntürk & Demirkan, 2009). However, the architectural design environment at present does not conform to philosophical tenets and theoretical principles regarding Universal Design, and as such, impedes continued social engagement of the disabled. This lack of awareness in fact is a global issue in academic and professional practice (Powell and Pfahl, 2018). A lack of Universal Design concepts in the built environment and within production design creates barriers for the disabled. even though universities might be following a certain program that is trying to provide explanations about the concept of universal design and the ways of its application, but still the young generation might be attracted by other aspects of their design and sometimes forget that their designs will be used by all types of populations.

REFERENCES

Afacan, Y., & Demirkan, H. (2011). An ontology-based universal design knowledge support system. *Knowledge-based Systems*, *24*(4), 530-541.

Center for Universal Design. (1997). *What is universal design?*. North Carolina State University.

Ergenoglu, A. S. (2015). Universal design teaching in architectural education. *Procedia-Social and Behavioral Sciences*, *174*, 1397-1403.

Goonewardene, R., & Pedersen, A. (2000). Introducing universal design to a western Australian school of art and architecture. *Proceedings of Designing for the 21st Century*.

Hitch, D., Dell, K., & Larkin, H. (2016). Does universal design education impact on the attitudes of architecture students towards people with disability? *JACCES: Journal of Accessibility and Design for All*, *6*(1), 26-48.

Hosny, I., & Anous, I. (2015). The impact of interior design in educational spaces for children with Autism. *American International Journal of Research in Humanities, Arts and Social Sciences 10(1)*, 90-101.

Kennig, B., & Ryhl, C. (2002). Teaching universal design: Global examples of projects and models for teaching in universal design at schools of design and architecture. *AAoutlis, ANLH*.

Kose, S., Sakamoto, T., Miyoshi, I., & Sako, H. (2007). Teaching universal design to undergraduate students at the Faculty of Design. In *Proceedings 2007*, 1-5. Helen Hamlyn Centre, RCA.

Mace, R. (1985). Universal design: Barrier free environments for everyone. *Designers West*, *33*(1), 147-152.

Morin, E. C. (1990). Americans with Disabilities Act of 1990: Social integration through employment. *Cath. UL Rev.*, *40*, 189.

Olguntürk, N., & Demirkan, H. (2009). *Ergonomics and universal design in interior architecture education.*

Powell, J. J., & Pfahl, L. (2018). Disability studies in the universal design university. In *Diversity and inclusion in higher education and societal contexts*, 157-188. Palgrave Macmillan.

Singh, R., & Tandon, P. (2018). Framework for improving universal design practice. *International Journal of Product Development*, *22*(5), 377-407.

Story, M. F., Mueller, J. L., & Mace, R. L. (1998). *The universal design file: Designing for people of all ages and abilities.*

Türk, Y. A. (2014). Planning–design training and universal design. *Procedia-Social and Behavioral Sciences*, *141*, 1019-1024.

Welch, P., & Jones, S. (2001). Advances in universal design education in the United States. *Universal design handbook*, *2001*, 51-1.

World Health Organization. (2007). World health report 2007. Geneva, Switzerland: World Health Organization.

World Health Organization. (2015). World health statistics 2015. Geneva, Switzerland: World Health Organization.

Speculative Architecture: Adopting Critical Approach in the Architectural Learning Environment for a Better Future[1]

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ABSTRACT

In a world of continuous and rapid evolution, inevitably, the architectural design needs the expansion of the boundaries and capabilities of it to respond the changing conditions. Especially by taking a role as a facilitator of thinking on the vision of the society and the world in the way of bringing alternative values, forms, and representations out, architectural design should allow of searching what is beyond its limitations to develop an attitude towards today's environment. Evaluating the architectural learning environment as a multi-layered and experimental research medium in which such a creative and critical act of architectural design can be adopted, this article focuses on speculative architectural thinking in the architectural educational context, as a way to explorations of possibilities of architecture. With the idea of producing speculative scenarios regarding all the political, economic, social, cultural, and technological changes of the world by offering an interdisciplinary and emancipated way to design, speculative architecture proposes an architecture conception based on a critical approach and an open-ended field of inquiry in the architectural learning environment. In this respect, in this paper, the aim is to discuss the potentials and effects of speculative architecture for architectural design education, within a theoretical base comprising three prominent principles of it. For this purpose, the study addresses two speculative projects developed at the 2020-2021 Spring term Diploma Studio at TOBB University of Economics and Technology (TOBB ETU), Department of Architecture, as the relevant case. Therewithal, the discussion makes enable to obtain an in-depth evaluation of what speculative architecture provides in the way of expanding the purview of architectural design.

Keywords: Speculative Scenarios, Critical Attitude, Inquiry Through Design, Creative Design Process, Architectural Learning Environment

[1] This paper was developed within the scope of Defne Çakır's master's thesis conducted at TOBB ETU Graduate School of Natural and Applied Sciences, Department of Architecture.

1. INTRODUCTION

In the first quarter of the 21st century, under constantly developing and changing conditions, there are different emerging approaches in architectural design education that can respond to evolving world, technology, and media, and take position according to these. Today's heterogeneous environment[2], embracing various approaches from digital design to fictional design, constructs the ground for the emergence of this diversity. In this sense, the learning environment of architectural design can be evaluated as an interdisciplinary, multi-layered, and experimental research medium able to encourage various ways of design. So, it needs to be underlined that architectural design education has a responsibility for implicating these approaches to foster and enrich this research medium and offer for expanding the purview of architectural design.

Speculative architecture[3] manifests itself as one of these design approaches that can be adopted, considering it's a mode of inquiry[4], its intention to stimulate the architectural designer, thought, and production in the emancipated research medium, and revitalize the learning environment in order to stay relevant[5]. Speculative architecture asserts its position in the educational context as a strategy for a critical and creative design process, "as it allows students the safe space to explore ideas and understand, or think (make) through, the possible impacts of their ideas" (Ward, 2020). "As a pedagogical tool, speculative design – at its best – opens students' minds to brave new worlds: to critical and creative interventions, transgression and change, as well as the possibility of applying design principles and tools in very different contexts and types of projects" (Auger, Hanna & Mitrović, 2021:209). So, speculative architecture presents potentials by pushing the boundaries and capabilities of architectural design and multiplying its purview, together with the idea of a flexible environment where the students are not obliged to design for the specific area and are not dictated for a similar design process.

This design practice particularly claims that architecture is not just an act of construction but also a critical and creative act in order to produce thoughts (Mitrovic, 2015; Young, 2021). It believes that beyond a system that offers only spatial solutions and seeks for the completed designed object, an architectural design can take a role as a facilitator of thinking and discussing on the vision of the society and the world for revealing alternative values, forms, and representations (Dunne & Raby, 2013; Bardzell & Bardzell, 2013). It emphasizes the importance of an active critical approach[6], especially in the context of the new conditions full of

[2] The richness of the content of the researches and studies within the scope of architectural education is a reflection of this heterogeneous environment, and vice-versa. The diverse discussions on the different perspectives on architectural education is up-to-date as it can be seen through the current conducted researches and studies like Erasmus+ projects such as 'e-FIADE: Exploring the Field of Interaction in Architectural Design Education' that researches the current tendencies in architectural education, international conferences such as 'Unspoken Issues in Architectural Education' that addresses architectural education from various frameworks, or like journals such as Journal of Architectural Education (JAE) with the latest theme issue, 'Building Stories'. For further information, please see: (Findley & Neveu, 2021), (e-FIADE, 2016), (Hoskara, Dincyurek, & Vural, 2015).

[3] The term 'speculative' should be evaluated as a more distinct expression from perceived dogmas since it presents a more holistic and inclusive understanding. The term is subject to be more comprehensive than its lexical meaning when it is addressed that the term 'speculative design' introduced by Anthony Dunne and Fiona Raby, the statements of Liam Young, a self-described speculative architect, and the other related studies. For further information, please see: (Dunne & Raby, 2013), (Malpass, 2013), (Young, 2015), (Mitrović, 2015), (Mitrović, Auger, Hanna, & Helgason, 2021).

[4] Evaluating the university environment as a site of knowledge production, Matt Ward thinks that "practice-based research is not a settled and fully established approach." In parallel with that, positioning speculative practice as a practice-based research, he says that it is "a mode of inquiry designed to discover and imagine new insights and opportunities" (Ward, 2021).

[5] Liam Young, who calls himself speculative architect, claims that "speculative architectural practice is really just an attempt to stay relevant in the context of a city that is always changing" (Young, 2015).

[6] The term 'speculative design' is a broadened form of 'critical design,' first used in a part of Dunne's 1999 dissertation. After elaborating the term critical design, in a detailed way in their 2001 book *Design Noir: The Secret*

moments of crisis[7]. While promoting thought-provoking design and fostering imagination, it engages with any accessible media/mediums/materials of today and materializes ideas through them (Mitrovic, 2015; Golub, 2016). So, the main concern is to create a space for questions and discussions and open up new perspectives with the help of the emerging technology and the tools, techniques, or methods, often in provocative and radical scenarios, for the sake of critical re-thinking of all sorts of possibilities for an alternative present or speculative future (Dunne & Raby, 2013; Auger, 2013; Malpass, 2013). All these features of this practice indicate the expanding role of the discipline.

Although the studies conducted on it are continually growing and diversifying, its essential characteristics or principles are open to expansion so as to reconsider the possibilities and potentials it offers, especially in the architectural educational context. Such an expansion also would contribute to making the forgotten or hidden values in architectural education visible, and to bridging architectural education and real world through bringing the capability of responding the current crisis under constantly changing conditions with the help of speculative scenarios to the architect. In this study, the aim is to find out the possibilities and potentials of speculative architecture in that context employing considering the concept with its essential principles, with the acknowledgment of its power to provoke creative design process and intellectual creativity, and enhance the interdisciplinary, multi-layered and experimental learning environment. Accordingly, considering the fact that the studio environment can support this understanding where architecture students can express their way of design without certain limitations, the focus is to understand how speculative architecture can build up an approach for them.

2. THE DIPLOMA STUDIO & THE CASES

"Of the various fields of design, architecture has perhaps the most developed history and tradition of speculative design[8]" (Disalvo, 2009:3). It means explorations of speculative possibilities of architecture with the idea of future development of social and physical environment is not a new debate. But the claim is that the architectural learning environment is the most conducive to cultivate this understanding, since "education institutions are the most effective environment to rebel against the routines, status quo and the limits of the discipline" (Çağlar & Curulli, 2020). The Diploma Studio[9] at TOBB ETU, Department of Architecture, stands in the academic research sphere, embracing speculative architecture thinking with the admission of this. Acknowledging the "need for innovation in architectural education to adapt to the challenges posed by the new ecological, economic, and societal context", this studio is aware of the potentials and possibilities speculative architecture thinking offers (Çağlar & Curulli, 2020).

Life of Electronic Objects, Anthony Dunne and Fiona Raby have expanded their understanding of design in their book *Speculative Everything - Design, Fiction, and Social Dreaming* (Dunne & Raby, 2001; Dunne & Raby, 2013).

[7] Here, it would be meaningful to include Deepa Butoliya's words: "As design educators, we cannot afford to exclude Speculative Design from a holistic education of our students, especially after the current crisis that the whole world is experiencing" (Butoliya, 2020).

[8] There are direct historical references of this design practice from radical architecture comprising "projects from the 1960s and 1970s by studios such as Archigram, Archizoom, Superstudio, Ant Farm, Haus-Rucker-Co, and Walter Pichler", to "visionary architecture, which has an outward facing social or critical agenda, and paper architecture, which, though often introspective and concerned only with architectural theory, is rarely intended to ever be built" (Dunne and Raby, 2013:6,23). Besides, the fictional architecture and imaginary architecture exist in a similar way, particularly in terms of the production and post-production techniques (Dunne and Raby, 2013:114). "Such speculative practices continue through today in architecture, from the work of star architects such as Rem Koolhaas and Diller and Scofidio, to academics such as Bernard Tschumi, to hybrid art-architecture-design collectives and individuals such as Atelier Van Lieshout, and Andrea Zittel" (Disalvo, 2009:3).

[9] For further information for Diploma Studio at TOBB University of Economics and Technology (TOBB ETU), Department of Architecture, please see: (Öztoprak, Sipahioglu, & Çağlar, 2019), (Öztoprak & Çağlar, 2020), (Sipahioğlu & Alanlı, 2020), (Çağlar, Öztoprak, & Sipahioğlu, 2021).

With the idea that the intend of the architectural education should not be related with just producing tangible end product serving for professional world, especially in the context of the new conditions full of moments of crisis, the Diploma Studio “aims to welcome, enable, and enhance multiplicity and plurality by constantly readjusting itself” (Öztoprak & Çağlar, 2020). So, the role of the studio is to prepare an environment apt to enhance the architecture student's ability to think critically, and to produce thought on urban development regarding all the current political, environmental, cultural, technological, or social changes, and foster their intellectual creativity to enrich the progressive and innovative outputs, especially in visually evocative and powerful mediums. It is worth noting that the studio's discussions are speculative level and carried out critically. In this direction, the diploma studio focuses on speculative scenarios for the future of the urban landscape of Ankara to develop an in-depth understanding of it and investigate hidden possibilities. Since it does not specify the design area, program, scale, or problem, the students are free to shape their own design context and the issues that they intend to think critically, discuss, question, and raise awareness. In a sense, the diploma studio encourages a designerly position by triggering the fundamentals of architectural thinking, and this understanding enriches the architectural learning environment.

In point of fact, the understanding and structure of the diploma studio act upon the three prominent principles of the speculative architecture, and evaluates the architectural design on the theoretical basis[10] formed by these essential principles. The first one is about the position the architectural designer takes on through adopting an explicitly critical and experimental stance. Producing a new discourse developed around the design idea by positioning on an intellectual ground is the second principle. The last one is related with the strategy chosen for the production. The design process in the diploma studio proceeds through these three principles that provide the speculative level. Within this scope, this study intends to discuss the potentials and effects of speculative architecture in an educational context within this theoretical base considered as the scaffolding of the study. For this purpose, the paper uses the case study strategy to obtain an in-depth evaluation of the potentials and effects. Two projects developed at the 2020-2021 Spring term Diploma Studio, MİM 402 Architectural Design Studio VIII, at TOBB ETU, Department of Architecture, take part in the study as the relevant cases. The cases were chosen to represent speculative architecture as a critical design approach adequately.

The 2020-2021 Spring Term Studio[11] ‘Comprehending the Future of Ankara: Renewed Landscapes’ presents speculative proposals. The aim is to explore new urban situations, lifestyles, places, and relationships that may emerge with the changes due to the current crises in the city by addressing research topics such as rural developments/agricultural cities/urban agriculture; local production/consumption; urban transportation networks/clean energy sources; settlements of various scales; open and green spaces/urban voids; continuities and disconnections in the city; publicness/privacy and so on. In this respect, the students have the responsibility to think critically about the characteristics of Ankara, and explore new ideas through their own research questions and create scenarios by means of producing plenty of intellectual, physical, and visual materials. In a way, by evaluating architectural design as a critical and creative act, they are interested in re-generating meaning in and through the city. The speculative proposals addressed for this article are ‘UPCYCLER PARK’ and ‘POPS ANKARA’ that present future scenarios on urban development (Figure 1).

[10] The theoretical base referred here is based on a relevant literature review associated with the topic and the author's observations of the design process at the 2020-2021 Spring term Diploma Studio, MİM 402 Architectural Design Studio VIII, at TOBB ETU, Department of Architecture.

[11] TOBB ETU Diploma Studio was supervised by Prof. Dr. Nur Çağlar, Asst. Prof. Dr. Selda Bancı, Dr. Işıl Sipahioğlu, Dr. Zelal Öztoprak, and Defne Çakır during the 2020-2021 Spring Term.

Figure 1. The cover images of the proposal ‘UPCYCLER PARK’ by Beyza Ayaz, Irem Tümay, Yasemen Engin and the proposal ‘POPS ANKARA’ by Büşra Bal, Ecem Bozbey, Emre Cansever, Merve Uğurlu.

The proposal, ‘UPCYCLER PARK,’ builds its criticism of the urban environment on the amusement park called ‘Ankapark,’ which was built on Atatürk Forest Farm, which is considered the cultural heritage of the city and the country, and is currently idle and seems like an iron pile. It evaluates ‘Ankapark’ as a pure simulacrum, hyperreal, where simulacrum has no relationship to any reality whatsoever because the park acts disconnected from the city and its inhabitants and exists as an unqualified formation that does not belong to the city. So, the concern is to question new patterns of change, explore hidden possibilities, and develop innovative and provocative ideas on the recovery of a valuable part of the city left to rot. In this direction, the speculative proposal aims to conceive a sustainable urban landscape through a kind of new ecology for the future. With the idea of urban agriculture, it offers an architectural system that provides up-cycling and production with algae culture and defines an alternative value for the city. Thus, by intervening in this place that does not have a relation with reality and the city, it intends to both bring it back to the city in an ecologically sensitive way and increase environmental awareness at the level of the society.

The proposal, ‘POPS ANKARA,’ makes a general critique on the mechanization of daily life practices and the fact that this mechanization does not allow coincidence and interaction, preventing the productivity and self-improvement of social individuals, and focuses on the urban situation of the city that leads up to this. In addition, it observes and addresses enclosed spaces and unqualified urban voids that create borders within the city, interrupt urban practices, and are irrelevant from their context. While considering them as non-places, it searches for an urban landscape that acts as an executive of human relations and disengages with the disconnections in the city. In this context, the project addresses for and around the area of The Old Coal-Gas Factory, which was a preserved immovable cultural heritage but then demolished by the authorities, since the project evaluates it as a non-place. It proposes the ‘pops-up’ spaces that show up in unexpected places, at unexpected moments, and offers coincidental experiences for the society by strengthening the intersection between the city, the citizen, and the action.

3. SPECULATIVE ARCHITECTURE AS A CRITICAL APPROACH

3.1 The Position Architectural Designer Takes On

Speculative architecture can be understood as “more of an attitude than anything else, a position rather than a methodology” (Dunne & Raby, 2013:34). By taking a particular attitude or position, speculative architects act as precursor intellectuals with consciousness and critical mindset for future possibilities of the world and adopt a role as a social catalyst for the reconstruction of both the physical and social environment. They intend to observe, critically think, raise thoughtfully crafted questions, and discuss in provocative ways on the substantive issues of the existing structure for the sake of envisioning the alternative ones. As Liam Young, who calls himself a speculative architect, also states that “the role of the future project is to critically engage with the present in a really meaningful way and put in place scaffolds for the futures we want” (Young, 2015). So, speculative architecture encourages a certain attitude, thus developing a perspective, in the way of revealing the hidden alternatives for the world’s potential changes through adopting a design approach as critique. These can be better demonstrated with two speculative proposals.

Considering the fact that the word ‘speculation’ has a link with observation, vision, and sight, speculative architects take an observant and skeptical position in a critical base towards the prevailing situation[12]. In other words, they aim to look beneath the surface through critical lenses in order to challenge the current state of any urban affairs instead of accepting them as the sole option. In the proposal, ‘UPCYCLER PARK’, the students discern the urban parts in the city that demolish nature and ‘pretend like to be’ a place connected with the city and its inhabitants. They are also aware that political reasons cause this destruction. In this context, considering these urban parts as a pure simulacrum, they criticize the lack of sensibility to the urban environment and values and the relation with the society. The observation in the proposal ‘POPS ANKARA’ is urban voids and landscapes that are disconnected from the city because of the irrelevance to their context and cannot be included in everyday urban practices. In this regard, students take a position towards ‘non-places’, as they critically refer, to underline the problem of urban disconnections and its leading role in the mechanization of daily practices of society. It can be stated that, by approaching the city from different standpoints, as speculative architects, students observe an urban landscape that needs to be transformed and present an attitude through critical thinking.

Correspondingly, this kind of critical act is a gesture in a social context. Speculative architects are aware of their roles as social actors responsible for developing a vision for a more desirable world and setting new relations between the society and urban environment. In fact, they take a position to investigate the alternatives in a “broader social context” through “what if” questions with the certain intention of transforming the predominant reality. (Mitrović, 2015:11, 15). In a way, they create an alternative context that exists in any future[13] for designing by stretching the coordinates of the reality. At this point, whereas the proposal ‘UPCYCLER PARK’ focuses on a preferable future interested in ‘what we want to happen’ and in altering the reality in such a way making the world as desirable as it can be, the proposal

[12] “Etymologically speaking, speculation comes from a series of Latin verbs, which all stem from a Greek root, in turn deriving from Sanskrit (spas meaning to spy, see, or observe) … after all, speculation and spectacle have the same origin” and “in its modern European linguistic variations, speculation derives from the late Latin noun *speculatio* (observation, contemplation), itself deriving from the classical Latin verbs and nouns *specere* (look), *speculari* (observe, examine, explore), and *speculum* (looking glass, mirror)” (Uncertain Commons, 2013).

[13] There is a diagram of a taxonomy of alternative types of futures, asserted by Futurologist Stuart Candy and re-considered by Dunne & Raby in their book *Speculative Everything - Design, Fiction, and Social Dreaming* to identify the vision of the speculative practice (Dunne & Raby, 2013). These cones of futures include the possible, plausible, probable, and preferable future, which expand from the present on the left, and each cone represents a type of potential for the future.

‘POPS ANKARA’ situates at the plausible future with the idea of ‘what could happen’. Correlatively, they ask different types of ‘what if’ questions. ‘UPCYCLER PARK’ asks ‘what do we want to happen if there is a chance to make the urban landscape more sustainable through an unusual scenario?’ and the question of ‘POPS ANKARA’ is ‘what could happen if the urban landscape, which establishes inter-city connections and focuses on experience and interaction, was included in everyday urban practices?’. It can be said that the future in which the students position themselves and the social attitudes they adopt determine the question they ask. Speculative architecture gives to learning environment this kind of flexible space “where it was ‘allowed’ to explore possibilities [...]”, allowing students to develop a critical and intellectual identity (automato.farm, 2019).

3.2 The Discourse Developed Around the Design Idea

Speculative architecture can be evaluated as “a discursive activity founded in critical thinking and dialogue” (Mitrović, Hanna, Helgason, 2021, p.69). Intending to develop an understanding of substantive and often debatable issues in an urban context and stimulate critical reflection and new ways of thinking to challenge the existing, it encourages a design approach engaged with the organization and manipulation of knowledge[14]. In this regard, speculative architects develop a discourse by speculating for the possibilities with the goal of transforming societal values within a certain practical and theoretical knowledge. In a way, they aim to construct their speculative theory based on their critical thought to search for the boundaries of what it is possible to think. This theory does not function only for expressing the design idea, but also as an integral part that works as critical lenses in and through design. Therefore, it can be stated that the concern of speculative architects is to build up a particular ground for critical ideas that any interpretive, experiential, social, and architectural factors intervene, rather than only to describe and affirm their design ideas.

Acknowledging the understanding that speculative architecture offers a research space in a critical base, the students aim to re-evaluate the prevailing situation they observe and take a position towards and produce provocative and innovative ideas over it. In this way, it is possible to develop new modes of understanding through the design process, where critical thinking is the prime instrument. Besides, this new mode of understanding also gives them a strong design statement. The idea produced over the observations for proposal ‘UPCYCLER PARK’ is to create a sustainable urban landscape with a new ecology that includes educational and experimental spaces that reconstruct the definition of nature and spatial variants that enable upcycling and production. The intent is to add value to the urban environment by intervening and transforming the existing structure. The idea of the proposal ‘POPS ANKARA’ is to create urban landscape and voids that allow coincidence, is experience and interaction oriented, and conceive next-generation flexible spaces where productivity and development of individuals are at the forefront of establishing urban connections and infiltrating urban practices. In point of fact, the students are encouraged to design through the landscape of conscious ideas and ideals with a critical approach.

Having said that, these purposeful ideas that serve the design decision are integrated with the manipulated knowledge grounded in prior ones from many different fields. It means that speculative architects are aware of today’s and yesterday’s discourse and try to propound new ones without being bound by the boundaries of the architectural field. In this way, they produce rich conceptuality that keeps company with their design. This conceptuality also helps to speculate while supporting critical thought. For example, ‘UPCYCLER PARK’ proposes an

[14] Michel Foucault evaluates 'discourse' as the organization and manipulation of knowledge. For Foucault, discourse is like an archaeology of knowledge that indicates a domain of research, and it is the way language is used for social reasons (McHoul & Grace, 1997).

architectural structure/steel frame that provides upcycling and production with algae culture and bioreactors by demolishing and re-using the existing amusement park structure, which acts as a pure simulacrum. The students organize existing knowledge from biology, sociology, ecology, and technology, integrated with architecture, for the context they create an alternative within specific conceptual terms such as upcycling, algae culture, bioreactor, and steel-frame. 'POPS ANKARA' also proposes an architectural structure integrated with the urban landscape and social media by using the conceptual terms 'non-places' and 'mechanization' as critique. In a sense, these conceptual framework helps to speculate through critique and counterproposals. The students also foster their idea with the prefix 'pop-up', which they use to identify their urban landscape that is open to unexpected changes, allows flexibility and diversity, and embodies the citizen as a productive engine, like pop-up user, pop-up center, Pop-up Street, pop-up app.

Eventually, with a certain awareness, the students constitute their own speculative theories that "operate as the intervention of 'radical doubt' and 'tactical improvisation" (Mazé & Redström, 2007:11). This speculative theory's fundamental goal and desired outcome are to develop perspective-changing understandings attempting to alter both the physical and social environment by raising questions and encouraging debate. In point of fact, speculative architecture fosters a research space that the students develop a discourse through the landscape of ideas and ideals, which is "exploratory and suggestive of what might be" (Disalvo & Luken, 2009:2).

3.3 The Strategy Chosen for the Production

Speculative architecture is utilized from "the methodological playgrounds of cinema, literature, science, ethics, politics, and art" and encourages a wide variety of productions, a part of the critical approach in the process of creating a design (Dunne & Raby, 2013:3). In other words, the flexibility of materialization[15] strategies of critical ideas makes it possible to diverse and open-ended productions that enrich the discussion or produce discussions on their own. Taking advantage of the potential of any accessible mediums and methods, speculative architects take the responsibility to give material expression to their critical thought not just for the purpose of expressing the ideas through the language of design and coming out with the final outcome, but also for re-evaluating the relations between the city, society and the design implications, re-thinking the possibilities, reflecting their critical attitudes, manifesting and visually proposing their discourse, and further speculating with an imaginative mindset. The strategies, the details, the qualities, and the gaps in the scenarios can be vary depending on the architect, from a design with the high level of architectural details visualized in a completed, fictional world to a design with simple sketches materialized as a comic book so, these are not important as long as the idea is materialized. In fact, their ideas and productions critically integrate with the design process by inserting diverse media used for many different reasons, each with its own emphasis, into speculative scenarios.

From this point of view, speculative architects search and produce the form of critical, provocative ideas that can be materialized in many ways and for many purposes, in an open-minded and creative manner as a part of their inquiry. It can be stated that this kind of design process leads to a deeper understanding of their design and makes it possible to establish the critique of the design with an authentic design language. For instance, for 'UPCYCLER PARK',

[15] Here, the term 'materialization' is used in a similar sense to that expressed by the design critic and academic Cameron Tonkinwise. For him, "speculative critical design, insofar as it is a form of design-focused science fiction, can be, at its best, an applied example of design philosophy, explicating how designs materialize particular kinds of futures, and/or lending particular kinds of futures plausibility by fleshing out their designed socio-technical material practices" (Tonkinwise, 2019).

the students bring together newspaper clippings and a collage about Ankapark to point their critical attitude, create an image of why they express it as a pure simulacrum, visualize their discourse on ‘upcycling’ and explore its possibilities, visualize the design idea with the architectural drawings and on the digital model (Figure 2). For ‘POPS ANKARA,’ while criticizing the mechanization of daily life practices with a graphical language, the students try to highlight the chance of urban experience in unexpected moments or places and then research and develop their discourse on pop-up spaces with different structural tryouts (Figure 3).

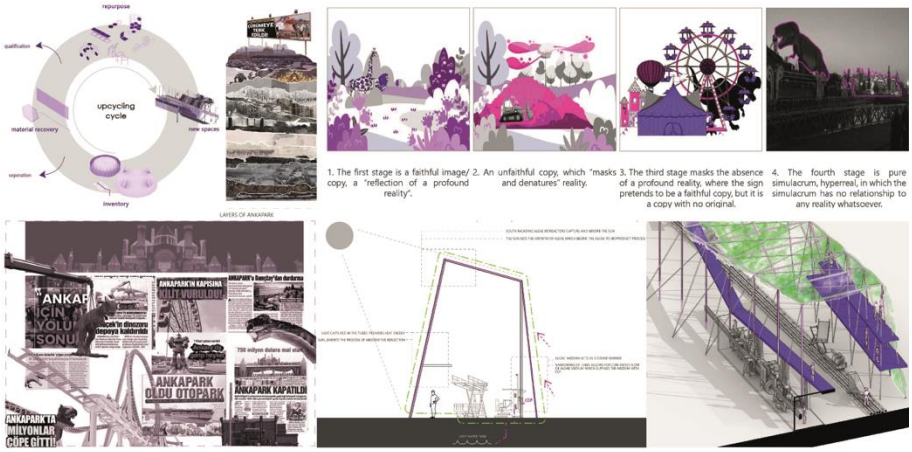

Figure 2. Visual expressions of the critical inquiry, ‘UPCYCLER PARK’.

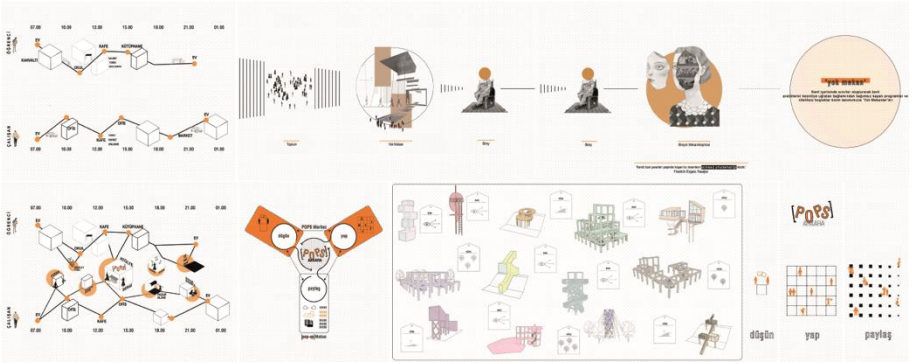

Figure 3. Visual expressions of the critical inquiry, ‘POPS ANKARA’.

It can be said that the speculative proposals developed “are built in a factual and fictional blur: the fictional being the proposed, and the factual being the elements we are familiar with so that we can engage or not be completely alienated” (Loizeau, 2020). Accordingly, all the productions related to them are in the form of embedded narrative that serves as a glue to connect the factual and fictional aspects of the design. In a way, thanks to the mechanisms of narrative, speculative architects have the ability to depict their scenarios. For instance, ‘UPCYCLER PARK’, the students capture a narrative quality by combining the factual being of the growth cycle of the algae culture with the scenario that transforms the structure constructed by this algae culture over time (Figure 4). On the other hand, for ‘POPS ANKARA,’ the students weave the narrative through a character complaining about the previous situation and experiencing the created urban landscape, which is integrated with social media (Figure 5). It is essential to underline that these narratives are presented in fragments, not complete, as speculative architecture expects.

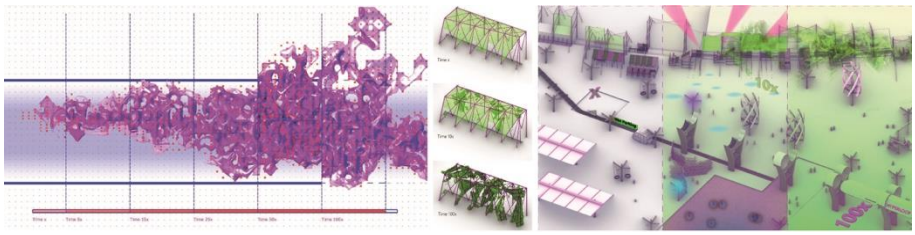

Figure 4. The materialization of ideas in the form of narrative to represent the transformation scenario of the project over time, ‘UPCYCLER PARK’.

Figure 5. The narrative quality captured as a storyline through a character, ‘POPS ANKARA’.

“Since speculative design continuously interacts with other related practices, fields, and disciplines, it uses any methods, tools, and approach that is accessible and appropriate at any given moment” (Mitrović, 2015:17). The strategies vary from incorporating the aspects of cinema, games, or literature, to applying digital analysis tools, techniques of art such as collage. For ‘UPCYCLER PARK,’ the students take advantage of digital analyses tools to understand the behavior of algae, make some sketches to comprehend the upcycling, create images through collage, video making, and digital modeling to explore alternatives, and produce sections and plans to give details (Figure 6). In the case of ‘POPS ANKARA,’ different from those, the students utilize the technique of comic book, graphic design, make their own 3D pop-up book, and also draw on literature while materializing their ideas with an aphorism from Friedrich Engels (Figure 7). In speculative architecture, the attempt of altering the reality for the urban development regarding any current political, environmental, cultural, technological or social issues is presented “across a variety of contexts, using diverse media and for a multitude of different reasons”, and this approach enriches the architectural learning environment (Smyth, Auger, Helgason, 2021:27).

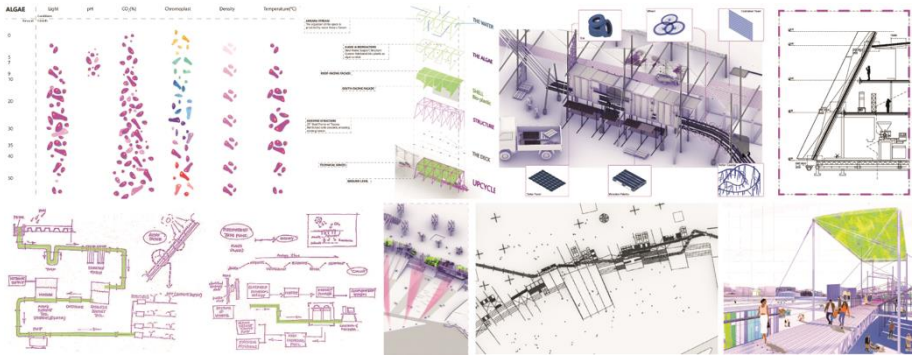

Figure 6. The various strategies used through the design process, and productions, ‘UPCYCLER PARK’.

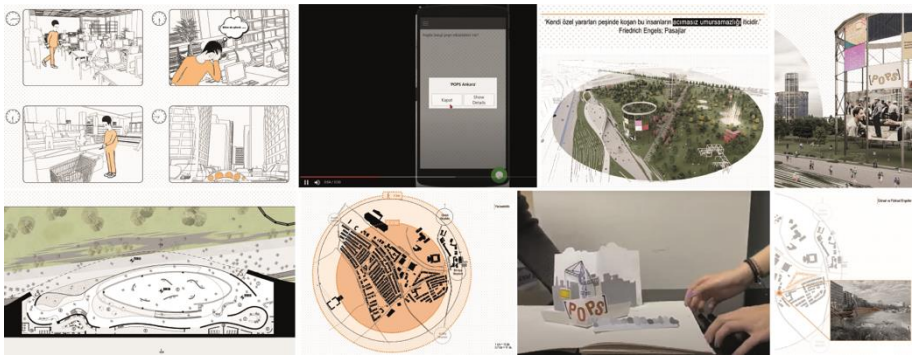

Figure 7. The various strategies used through the design process, and productions, ‘POPS ANKARA’.

4. CONCLUSION

This article focused on exposing the prominent characteristics of speculative architecture and its potentials for the architectural learning environment, according to the theoretical framework developed within the scope of the author's master's thesis conducted at TOBB ETU Graduate School of Natural and Applied Sciences, Department of Architecture. In fact, as the theoretical ground and the supporting studio examples reveal, speculative architecture can be outlined by three essential principles that concern the architectural designer, the design idea, and the way the design is produced, and it creates significant potentials by compelling the boundaries and capabilities of architectural design to expand. The speculative architect is evaluated as a social actor who takes a conscious position towards the prevailing situation with a critical and intellectual identity while designing. The design idea is developed on the basis of a discursive activity that embodies critical thinking, asking questions, discussing, and speculating new modes of understanding on the urban environment. The design is produced by taking advantage of diverse and open-ended strategies in terms of methods, tools, and techniques, as long as critically integrated with the design process. So, in an educational context, as well, speculative architecture leads the students to take responsibility, to open discussions for the future of real world, and to develop strategies for navigating their holistic understandings. Therefore, it presents potentials with these prominent values that make architecture a more open and exploratory field and has a power to reactivate dormant disciplinary attitudes in architectural education, offering a critical approach.

At this point, it can be stated that if the architectural learning environment nurtures not only productions for construction, but also intellectual ones, allows a flexible and free space that acts as a research medium, and stimulates critical approaches, it would have a chance to expand the purview of architectural design towards somewhere more interdisciplinary, multi-layered and experimental, that can respond to evolving world, technology and media. As this article brings to light by demonstrating the potentials and effects in an educational context, adopting speculative architecture would be a way to get this chance.

REFERENCES

Auger, J. (2013). Speculative design: crafting the speculation. *Digital Creativity, 24*(1), 11–35. https://doi.org/10.1080/14626268.2013.767276

Auger, J., Hanna, J., & Mitrović I. (2021). Future Paths. In I. Mitrović, J. Auger, J. Hanna, & I. Helgason (Eds.), *Beyond Speculative Design: Past–Present–Future*, 202-211. Speculativeedu, Arts Academy, University Of Split.

Auger, J., Hanna, J., & Helgason I. (2021). An Overview of Speculative Design Practice. In I. Mitrović, J. Auger, J. Hanna, & I. Helgason (Eds.), *Beyond Speculative Design: Past–Present–Future*, 68-93. Speculativeedu, Arts Academy, University Of Split.

Auger, J., & Helgason, I., & Smyth, M. (2021). Echoes of Futures Past. In I. Mitrović, J. Auger, J. Hanna, & I. Helgason (Eds.), *Beyond Speculative Design: Past–Present–Future,* 24-52. Speculativeedu, Arts Academy, University Of Split.

Automato.farm. (2019, July 15). *Interview: automato.farm [*Interview transcript]. Retrieved from https://speculativeedu.eu/ interview-automato-farm/

Bardzell, J., & Bardzell, S. (2013). What is "critical" about critical design? In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems,* 3297–3306. https://doi.org/10.1145/2470654.2466451

Butoliya, D. (2020, July 2). *Deepa Butoliya: There is no prescriptive way to do Speculative and Critical Design.* Interviewer: James Auger [Interview transcript]. Retrieved from https://speculativeedu.eu/ interview-deepa-butoliya/

Çağlar, N., Öztoprak, Z., & Sipahioğlu, I. R. (2021). Mimarlık Eğitimi ve Ankara için Gelecek Spekülasyonları. *DOSYA 49: Mimari Tasarım Stüdyolarında Ankara'nın Geleceğini Kavramak*, 13-27. Retrieved from http://www.mimarlarodasiankara.org/dosya/dosya49.pdf

Çağlar, N., & Curulli I. R. (2020). Introduction. In N. Çağlar, I. G. Curulli, I. R. Sipahioğlu, & L. Mavromatidis (Eds.), *Thresholds in Architectural Education, 7*, xiii-xxii. Wiley-ISTE. https://doi.org/10.1002/9781119751427.fmatter

Disalvo, C., & Lukens, J. (2009). Towards a Critical Technological Fluency: The Confluence of Speculative Design and Community Technology Programs. In *Proceedings of Digital Arts and Culture Conference.* Retrieved from https://escholarship.org/content/qt7jz308ws/qt7jz308ws.pdf

Dunne, A. & Raby, F. (2013). *Speculative Everything - Design, Fiction and Social Dreaming.* The MIT Press.

Dunne, A., & Raby, F. (2001). *Design noir: the secret life of electronic objects*. Basel: Birkhäuser.

e-FIADE (2016). *Project Summary. Exploring the Field of Interaction in Architectural Design Education.* [Online]. Retrieved from http://www.efiade.org/about/project-summary/

Findley, L., & Neveu, M. J. (2021). Building Stories. *Journal of Architectural Education*, *75*(2), 156-158. https://doi.org/10.1080/10464883.2021.1947668

Golub, M. (2016). "What if?" – Two or Three Notes on Speculation. In Mitrović, I., & Šuran, O. (Eds.), *Speculative-Post-Design Practice or New Utopia*, 28-32. Ministry of Culture of the Republic of Croatia & Croatian Designers Association. Retrieved from http://speculative.hr/wp-content/uploads/pdf/speculative_triennale.pdf

Hoskara, S., Dincyurek, O., & Vural, M. (Eds.). (2015, June). Unspoken Issues in Architectural Education: International Conference, 2014. *Open House International. 40*(2). Rauf Raif Denktaş Cultural and Congress Center, Gazimağusa, North Cyprus.

Loizeau, J. (2020, June 5). *Speculation needs to be inclusive or it risks being bourgeois and elitist speculative.* Interviewer: Sara Božanić [Interview transcript]. Retrieved from https://speculativeedu.eu/ interview-jimmy-loizeau/

Malpass, M. (2013). Between Wit and Reason: Defining Associative, Speculative, and Critical Design in Practice. *Design and Culture, 5*(3), 333-356. https://doi.org/10.2752/175470813x13705953612200

Mazé, R., & Redström, J. (2007). Difficult Forms: Critical Practices of Design and Research. *Proceedings of the IASDR Conference 2007*, 1–18. Retrieved from http://eprints.sics.se/2607

McHoul, A., & Grace, W. (1997). *A Foucault primer: Discourse, power, and the subject.* NYU Press.

Mitrovic, I. (2015, May 10). *Introduction to Speculative Design Practice – Eutropia, a Case Study.* http://interakcije.net/en/2015/05/10/introduction-to-speculative-design-practice-eutropia-a-casestudy-2/

Mitrović, I., & Šuran, O. (Eds.). (2016). *Speculative-Post-Design Practice or New Utopia.* Ministry of Culture of the Republic of Croatia & Croatian Designers Association. Retrieved from http://speculative.hr/wp-content/uploads/pdf/speculative_triennale.pdf

Mitrović, I., Auger, J., Hanna, J., & Helgason, I. (Eds.). (2021). *Beyond Speculative Design: Past – Present – Future.* University of Split.

Öztoprak, Z., & Sipahioglu, I., & Çağlar, N. (2019). *The Book of Architecture School*. TOBB ETÜ Yayınları, Ankara.

Öztoprak, Z., & Çağlar, N. (2020). Designerly Ways of Understanding Research Capabilities of Architectural Design and Studio. In N. Çağlar, I. G. Curulli, I. R. Sipahioğlu, & L. Mavromatidis (Eds.), *Thresholds in Architectural Education, 7*, 129-144. Wiley-ISTE. https://doi.org/10.1002/9781119751427.ch10

Sipahioğlu, I. R., & Alanli, A. (2020). A Threshold In-between Education and Profession: The Final Architectural Design Studio. In N. Çağlar, I. G. Curulli, I. R. Sipahioğlu, & L. Mavromatidis (Eds.), *Thresholds in Architectural Education*, *7*, 69-97. Wiley-ISTE. https://doi.org/10.1002/9781119751427.ch7

Tonkinwise, C. (2019, July 22). *Cameron Tonkinwise: Creating visions of futures must involve thinking through the complexities.* Interviewer: James Auger [Interview transcript]. Retrieved from https://speculativeedu.eu/ interview-cameron -tonkinwise/

Uncertain Commons. (2013). *Speculate This!* Duke University Press. https://doi.org/10.1515/9780822376934

Ward, M. (2020, January 23). *Matt Ward: All design is speculative.* Interviewers: Sara Božanić & Petra Bertalanič [Interview transcript]. Retrieved from https://speculativeedu.eu/interview-matt-ward/

Ward, M. (2021). A Practice of Hope, A Method of Action. In I. Mitrović, J. Auger, J. Hanna, & I. Helgason (Eds.), *Beyond Speculative Design: Past–Present–Future*, 166-201. Speculativeedu, Arts Academy, University Of Split.

Young, L. (2015, March 29). *Liam Young on Speculative Architecture and Engineering the Future.* Interviewers: Yunus Emre Duyar & Alessia Andreotti [Interview transcript]. Retrieved from https://www.nextnature.net/story/2015/interview-liam-young

Young, L. (2021, May 26). *Dialogue - Liam Young.* Interviewer: Tiffany Jade [Interview transcript]. Retrieved from https://openjournal.com.au/dialogue-liam-young/

The Role of Methodology in New Architectural Research Approaches

OzU *'City and Architecture'* Postgraduate Program as a Case

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ABSTRACT

Due to the effects of current multidimensional changes and transformations in the world on the field of architecture, research on architecture in the city context is also altering in terms of content, scale, and method. Recent research studies mostly deal with complex urban and architectural issues through the examination of social, cultural, ecological, and technological problems within the framework of today's urban dynamics, new lifestyles, and emerging global crises such as pandemics. While the contextual and methodological frameworks of research are reevaluated in postgraduate programs, the research methods course has a critical role in this respect. Beyond providing an epistemological and methodological basis for subsequent thesis research studies for students, these courses are expected to help develop skills for the critical and creative use of methods for the visualization of the research as a generative process. This paper focuses on the role of methodology in new architectural research approaches on the basis of KMI 594 Master's Thesis Study I course, which is part of the City and Architecture Integrated (Thesis) Master's Program (KMI), Özyeğin University Faculty of Architecture and Design. In accordance with the holistic structure of the KMI Program —Advanced Design Research Laboratories as the backbone, supported by the Research Method course and the City and Architecture Master Thesis Study I course— KMI 594 course addresses the content, scale and method as the three pillars of the Program. The scope of this paper is limited to the analysis of the method part, by examining the ways the course offers innovative perspectives on teaching research approaches and stimulates pedagogical inquiries about research on teaching. This paper aims to analyze the research processes conducted by the students of KMI 594 course by using critical-creative-generative research tools, in order to showcase alternative architectural ways of knowing and knowledge production.

Keywords: Architectural Research, New Research Approaches, Methodology, Teaching of Research, Research on Teaching

1. INTRODUCTION

Current multidimensional changes and transformations in the world are inevitably reflected on the field of architecture, both as a discipline and a profession. Accordingly, the impact of contemporary, multidimensional, and experimental conceptions and frameworks on research approaches in architecture in the city context is essential. The practice of architecture and, therefore, architectural education is expected to respond to the rapid urbanization of the world and the changing and transforming social, political, economic, environmental and technological dynamics that affect the cities —particularly, the developments in design technologies, construction/material technologies, and the transformation of interdisciplinary knowledge. Recent research studies mostly deal with complex urban and architectural issues through the examination of social, cultural, ecological, and technological problems within the framework of today's urban dynamics, new lifestyles, and emerging global crises such as pandemics. New research approaches related to architecture in urban context dwell on the view of design as an analytical and creative way of thinking and doing. This approach is made manifest in numerous postgraduate programs that are structured on the basis of research-design integration, informed by critical, experimental, and interdisciplinary perspectives.

Within the framework of the drastic changes in the 'new city' and architecture in the new city context, the research approaches employed in higher education institutions need to be re-structured (Salama, 2019). Emerging research approaches also change the way in which the contextual and methodological frameworks of research are re-evaluated in the postgraduate programs. Not only the forms of knowledge production are changing, but also the ways and platforms of representing new knowledge are diversifying. Along with well-established strategies, alternative ways of reflective understanding, representation, and design emerge as a result of new ways of approaching to architectural and urban issues. Some of the foremost features of current approaches in architectural research in urban context can be summarized as follows: the problems of architecture and the built environment are addressed through a holistic perspective and in relation to the urban context. This dwells on an alternative consideration of the city as "a complex system, in which a multitude of objects and processes are interlinked in time and space" (Shmelev & Shmeleva, 2009). Moreover, 'research through design' is implemented by various researchers as a strategy to develop alternative solutions to architectural problems in the urban context (Voigt et al., 2021). Within this framework, design is emphasized as "a vehicle for transdisciplinary action research" (Thering & Chanse, 2011). Furthermore, researchers apply new critical and creative ways for the production, representation and dissemination of knowledge on contemporary thematic issues related with architecture in urban context (Gray & Malins, 2004).

Changes in this direction gain more importance in postgraduate studies in architecture and, thus, the role of research methods course becomes more critical. In conventional terms, the research methods course addresses the scope and methods of scientific research through case studies, with the aim of providing an epistemological and methodological basis for subsequent thesis research studies. However, for the students, the transition from understanding the epistemological and methodological bases of scientific research to conducting their individual thesis research is usually problematic. The intersection of 'teaching of research' and 'research on teaching' provides a stimulating discussion ground to inquire the difficulties experienced by students during the design and realization of a thesis research as a systematic process based on their research topics. Such intersection needs to be inquired both in contextual and methodological terms. This paper aims to contribute an inclusive insight into new approaches to methodological research in architecture in the city context through the analysis of the methodological framework and the research outputs of KMI 594 Thesis Study I

course, as part of City and Architecture Integrated (Thesis) Master's Program, Özyeğin University Faculty of Architecture and Design.

2. CITY AND ARCHITECTURE THESIS MASTER'S PROGRAM AS AN INTEGRATED RESEARCH DESIGN MODEL

Starting from recognition of the 'new' city and 'new' architectural situations that are being experienced worldwide, the aim of the City and Architecture Thesis Master's Program (KMI) at Özyeğin University, Faculty of Architecture and Design is to generate knowledge production through new forms of readings, evaluations, and syntheses by examining the relationship between architectural design and the city. In this direction, global and metropolitan cities and Istanbul constitute the main research area of the master's program.

Istanbul is a metropolitan city and one of Turkey's most important cultural production center that still manages to export its culture to the whole country. From the earlier urban studies to the present, the focus of urban theorists has been the unique production forms of the metropolis. For the case of İstanbul, it is possible to say that almost every element influencing Turkey's modernization process is based in this metropolitan city. An attempt to read modernization of Turkey through Istanbul requires reading the transformations, reactions, and more importantly, the formation of the entire eastern Mediterranean geography. As a heterogeneous city, Istanbul perceives and comprehends the world in a new way, formulates new problems and produces its environment in new ways, as well as producing its own people. The, there is a demand to grasp it in all its heterogeneity. From this viewpoint, the primary aim of the KMI Program is to generate research on all kinds of urban and architectural practices that the city in general and Istanbul in particular, produces and allows to be produced. The aim of this design research-oriented program is primarily to record the urban memory of Istanbul through interdisciplinary and multidimensional perspectives and to try to grasp the metropolis that produces and is produced in this city as a part of the global network.

2.1 The Structure of the City and Architecture Thesis Master's Program

The KMI Program has a holistic structure in which two Advanced Design Research Laboratories —*Lab I and Lab II*— constitute the backbone of the program, supported by the Research Method course and the City and Architecture Master Thesis Study I course. LAB I focuses on the concept of the city and the new definitions of the city derived from current developments and its relations with architecture. While inquiring how the city can reproduce itself, it also holistically examines the dynamics of place and the city. In parallel with a series of readings and discussions on the concept of city and Istanbul as a multi-layered metropolitan city, LAB II discusses new urban paradigms and paradigm shifts, focusing on the new city and new architectural practices. Future scenarios that can be considered within the scope of the sustainability of cities —covering physical, socio-cultural, political, ecological, and economic scales— are examined. The program consists of four consecutive semesters and each semester is structured in relation to each other. In addition to the general structure, workshops are held every semester that support and enrich the program of that period (Figure 1).

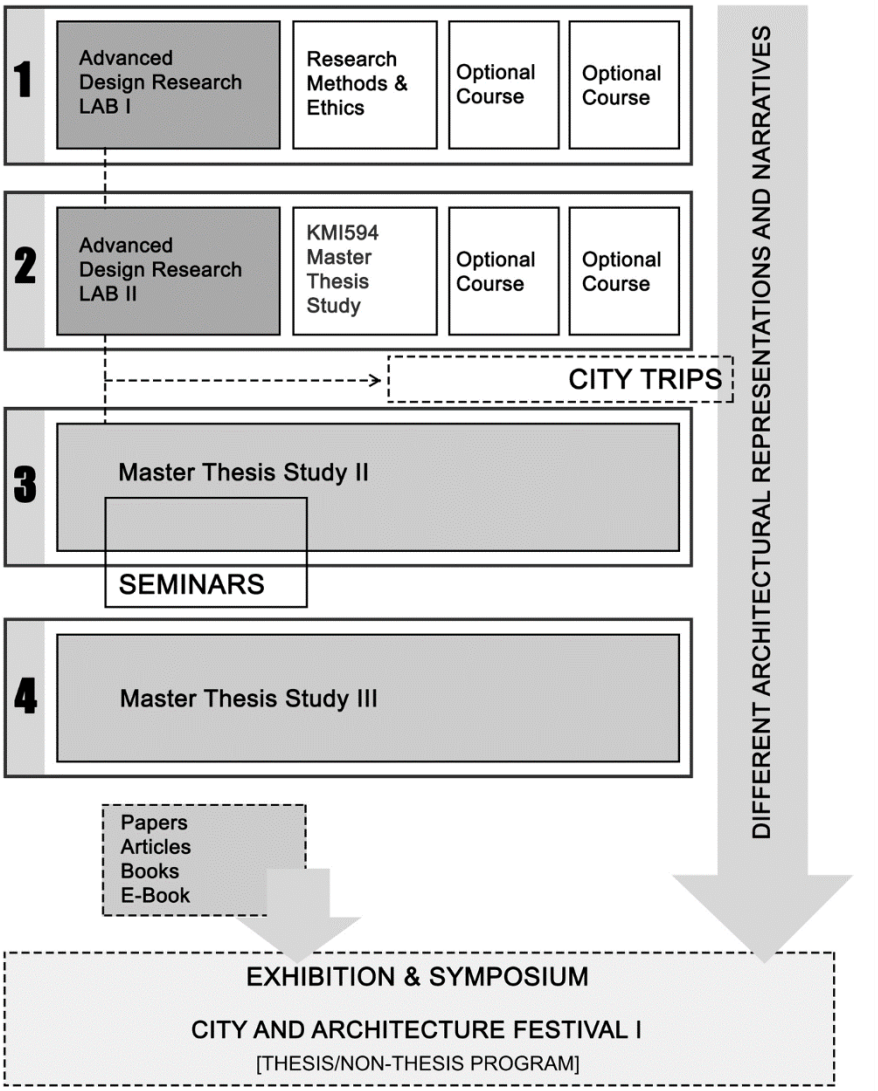

Figure 1. The structure of the City and Architecture Integrated Thesis Master's Program

The underlying principles of the KMI Program are informed by the general framework of culture-environment relations in the field of environment and behavior studies (Figure 2). Program's takes as its basis the integration of 'scale', 'content' and 'method.' The scale of research can range from a large scale to include the entire city of Istanbul and its peripheries and down to a neighborhood unit (from local to global). The content designates manifold aspects (tangible and intangible) of the essence of the urban environment. The method, which constitutes the scope of this paper, points to the process covering all stages of problem definition, determination of research questions, creation of conceptual and methodological frameworks, and production of new knowledge as a result of critical and creative forms of analysis and synthesis.

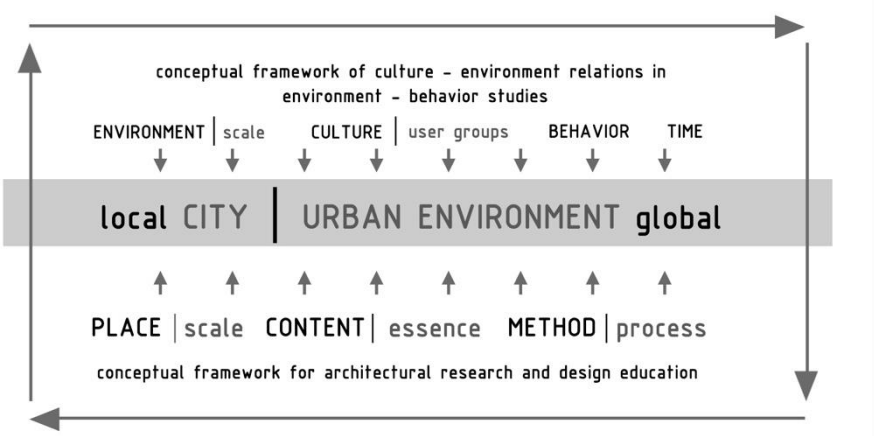

Figure 2. Conceptual relationships diagram forming the background of the City and Architecture Thesis Master's Program

2.2 The Methodology of KMI 594 Master's Thesis Study I

The subject of 'method' has a central place in scientific research practice. Crotty (1998) defines method as "the techniques or procedures used to gather and analyze data related to some research questions or hypothesis." Methods or "tactics", as it is defined by Groat and Wang (2013), are sub-elements of a broader methodological framework/approach on which a scientific research is based. Methodology is defined as "the strategy, plan of action, process, or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes" (Crotty, 1998). In a scientific research, the methodological approach includes the design of research as a process, the identification of its interrelated stages and the means of accessing and analyzing data. Therefore, the research design and the definition of methodological framework are as important as the intended output of the research process. The essential role of methodology is "to help us understand, in the broadest possible terms, not the products of inquiry, but the process itself" (Gray & Malins, 2004:17).

KMI 594 Thesis Study I course is taken in the 2nd semester of the KMI Program following the research LAB I course. KMI 594 Thesis Study I course was designed to guide student researchers through group work to identify their main research areas before finalizing their decision of individual thesis study topics. The thesis research areas of students are developed through seminar presentations and discussions held in collaboration with program directors and other students. Seminars are given by lecturers, invited speakers and the students enrolled in the course. Speakers, particularly from different disciplines, are invited to encourage discussions on varied architectural and urban issues through holistic and interdisciplinary perspectives. Student presentations are conducted within the scope of thesis studies and related subject areas. Due to its design and methodological framework, this course not only presents an innovative perspective on approaches to 'teaching research', but also has the potential to offer educational research by opening up pedagogical inquiries about 'research on teaching'. KMI 594 Master's Thesis Study I course encourages students to make inquiries of nontraditional data sources by using generic research techniques and tools through a cyclical and iterative process supported by continuous feedback from the course directors. The findings obtained by analyzing the data provide a ground for the reconsideration and improvement of both the theoretical framework and the methodological approach of research process. Research findings are represented through creative and interactive forms of representation, in harmony with the structure of the research process. Reflection by students on the representation of research findings triggers new analyzes and, thus, new knowledge is

generated. The methodologically innovative approach of the KMI 594 course cannot be considered independently of the content. In line with the content and scope of the KMI Program, it is also based on innovative approaches in terms of the way the course content is handled. Therefore, the KMI 594 course contains the elements of (1) content originality, (2) methodological originality, and (3) originality in terms of representation styles.

This article reports on pedagogical experiences from the development and teaching of KMI 594 Thesis Study I course. The main aim of this paper is to analyze the structure and stages of the research process conducted by students by using 'critical-creative-generative-iterative-interactive research tools', in order to showcase alternative architectural ways of knowing and knowledge production. After forming research groups based on certain research topics in the field of city and architecture, the enrolled master students experienced a research process based on such an experimental research perspective. The groups, which were specialized according to their research themes, applied numerous analysis, generation, and representation practices in a cyclical way to support each other. The aim was to guide the students in the development of skills in 'designing a thesis research' based on a certain research topic, 'constructing a theoretical and conceptual infrastructure' and 'drawing an up-to-date framework'. It was started with the assumption that the design and research processes, as two modes of inquiry, are structurally similar to each other, since they both dwell on "generative-methodical thinking" (Bachman, 2010: 2). In such a framework, literature review is based on the examination of the current and emerging literature fed by innovative research paradigms, and it also focused on Istanbul studies in line with the focus of the City and Architecture Thesis Master's Program. The 'new readings' of the literature addresses the studies that examine new research topics about the 'new city', as well as the existing urban context. 'Non-traditional data sources' are included and 'creative and interactive representation forms' (conceptual mappings, diagrams, joint graphics, etc.) are used in the stages of constructing and realizing the research process and revealing and representing the research outputs. In this way, the course aimed to guide the students to develop different ways of seeing and evaluation, which is supported with the use of multiple visualization methods in research processes (Gray & Malins, 2004). The ultimate goal was to help them analyze, interpret, and restructure the data and produce new knowledge out of such critical, generative, and iterative process (Fig. 3).

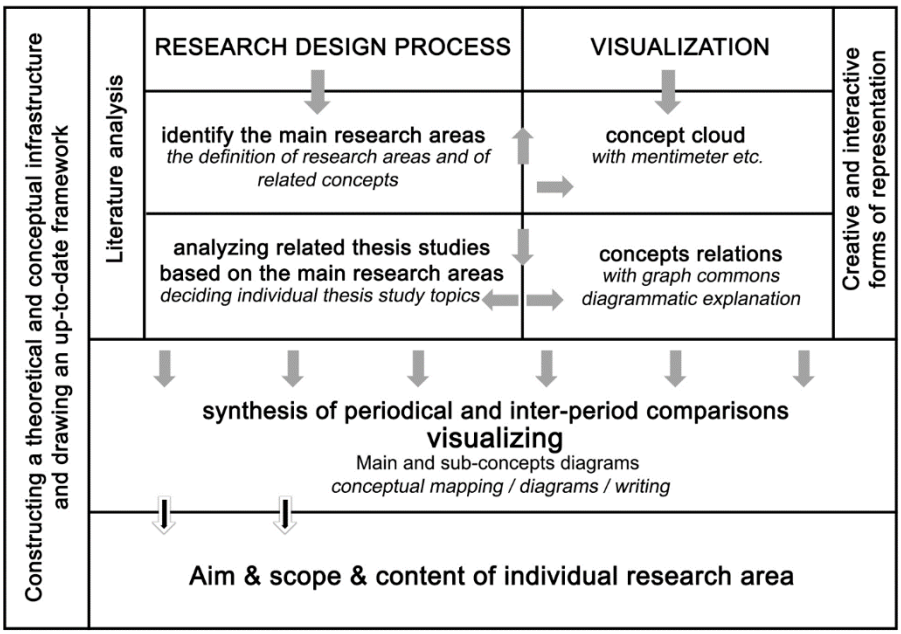

Figure 3. The structure of the research process of the KMI 594 Thesis Study I course

The next part of the paper dwells on the evaluation of the research outputs of the KMI 594 Thesis Study I within the framework of 'generative capacity of research method' and the 'visualization of the research.'

3. APPLYING NEW METHODS IN KMI 594 MASTER'S THESIS STUDY I

In the spring semester of the 2020-2021, the KMI 594 Thesis Study I course started with the formation of research groups and the definition of a field of study for each group, in harmony with the research areas that would constitute the initial framework of students' thesis studies. The research groups analyzed the 'national' literature the related thesis studies on the manifold aspects of the 'new' city and 'new' architecture. They developed synthesis of the analysis of periodical and inter-period comparisons. It is aimed to develop recommendations about the purpose, scope, and content of each student's individual study fields. Students were expected to develop a general conceptual framework by making conceptual mapping out of the literature analysis in their main research fields. They analyzed thesis studies conducted in Turkey related to their subject areas and grouped these studies in the subject area, listed and clustered the key concepts for each 10-year period (1980/1990, 1990/2000, 2000/2010, 2010/2020). The research process was composed of two stages; the first stage was based on the review of national theses produced in 40 years, pointing to the acceleration of transformation and globalization in Turkey. This was followed by the second stage in which the publications produced between January 2020 and November 2021 were analyzed in recognition of the fact that COVID-19 pandemic has generated a breaking point for the emerging research on architecture in the context of the city.

Rather than elaborating on the structure of the whole research process conducted in the course, this paper aims to make a methodological analysis of the research outputs inquiring the 'generative' potential of the 'method' and the strategies and tools used for 'visualizing' the research.' The case-based methodological analysis is re-contextualized into the discussions of the related literature on methodological research and knowledge visualization.

3.1 Generative Capacity of Method and the Visualization of the Research in KMI 594 Master's Thesis Study I

The skill of conducting research is directly related to the design of research process and the definition of methodological framework to be applied in which knowledge is restructured and/or new knowledge is generated. The innovative use of existing research tools and/or the development of innovative methods play a critical role for the research practice (Lé & Schmid, 2020). In the view of Friedman (2002), as a researcher focuses on and inquires methodological approach, this supports the potential to develop and apply new methods in the research process. Within the scope of the KMI 594 course, the students were expected to design research processes that formed the starting point of the main concepts on which they were based, put them in a certain conceptual framework and develop their own methodological approaches. In the process, they were encouraged to question the generative capacity of the research method.

The students analyzed the literature on the new city, regenerative, resilient cities, and architecture in order to structure the theoretical and conceptual framework of their individual research studies. Contextually, the aim was to reveal the main theoretical approaches that constitute the conceptual framework for the fields of study defined by each group through certain main concepts, the relevant primary, secondary and subsequent concepts, the relationship between them, the ways these concepts are examined and/or changed and the emergence of new concepts in research over the years. To this end, the following three questions were expected to be answered: (1) Have you encountered any research trends in 10-year periods? Or was there a continuation of certain research traditions? (2) Have there been any significant changes in the problem area in the ten-year period? Discuss the transformations in problem definition and epistemic changes etc., (3) Can you identify priority and marginalized situations related to the research area? Within this framework, the necessity of developing a method to reveal a holistic network of conceptual relations emerged (Figure 4). Through the digital databases of university libraries, the web page of the Thesis Center of the Higher Education Institution Publication and Documentation Department, and the international thesis databases such as ProQuest, the students scanned a large number of theses and determined which sub-concepts were discussed for each 10-year period in relation to the main concepts.

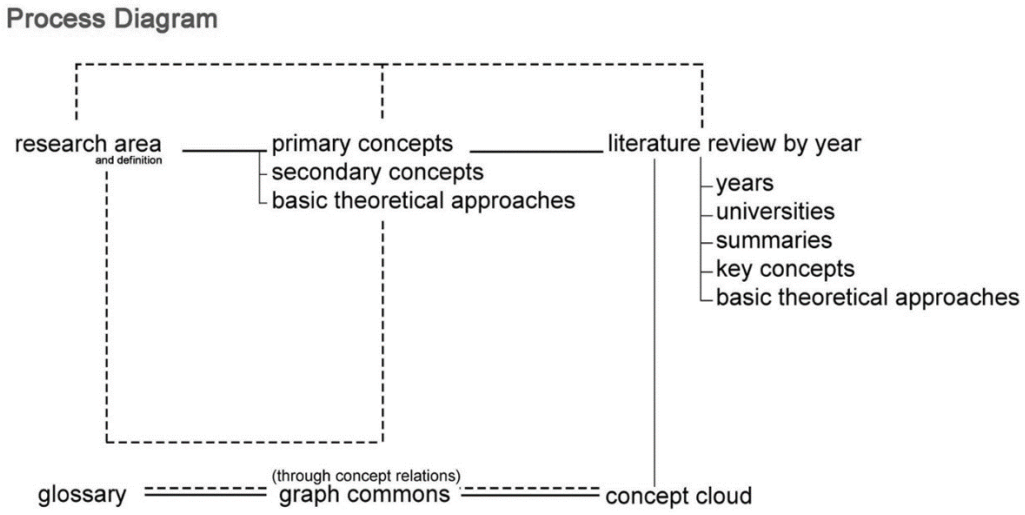

Figure 4. Diagram of the Executed Research Process

Research as a mode of inquiry is expected to be analytical, creative and generative (Bachman, 2010) and this nature of inquiry dwells on the cyclical relationship between the methods of research and representation. A creative and generative research approach includes not only the representation of research results, but also the practices in which representation turns into a tool for questioning, restructuring knowledge, and producing new knowledge. In the literature, this aspect of research is discussed through the concepts of "visualizing research" (Gray & Malins, 2004), "data/knowledge visualization" (Eppler & Bukrad 2004; Moere 2007; Hemmersam et al., 2015) or "knowledge mapping" (Acar, 2019; Arslan, 2019). Within the scope of KMI 594, the research methods and visual representation tools are not considered as independent and successive elements, but as elements that shape and affect each other directly in a cyclical process. Data visualization approaches were designed to describe the holistic web of relationships and the dynamic hierarchy between primary concepts and sub-concepts in the research field, as a result of the approach through which data was collected and analyzed. Each group developed new forms of representation compatible with the structure and methodological approach of the research. Therefore, representation tools served to visualize the research process itself, beyond presenting the research findings. Representation forms became components of a process that extends to the reorganization of the data collected during the research period through analysis, interpretation and synthesis filters and the generation of new knowledge.

It is important to develop a systematic research approach that covers not only using research and representation tools in an innovative way, but also developing a holistic and critical perspective on the research field. However, using research and representation tools in an innovative way, or using innovative research and representation tools, cannot be reduced merely to the competence of using digital tools. The digital tools should be used in a creative and generative way, which necessitates the ability to integrate different tools by developing original strategies, the development of diverse forms of analysis and representation through an iterative process. Thus, the structuring of a methodological approach requires operating critical and creative thinking skills. For Jayaratna (1994), the methodical approach informs a researcher's thinking and doing practices through questioning and evaluation, and has the potential to be "creative and transformative". When the concept relationship diagram of Group 2 is examined by years, 10-year periods are defined as horizontal lines, sub-concepts that are seen in relation to the main concepts in their research fields (space-time-perception-experience-culture) are specified in each 10-year period and the font size gets bigger and smaller depending on the frequency of concept in the theses (Figure 5). In addition, horizontal concepts are associated with vertical graphic elements in a way that allows comparative analysis between 10-year periods, and the change of the frequency of chronologically related concepts is emphasized through the thickness/thinness of the vertical line. The colors of the graphic elements that establish vertical relations also change. These colors reflect the color legend of the four main concepts as the initial references for the research area specified by each group. For example, the concept of "migration" is associated with the main concept of "culture" and expressed in yellow, and the concept of "city image" with the main concept of "perception" expressed in gray. Thus, unlike a table containing the main and sub-concepts, this form of representation forms a basis for analyzing and interpreting the conceptual relationships (horizontal) and the conceptual interactions between periods (vertical) and to reach a synthesis from it.

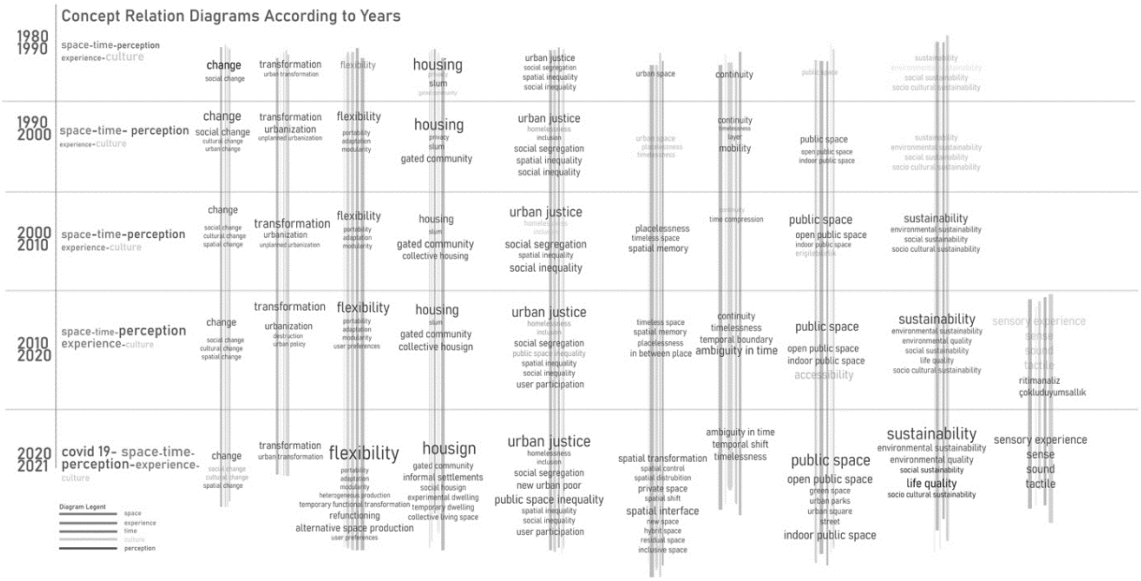

Figure 5. Primary and secondary concepts in all 10-year periods by research group 2

In KMI 594 course, students developed creative diagrams and mappings individually using generally known techniques. Looking at the concept relations diagram of group 3 by years, the continuity of the main concepts of the research group (public space, urban space, identity, urban design, and urban morphology) in 10-year periods was expressed with horizontal lines and separated by colors (Figure 6). While the sub-concepts that emerged in different 10-year periods are expressed with horizontal lines, the relationship between these sub-concepts and the primary concepts was created by using the same color tones, and the frequency of using the concepts in the theses produced in the period under review was expressed by increasing and decreasing the thickness of the horizontal lines (as a grading method). Unlike the representation of group 2, it is not possible to make a reading on how concepts change/interact between 10-year periods in group 3's work. The lack of definition of vertical relationships to show chronological transformation/continuity can be considered as a deficiency in the study of this group.

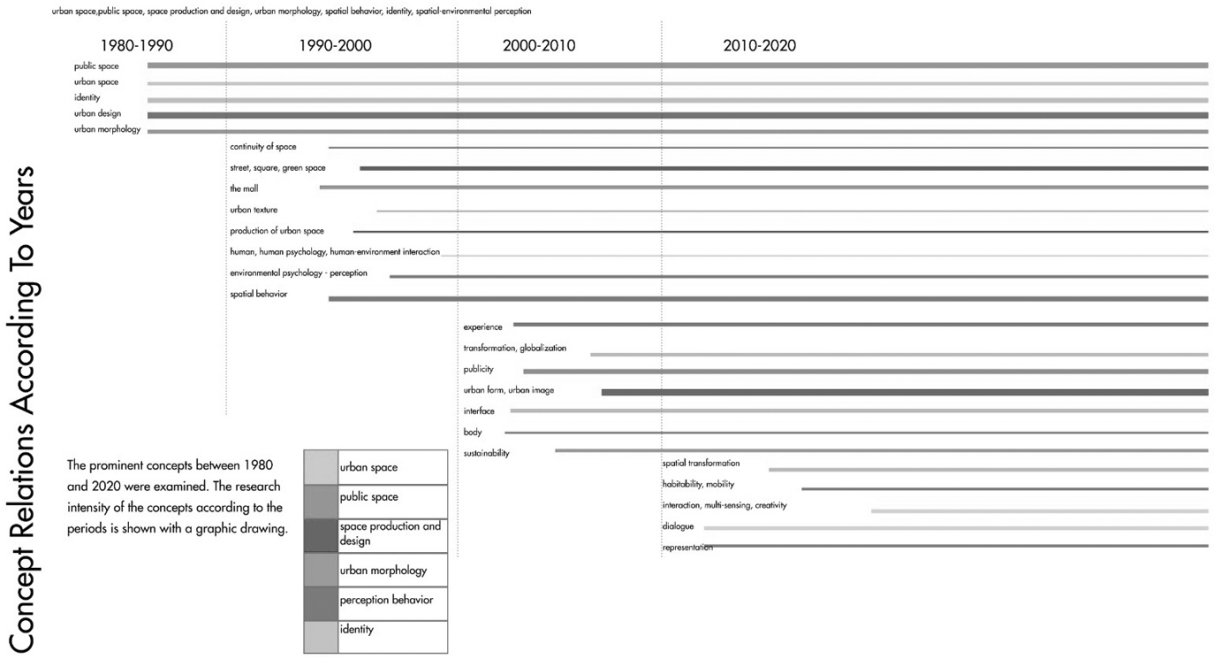

Figure 6. Concept relations by all 10-year periods by research group 3

Mapping, as a cartographic tool, is based on visual representation of varied forms of data serving for human cognition. Thus, visualization plays a central cognitive role in mapping. MacEachren (1992:101) note that visualization is “first and foremost an act of cognition, a human ability to develop mental representations that allow geographers to identify patterns and to create or impose order.” In a similar vein, Moere (2007:71) describes the objective of a visual representation as “empower[ing] humans to detect patterns and derive interferences out of visual form.” Therefore, it is possible to say that mapping serves for the act of learning by visualizing knowledge with different forms and by revealing the relationship and interaction between them and the principles and insights that can be derived from this relationality. The “mapping” techniques applied within the scope of the KMI 594 course served to produce a conceptual context regarding the research areas of the groups through the visualization of the research process and its findings. This conceptual context, created by the visualization of information, helped to reveal the relationships and possible patterns between concepts through perception.

The difficulties of analyzing and interpreting the relationships between concepts in the diagrams (Figure 5 and Figure 6) showing concept relationships for all 10-year periods were eliminated with concept clouds and Graph Commons studies. The concept cloud method (Figure 7), beyond presenting together the main concepts covered in the theses scanned in each 10-year period, provided a visual expression in which the scale of the concepts grows according to the frequency of their usage in the thesis studies. In the study of group 5, it is seen that the approach of concept scaling was taken one step further and the rates of the sub-concepts that were prominent in the theses scanned between 1980 and 1990 are also represented by horizontal bars (Figure 8). Although both methods enable seeing the prominent sub-concepts in the theses scanned according to the main concepts of the research area for

a certain period and to produce an idea about the hierarchical situation between them, they do not help analyzing how the concepts interact with each other and how they cover each other. Using the Graph Commons method was meant to fill such a gap.

Figure 7. Concept Cloud created through the theses examined between 2000-2010, research group 2

Figure 8. Concept cloud created through the theses examined between 1980-1990, research group

By using the Graph Commons method, as can be seen in Figure 9, it was possible to comprehend the sub-concepts that the concept of “urbanization” is associated with (modern life, unplanned urbanization) and the concepts (time, perception, memory, identity, etc.) that they interact with. Graph Commons enabled not only visualizing the peripheral concepts with which a sub-concept is separated from the holistic conceptual network, but also elucidating the relationships of both the main concepts and related primary concepts in the research area holistically (Figure 10).

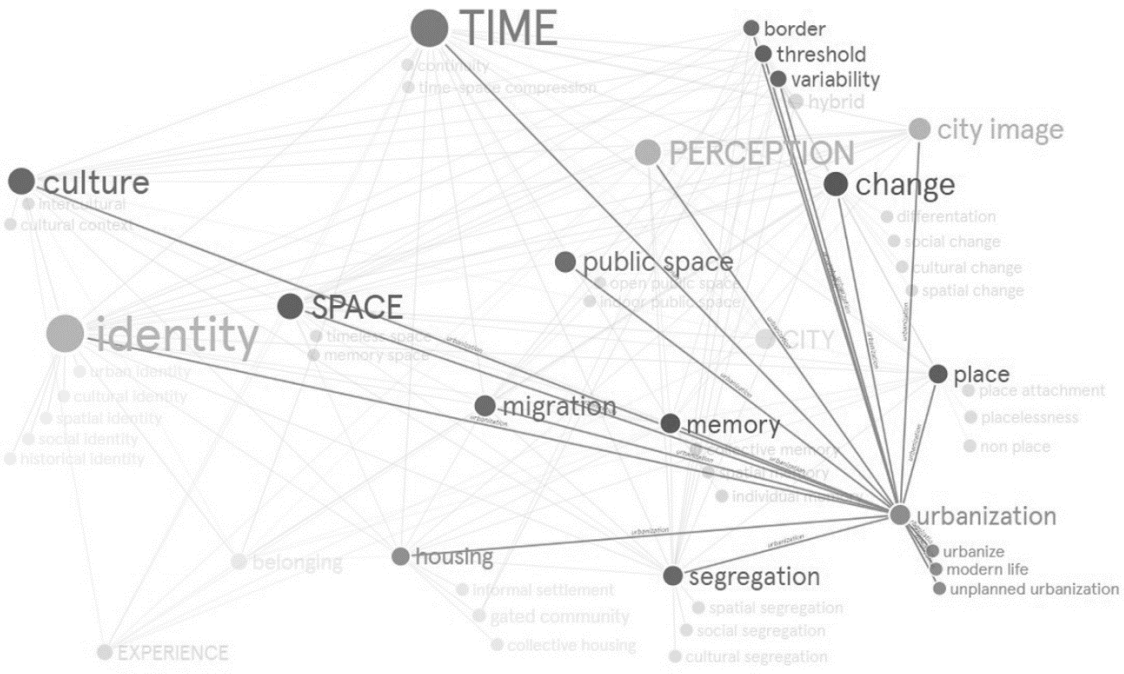

Figure 9. Graph Commons diagram of the network of relations for “urbanization” concept through the Theses Examined Between 2000-2010, research group 2

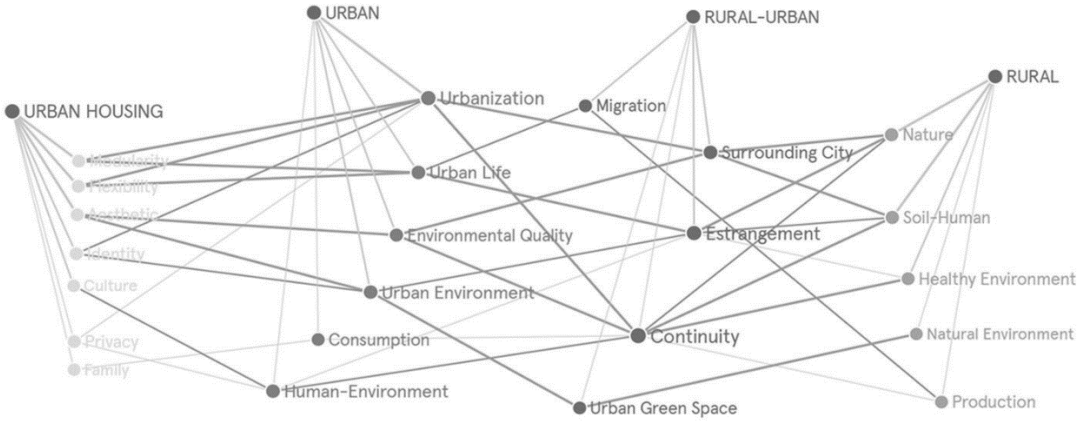

Figure 10. Graph Commons diagram of the network of relations through the Theses Examined Between 1980-1990, research group 5

Mapping has the potential to reveal patterns of repetitive concepts, to make visible the relationships between keywords and concepts by processing them in complex and relational ways and, thus, to pave the way for generating new knowledge. According to Arslan (2019), mapping is a performative act that combines conceptualization and visualization. The essential objectives of conceptual mapping are to organize knowledge, define a network of relations to reveal the hierarchy between them, and hence generate new knowledge. Accordingly, mapping is 'generative' as much as it is 'representative'.

The main concepts of the research group 4, "utopia", "technology", "dystopia", "mobility", "sustainability", were included in the postgraduate theses prepared in different 10-year periods "Integrative Concept Relations Map" covering the years 1980-2021. The meanings of the concepts were examined and the changing semantic contents of the concepts in the literature were scrutinized (Figure 11). Additionally, periodic increases and decreases in the rates of dealing with these main concepts were expressed with linear graphic elements. The purpose of the "comparative analysis of findings and interpretation" map of group 5 covering the years 2000-2020 was to show how research focuses have changed in the theses, whether there was continuity in the periodic treatment of the main concepts, and the new sub-concepts that have emerged in the relevant field through a holistic diagram (Figure 12). The sub-concepts that the main concepts of "urban housing", "city", "rural-urban", and "rural" are discussed in each 10-year period in thesis studies were expressed by creating a certain color legend for each period. Inferences were made for the sub-concepts defined in different periods to be supported by which concepts in the following periods and for possible conceptual relations. In addition to this, a path was created by explaining the factors (breaking points) that changed the way the concepts were examined or the emergence of new concepts to be explained and associated with arrows. Although the visualization tools and strategies are different in Figure 11 and Figure 12, data is reorganized, brought together in a new fiction, a new "conceptual context" is created and a "meaning" based on interpretation is made through this "new conceptual context" (Acar, 2019).

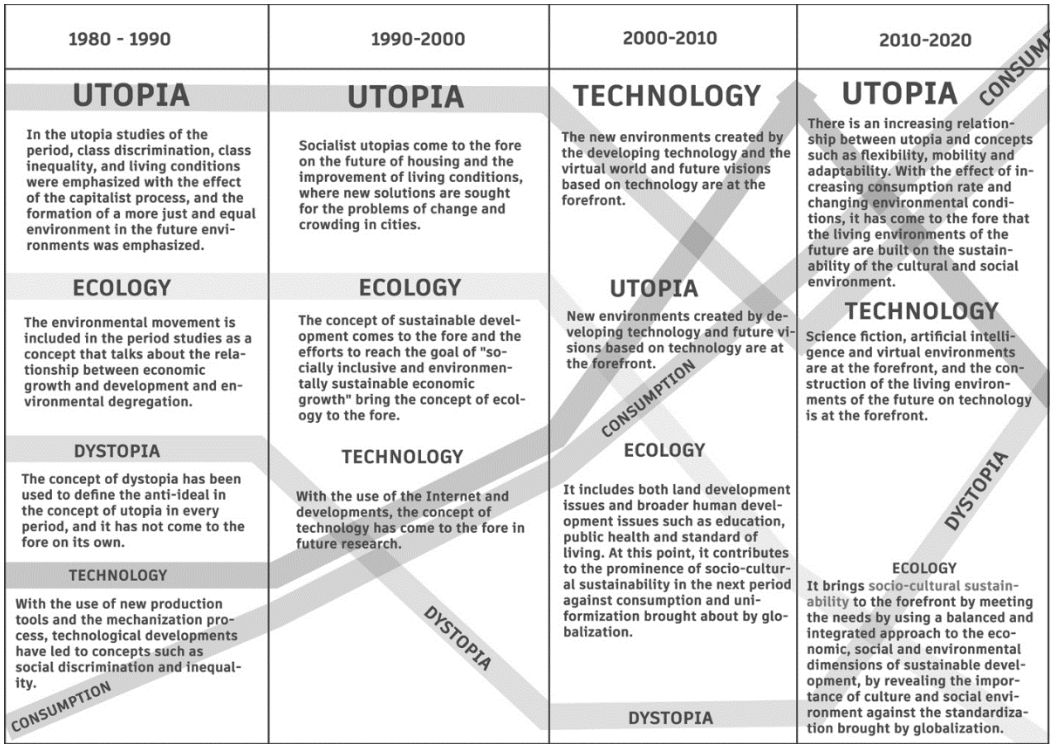

Figure 11. Holistic concept relationship map, 1980-2021, research group 4

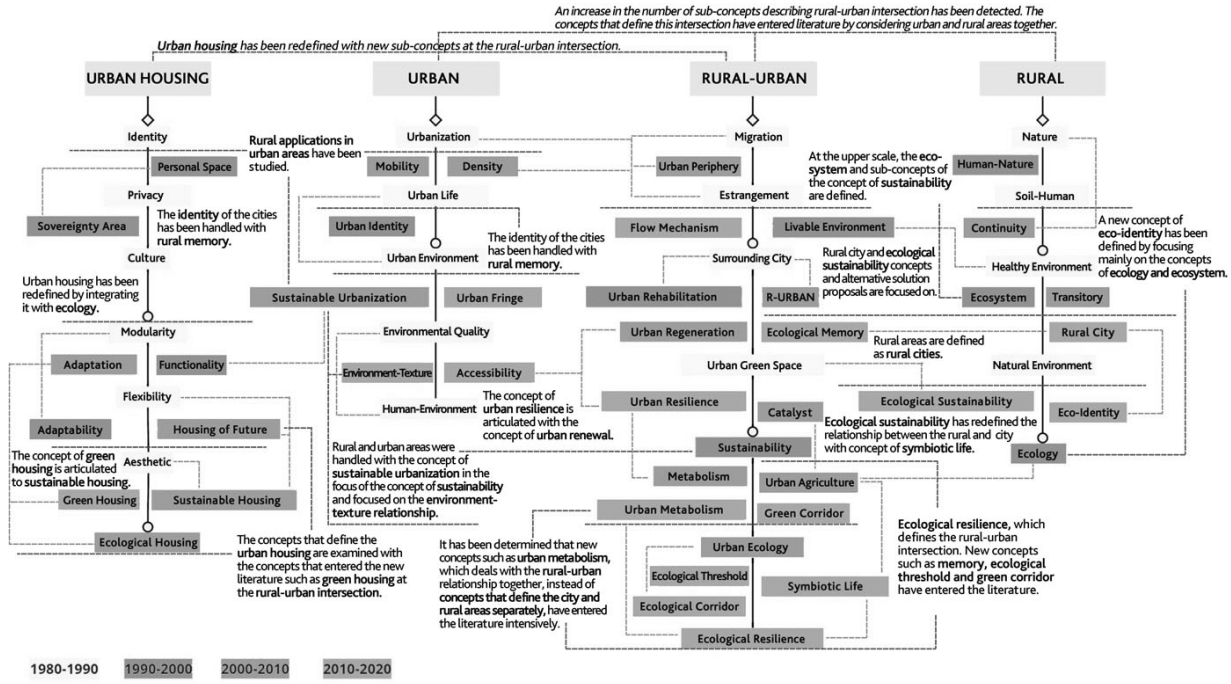

Figure 12. Comparative analysis and interpretation of findings through literature review / 2000-2010 vs 2010-2020, research group 5

The generative potentials of the research method were examined and the contributions of research visualization tools to critical and creative interpretation for the reconstruction of knowledge were discussed. In the process of their thesis research, which they carried out within the framework of their main concepts, the research groups tried to develop future projections for their fields of study as well as revealing the research trends covering the years 1980-2021. For example, as a result of group 5's research, when the thesis studies on the main concepts of “urban housing”, “urban”, “rural-urban”, and “rural” between the years 1980-2021 were examined, the research focus was on the relationship between “urban and rural”. Due to recognition of “urban/rural emphasis on the theses, it has been predicted that "naturalization of the city" and "urban housing" will be discussed frequently in future graduate studies (Figure 13). An urban housing perspective was developed by bringing together the relevant images through the collage technique, and the naturalization of the city was visualized with the help of a cross-section. Visuals about the cities of the future were produced by using creative analysis and visualization methods.

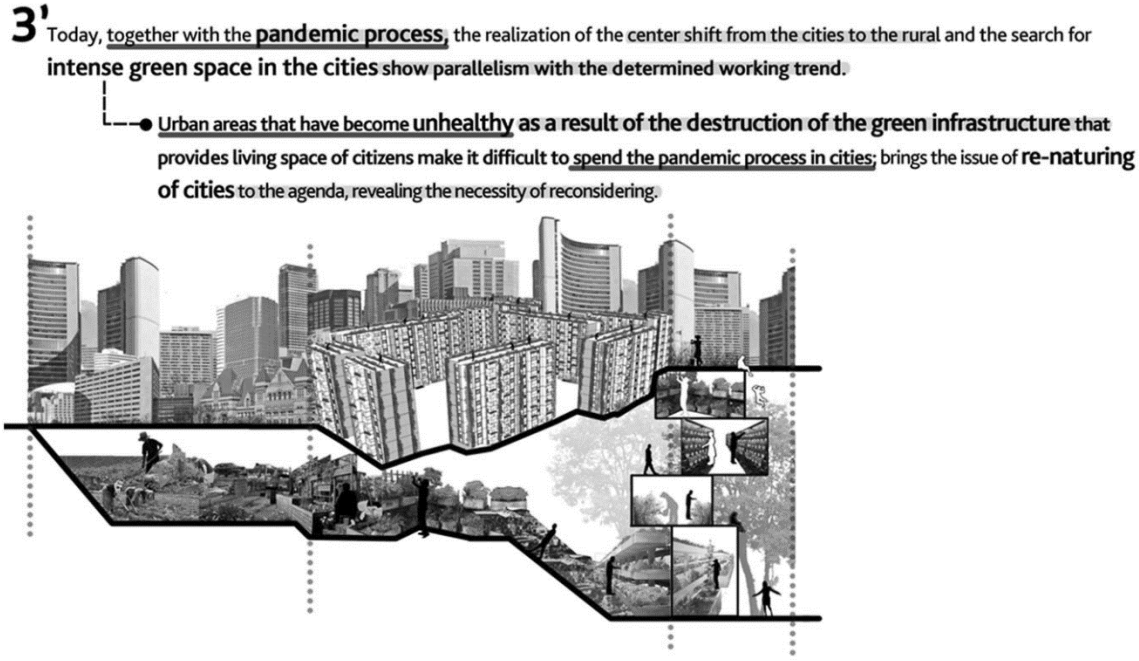

Figure 13. Future projections for the study area: Urban naturalization and urban housing.

4. CONCLUSION

Current multidimensional changes and transformations in the city that accelerated academic discussions on ‘new city’ and ‘new architecture’ necessitated the researchers to reconsider the issue of ‘methodology’ in architectural research in new perspectives and strategies. Within this framework, multidimensional and experimental approaches to architecture in the city context are essential.

The aim of this paper was to contribute an inclusive insight into methodological research in architecture in the city context based on the analysis of the methodological framework and the research outputs of KMI 594 Thesis Study I course, as part of City and Architecture Integrated (Thesis) Master's Program, Özyeğin University Faculty of Architecture and Design. In KMI 594 course, the content and the methodological approach are structured and applied in a way to complement and generate each other; as the content changed, the methods and tools were also reconfigured. This study revealed that research methods can be utilized as generative tools by applying critical, creative, and iterative visualization techniques. Students of KMI 594 course as researchers have developed unique visualization strategies using creative analysis and synthesis techniques. These visualization strategies have played a role in reframing and reconstructing the content of the research through iterative feedback processes throughout the semester. One of the most important achievements of the course, by examining the generative potential of the method, is that the researchers were able not only to collect and analyze data, but also to transform existing data sets into new information through unique visualization strategies. An inquiry of the methodological approach applied in the KMI 594 course revealed the critical role that the combination of ‘content’, ‘method’, and ‘scale’ plays in new approaches to architectural research in the context of the city.

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REFERENCES

Acar, Y. (2019). Bilginin haritalanmasi: Bilgi, ilişkilendirme ve temsil. *Dosya 42: İlişkisel bir Eylem Olarak Haritalama*, Aral, E. A. (Ed.), TMMOB Mimarlar Odası Ankara Şubesi, 19-25.

Arslan, P. Y. (2019). Kitabin performansi ya da basılı bilginin haritalanmasi üzerine. *Dosya 42: İlişkisel bir Eylem Olarak Haritalama*, Aral, E. A. (Ed.), TMMOB Mimarlar Odası Ankara Şubesi, 39-47.

Bachman, L. (2010). The teaching of research and the research on teaching: Two frameworks and their overlay in architectural education. *ARCC Journal*, *7*(2), 1-9.

Crotty, M. (1998). Introduction: The research process. In *The Foundations of Social Research: Meaning and Perspective in the Research Process*, 1-17. Sage.

Eppler, M., & Burkhard, R. (2004). Knowledge visualization: Towards a new discipline and its fields of applications. (Working Paper No. 2/2004). Retrieved from https://doc.rero.ch/record/5196/files/1_wpca0402.pdf

Friedman, K. (2002). RTI Discussion List (rti@jiscmail.ac.uk), 25 January 2002, Subject: method and methodology.

Gray, C. & Malins, J. (2004). *Visualizing research. A guide to the research process in art and design*. Ashgate.

Hemmersam, P., Martin, N., Westvang, E., Aspen, J., & Morrison, A. (2015). Exploring urban data visualization and public participation in planning. *Journal of Urban Technology*, *22*(4), 45-64. https://doi.org/10.1080/10630732.2015.1073898

Jayaratna, N. (1994). *Understanding and evaluating methodologies.* McGraw Hill.

MacEachren, A. M. (1992). Visualization. In R. F. Abler, M. G. Marcus and J. M. Olson (Eds.), *Geography's Inner Worlds*, 99-137. Rutgers University Press.

Moere, A. V. (2007). Aesthetic data visualization as a resource for educating creative design. From information visualization over ambient display to data art. In A. Dong, A. V. Moere, & J. S. Gero (Eds.), *Computer-aided architectural design futures: Proceedings of the 12th International CAADFutures Conference 2017*, 71-84. Springer.

Salama, A. (2019). Methodological research in architecture and allied disciplines philosophical positions, frames of reference, and spheres of inquiry. *Archnet-IJAR: International Journal of Architectural Research*, *13*(1)1, 8-24.

Shmelev, S. E., & Shmeleva, I. A. (2009). Sustainable cities: problems of integrated interdisciplinary research. *International Journal of Sustainable Development*, *12*(1), 4-23.

Thering, S. & Chanse, V. (2011). The scholarship of transdisciplinary action research: Toward a new paradigm for the planning and design professions. Theme issue of *Landscape Journal*, *30*(1), 6-18.

Voigt, K., Graff, U., & Ludwig, F. (Issue Eds). (January 2021). Research perspectives in architecture. *Dimensions. Journal of Architectural Knowledge*.

Rehousing Interior Architecture

How the relocation of the Provincial Higher Architecture Institute in Hasselt, Belgium, reshaped its interior architecture program

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ABSTRACT

The Provincial Higher Architecture Institute – one of nine Belgian institutes offering a full day-course of interior architecture alongside a course in architecture– was initially based together with an art school in a late-1950s functionalist, modernist building in Hasselt. In 1987, the school moved to a structuralist campus building in the Limbourg University Center in Diepenbeek. The new building's configuration was to a certain extent inspired by the Bauhaus: open classrooms and a central forum had to facilitate interdisciplinary communication and collaboration. While the relocation was imperative because of the increasing number of architecture students, it was also a crucial step in the architecture discipline's professionalisation and the privatisation of its knowledge. However, many interior architecture teachers protested the move and formulated alternatives that are more typical for the interior architecture discipline: expanding the existing building or repurposing vacant buildings in the city center. By examining the spatial patterns of the 1950s modernist building and the 1980s campus building at different scales, this article aims to scrutinize the compatibility between the latter building and the desiderate of the teachers of both architecture and interior architecture programs, and what the relocation's pedagogical consequences were. By so doing, it also aims to understand if and to what extent the architecture program dominated that of interior architecture.

Keywords: Interior Architecture, Education, History, Relocation, Belgium

1. INTRODUCTION

Founded in 1955, the Provincial Higher Institute for Architecture and Applied Arts (P.H.I.A.T.K.) in Hasselt, Belgium, was located in the building of the Provincial Business School and offered evening courses in the arts and construction drawing. After the addition of a branch of fulltime higher education in 1958 – comprising architecture, interior architecture, glass painting, ceramics, smithing, publicity, sculpture, and graphic arts – the school received its own building from the provincial government (Bosmans & Draye, 1959). Completed in 1962, it was a late modernist, functionalist building designed by brother Hendrik J. Machiels – who also became the first school director in 1955 – and engineers J. Draye, J. Bosmans, and Hubo. It was characterized by a prefabricated concrete structure with modular façade panels (Nivelle, 2021; Roux 2021). The three branches of the P.H.I.A.T.K. – higher art education, higher architecture and interior architecture education, and higher secondary art education – were initially housed in the building's three wings, interconnected by a corridor. Eight years later, in 1970, the P.H.I.A.T.K. split into the Provincial Higher Architecture Institute (P.H.A.I.) and the Provincial Higher Institute for Art Education (P.H.I.K.O.) but stayed in the same building.

Figure 1. Aerial photograph of the late-1950s building, flanking Hasselt's outer ring road to the North. Credits and date unknown

Figure 2. Plan of the central wing (upper left) and Eastern wing (bottom right) of the late-1950s building (North is facing upwards), By Machiels, Draye and Jacobs, 1969. Provincial Archives Limbourg, Provincial Building Department, Box 495.

Figure 3. South facade of the Eastern wing. Picture by author (2021).

Figure 4. Photograph of the corridor in the Eastern wing. Picture by author (2021).

In 1977-1978, a steep increase in the number of architecture students was expected, due to the Higher Architectural Education Act, which equated the architecture degree to a university degree. Indeed, the total student population increased from 246 to 338 in that academic year (Nivelle, 1980:39). Suffering from acute growing pains, the school and the provincial government sought refuge elsewhere: the building had already been extended several times between 1959 and 1976 (Jacobs & Draye, 1969). During the 1970s, the provincial government, and the architecture and interior architecture teaching staff started to discuss a potential new location for the P.H.A.I. (Berger, 2021). In 1987 it eventually moved to a new building, designed by the then director of the architecture school Adolf Nivelle, at the suburban campus of the Limbourg University Center (L.U.C.) in Diepenbeek, about four kilometers from Hasselt's Grand Place (Govaerts, 2022; Nivelle 2022). It was designed according to the principles of the Dutch Structuralism and strongly inspired by the design for Centraal Beheer by architect Herman Hertzberger in Apeldoorn (H. Froyen, personal communication, October 22, 2021). Among the resemblances, are the use of grey concrete bricks and the skylights with the balconies flanking

the atria underneath. Its complex visual and spatial relationships and its landscape-like circulation space are in stark contrast to the former, functionalist building. This article investigates the impact of the tension field between the interior architecture and architecture program at the P.H.A.I. through a study of the relocation of the school in 1987.

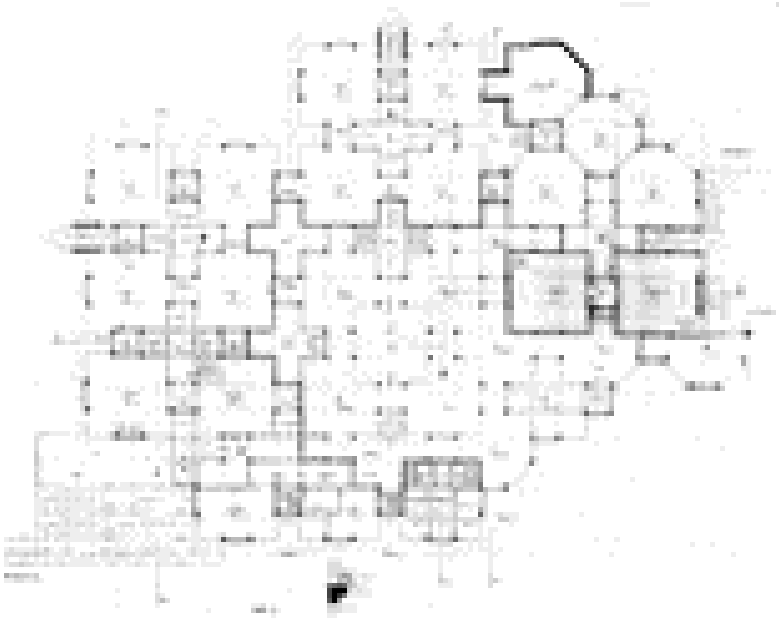

Figure 5. Floor plan by Nivelle and Delhaize Jaspers & Partners, 1982. Provincial Archives Limbourg, Provincial Building Department, Box 518.

Figure 6. Photograph of an atrium in the 1980s campus building in Diepenbeek. Picture by author (2021).

Figure 7. Photograph of Hertzberger's *Centraal Beheer* in Apeldoorn, 1972. Picture by © CODA Beeldbank, Jan Derwig, Willem Diepraam.

The relocation provided many opportunities for the architecture program, not in the least the prospect of joining the L.U.C., something which Nivelle aspired (Govaerts, 2022). The former director's ambition to join the L.U.C. resonates with Harold Wilensky's account on professionalization. In his article 'The Professionalisation of Everyone', he namely identifies five crucial events in the push for professionalization of a discipline, of which the following one is important here:

'The early recruits, or a client public or, less often, a professional association press for establishment of a training school. […] If these training schools do not begin within universities […], they always eventually seek contact with universities, and there is a steady development of standard terms of study, academic degrees, and research programs to expand the base of knowledge.' (Wilensky, 1964:144)

Joining the L.U.C. could solidify the position of the architecture degree within the higher education system. The design of the building in Diepenbeek shows Nivelle's desire to do so; the internal circulation street is connected to the main building of the university campus (ibid.). Yet not all teachers appeared to support the idea of moving to a suburban campus (Roux, 2021; Nivelle, 2021; Berger, 2021; Froyen, 2021). In fact, the division between proponents and opponents, according to former interior architecture teacher Hubert Berger and former architecture teacher, Gilbert Govaerts, coincided roughly with the division between the architectural and interior architectural program. 'The believers [proponents of the relocation to Diepenbeek] were mostly members of the architecture teaching corps, and they eventually made it' Berger stated in a recent interview (Berger, 2021).

Figure 8. Site plan of the central building of the L.U.C. (dark volume) and the 1980s campus building left of it (light hatch). By Delhaize jaspers & Partners and Nivelle, 1982. Provincial Archives Limbourg, Provincial Building Department, Box 518).

In contrast to the teaching staff from the architecture program, where most people either supported the relocation to Diepenbeek and the possibility of joining the university or did not have an opinion on the matter, a group of the interior architecture teachers vehemently protested it, mainly for two reasons. First, the relocation involved a physical separation from Hasselt's city center. Former interior architecture teacher Suzanne Van Gompel states: 'You know when we [the interior architecture teachers] protested? When we had to come here [Diepenbeek]. We said: "we won't go there, to sit amongst the cows"' (Klaps & Van Gompel, 2021).

Likeminded interior architecture teachers like Jos Roux and Hubert Berger, and teacher of art history Louis Coolen argued that an architecture school should be in close contact with Hasselt's urban fabric. They thus proposed to repurpose existing vacant buildings in the city center, an approach that is also more at the core of the expertise of interior architects:

An institute could be compared to a shopping street, but in a quieter environment, or directly connected to more busy places. That is why choosing for the people is important, logically within the city (in clear opposition to the situation of the L.U.C.). The city, the street, always attracts people, even if it is just a market where animals or goods are traded (P.H.I.A., 1975).

Figure 9. Distillery Theunissen, now Hasselt's gin museum. Picture by author (2022).

Figure 10. Hasselt's Beguinage, which the University of Hasselt will renovate to organise design studios. Het Belang van Limburg, 16 September 2016, p. 4. Picture by author (2022).

Possible alternatives included the Herckenrode Base – a group of buildings of which the gate building dates back to the sixteenth century – or the Distillery Theunissen and the Beguinage, both built in the eighteenth century (Roux, 2021; Berger, 2021; Dumarey, 2018). However, these plans were never realized.

Second, the split between the P.H.A.I. and the P.H.I.K.O. meant that the relocation to Diepenbeek would also result in a physical distance from the art school. This mainly impacted interior architecture teachers at the time, since the relationship between interior architecture

and the arts was much more developed than the relationship between architecture and the arts, according to Jos Roux:

I think that we, as [teachers in] interior architecture, preferred to remain with the art teachers, because we believed we had more in common in terms of artistic freedom […] than the architects. We thought the architects were too much occupied with drawing lines (Roux, 2021).

In other words, the relocation was perceived by the interior architecture teachers as having a disproportionately profound impact on the interior architecture program. Was that also the case?

Hence, this article focusses on the interior architecture program, and the overlapping and contrasting desiderate of both the interior architecture and architecture programs. What were the power relations between the two programs in Hasselt? How did it impact the relocation and vice versa? To answer this, we will reconstruct the story of the move from one campus to the other and compare the two situations, buildings, and pedagogy of the programs before and after the move. This will be done by means of archival research, oral history, and through an interpretation of the concept of spatial archaeology.

The archival research constitutes the base of the investigation and provides information in two ways. First, there are documents that provide information about the interior architecture program itself, which includes student lists, course schedules, teacher lists, and meeting reports about job applications. Other, more qualitative resources like course contents have not been preserved. Secondly, there are documents about the buildings. They include preliminary designs and reports, plans, sections, elevations, construction drawings, and correspondence between the provincial government, the school, the architects, and the construction companies. These documents were used during the interviews when the school buildings were discussed. Although the archival material provides detailed information about the building processes themselves, it lacks an overview of the actual completion dates and the process of the relocation itself.

That is where interviews with (former) teachers from both interior architecture and architecture are crucial. The interviewees include (former) interior architecture teachers Jos Roux, Hubert Berger, Suzanne Van Gompel and Johannes Klaps, and former architecture teachers Gilbert Govaerts (who also taught in the interior architecture program), Hubert Froyen, and school director Nivelle. They share their personal experiences about the relocation as well as their view on what the possible reasons for the relocation were. Also, if we want to investigate the power relations between actors (in this case the teaching corps of both programs and the school director who designed the new building and who played a major role in the relocation), oral history is crucial. After all, as Gosseye, Stead and Van der Plaat have argued, it is ‘the method par excellence for retrieving (or rescuing) the stories of those coproducers of architecture whose voices had remained unheard’ (Gosseye, Stead & Van der Plaat, 2019:13). In this case, we begin with the assumption that some voices within the teachers corps have remained unheard, namely those of the non-believers (i.e. those who opposed the relocation to Diepenbeek), to use a term coined by Berger. Oral history, as David Adams has explained, can ‘develop a more integrative dialogue with actors who are all intrinsically involved with the "making" and maintaining of a building’ (Adams, 2012:10).

Where archival material provides the framework of the story and oral history includes unheard voices within it, the buildings constitute the main theme of it. To examine them systematically, this article employs an interpretation of the concept of spatial archaeology.

According to Mark Gillings, Piraye Hacıgüzeller and Gary Cook, it is 'the isolation and interpretation of spatial patterns within archaeological evidence that relate archaeological activity in the present to the generative processes in the past that we are interested in' (Gillings, Hacıgüzeller & Cook, 2020:2). It departs from the assumption of essential human spatiality, meaning that 'space, spatiality, and spatial awareness are such fundamental parts of being human' (ibid.: 2). While the omnipresence of spatial experiences in human life can cause a certain blindness for spatial formations, it also provides (tacit) knowledge about daily activities and – in the framework of educational histories – past pedagogies (ibid.: 2). In this case, we scan the buildings across three scales, which are based on the recurring angle from which the interviewees themselves described the buildings: context, configuration, and classroom. For every scale, we identify a specific spatial pattern for each of the two buildings, to coin the term used by Gillings, Hacıgüzeller, and Cook. In this article, they are interpreted as spatial constellations with a certain ideological, political, and pedagogical charge. This entails both site visits with some of the interviewees and understanding the conceptual underpinnings of the architecture that is employed.

Iterating between archival research, oral history, and spatial archaeology allows three things. First, it provides both evidential (objects) and experiential (personal) information about the buildings and the power relations between the two programs. Second, the wishes of architects and interior architects are identified through the interviews and investigated to what extent their wishes have been granted spatially. And lastly, through the interviews, former teachers indirectly participated in spatial archaeology, which allowed to determine a particular focus for reading the buildings.

2. CUTTING ACROSS SCALES: SPATIAL PATTERNS

As mentioned earlier, we will scrutinize each building at three scale levels. Within each level, we identify a spatial pattern for each of the two buildings: extroverted versus introverted, serial versus field-like, and isolated versus connected. Each pattern has an ideological, political, and pedagogical significance.

The first and largest scale level is the urban scale, and the relation between the building as a whole and its surroundings. When the discussions about the relocation started in the early 70s, the relation with the nearby city center of Hasselt became an important point of friction. On the one hand, there was the possibility to move to the vacant buildings like the Distillery Theunissen or the Beguinage (Roux, 2021; Berger, 2021). On the other hand, there was a vacant allotment close to the already established suburban university campus of the L.U.C. in Diepenbeek (Froyen, 2021). This debate – between adaptive reuse and building anew – is also politically charged: the plan of the provincial government – who was at the time ruled by the Christian Social Party (C.V.P.) – to build a new campus building in Diepenbeek versus the more activist teachers from interior architecture, who advocated adaptive reuse, renovation and preserving urban fabric. Berger states that 'many old buildings have disappeared in the 70s, because of the emerging real estate market. At that time, the C.V.P. were in charge'.

The second scale refers to the building layout. This entails looking at how the building functions internally and how the programs are connected. Both the 1950s and the 1980s building have a very distinct circulation space and configuration pattern. The hallmark of the former is the 'long corridor' that connected all wings of the building: from the classrooms for secondary art education, along the workshops for the P.H.I.K.O., to the P.H.A.I. Before 1970, the long corridor had a major connection function. After the separation of the P.H.I.K.O. and the P.H.A.I. in 1970 because of the Higher Architectural Education Act, the door between the two buildings closed, blocking the circulation along the corridor, and physically separating the

two schools. The circulation space in the building in Diepenbeek, with its structuralist layout, has a similar connecting function, albeit in a different form. It is not a linear circulation space, but an organic one connecting several floors with each other. It is inspired by the organization of the Bauhaus and the philosophy of Herman Hertzberger, as some teachers explained, and is reminiscent of Gropius' famous Bauhaus Manifesto: 'Let us strive for, conceive and create the new building of the future that will unite every discipline, architecture and sculpture and painting' (Gropius, 1919). It appears that this unity, this collaboration between architecture, interior architecture and the arts is at the core of the P.H.A.I.

The third scale refers to the spatial units within the building. Here we chose to focus on the spatial pattern of the classroom in both buildings. It is important to understand how the classroom fits into the whole, and how it enabled or inhibited upscaling of the student population. The original building, with the floor area of most classrooms ranging from 63 m2 to 81 m2, proved too restrictive and too small, even after several attempts to expand the building. Bigger and adaptable classrooms do not only provide space for more students, but also bring about a completely different way of teaching. The pedagogy changed drastically: from personal and small-scale courses to large-scale depersonalized teaching (Klaps & Van Gompel, 2021).

Hereafter, we will discuss each scale in more detail.

2.1 Pattern One: Context

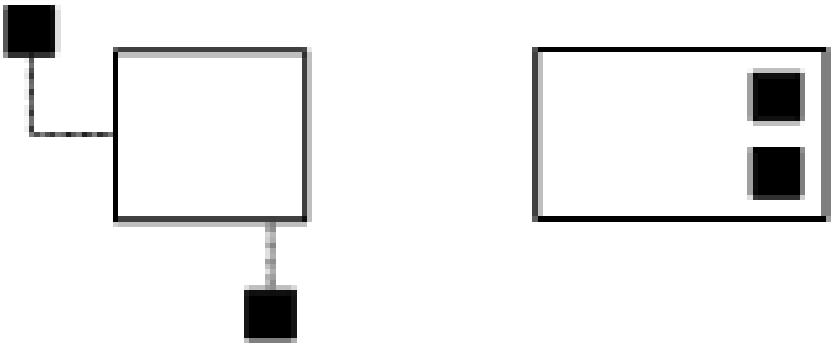

Figure 11. Spatial Pattern before (left) and after (right) the relocation. From extroverted to introverted.

From ca. 1962 until 1987, the architecture school was located in the Elfde-liniestraat, about 1.3 km from the Grand Place in Hasselt. Positioned within the transition zone between the urban fabric of Hasselt to the South-West and the green spaces along the river Demer in the East, the school was provided a large allotment that was easily accessible from Hasselt's city center. During the construction of the outer ring road in the 1960s and 1970s, the school benefitted from the significant earthworks by expanding the subterranean crawlspaces and turning them into classrooms (Nivelle, 2021). In the immediate surrounding of the P.H.A.I. were other schools, like the Business School and a vocational school for woodworkers and welders.

Interior architecture teachers like Jos Roux, who taught furniture design and construction from the mid-70s until his retirement in 1997, established contacts with several vocational schools in Maasmechelen, Sint-Truiden, Lommel, and Hasselt (P.H.A.I., 1981). Besides providing furniture models for interior architecture students to measure and draw, vocational students built furniture elements designed by interior architecture students. Roux explained 'Students designed a furniture piece during the first term, to the last detail. Then we went to these technical schools and they would manufacture [those pieces]. By Easter, the pieces of furniture designed by the [interior architecture] students were finished' (Roux, 2021). This

collaboration had a clear pedagogical impact: students learnt to be involved in the manufacturing process of a piece of furniture they designed. When plans to move to Diepenbeek started to emerge around 1975, several teachers, including Jos Roux, would come up with alternative sites in the center of Hasselt, in the hope to preserve these collaborations. At the same time, they sought to make better use of facilities already available in the city center. Berger illustrates:

In the Distillery Theunissen, you cannot fit in a library or an auditorium [but] on the corner there was the provincial library. We wanted to connect that, to go further than the interior. We even made urban plans, to create alleyways (Berger, 2021).

In a similar fashion, Roux states that 'it made no sense to go to Diepenbeek, where completely new infrastructure had to be created' (Roux, 2021). So, in essence, interior architecture teachers were arguing that by repurposing existing buildings in or near the city center, urban facilities could function as supporting infrastructure for the school. By moving to Diepenbeek, surrounding infrastructure like the vocational school for welders and woodworkers had to be embedded within the building of the new school. A workshop was provided for the architecture and interior architecture students, with a gradually expanding machine park. The switch had pedagogical and organizational consequences. First, students had to produce their own furniture, which altered the role of craftsmanship in the program. And second, the school's relation to its context changed: from a more extroverted pattern to an introverted one.

Figure 12. Aerial photograph of Hasselt, 1971. Geopunt Vlaanderen.

Figure 13. Photograph of the corridor in the basement of the late-1950s building, after expansion in 1959. Picture by author (2021).

Figure 14. Classroom on basement level. Picture by author (2021).

Behind the debate on the location of the new school and how it connected to its environment, lies the discrepancy between the approaches of architects and interior architects when it comes to the built environment. During the 70s and 80s, interior architecture studies were still very much confined to building interiors. Among the different approaches towards interiors that interior architect and Professor Inge Somers discusses in her PhD, interior space as a physical space is here the most relevant one. 'The focus of this tendency is working within the conditions of architectural confines, the interior is considered as a given space within an existing material context or enclosure' (Somers, 2017:146-54). This definition resembles the interest of interior architecture teachers at the P.H.A.I. in conversion, adaptation, and reuse. According to Roux and Berger, the design assignments were often about repurposing existing buildings in Hasselt's city center. Govaerts reaffirms this: 'In my time, the focus of interior

architecture was both on new constructions and repurposing. For the architecture [program], it was only about new constructions' (Govaerts, 2022). The focus on repurposing is possibly inspired by the planned demolition operations in the city center, like the case of the working-class district De Beek in 1961 and the Distillery Theunissen in 1973 (De Nieuwsgierige Hasselaar, 2020). Berger's graduation project – which was guided by Roux in 1977-1978 – was exactly the conversion of that distillery. This pedagogical effort had two goals. It wanted to raise attention for local heritage and develop a statement of activism, while also formulating a more durable and supposedly less expensive alternative to the construction of a new building for the P.H.A.I. (Roux, 2021).

The attention for adaptive reuse was not shared by many teachers from architecture, according to Froyen and Govaerts. Design assignments for architecture students almost always included the construction of new buildings, reflecting the oeuvre of their teachers and the urban planning practices at the time. During his time as a student, Berger would accompany his classmates and his teacher Roux to protest the advancing urbicide (De Nieuwsgierige Hasselaar, 2020). These efforts were inspired by the activist city journal De Nieuwsgierige Hasselaar and the Tamera-Foundation. Personalities like Berger, Roux and several other teachers from interior architecture were active members of that movement. However, close to no colleagues from architecture took part (Froyen, 2021). Furthermore, Klaps and Govaerts both stated that 'the teachers of interior architecture were much more concerned about society [than the teachers from the architecture program]' (Klaps, 2021; Govaerts, 2022).

2.2 Pattern Two: Configuration

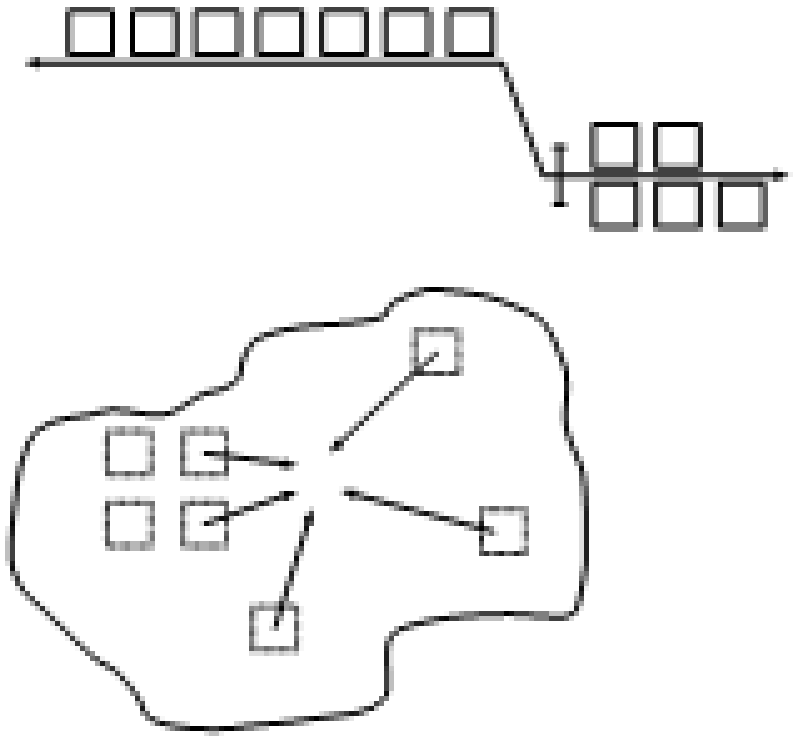

Figure15. Spatial pattern before (top) and after (bottom) the relocation. From a serial setup of isolated cells to interconnected spaces within a field.

The 1980S campus building in Diepenbeek was conceived as a more introverted building than its predecessor was. The building is also conceived as such. Because of its remote

location, it had to incorporate every function necessary to establish a school, such as a workshop, a library, a canteen, or parking lots. This combination of facilities in one building recalls the idea of a building as a city, a concept that was also central to Dutch Structuralism and Hertzberger's Centraal Beheer, which he described as:

'Instead of a single, colossal constructed volume, a more transparent conglomerate of numerous smaller components was achieved, thanks to the differentiation into more or less independent small blocks separated by arcade-like passages (i.e. essentially publicly accessible space). And since there are exits and entrances throughout the complex it looks more like a piece of a city than like a single building – most of all it resembles a kind of settlement' (Hertzberger, 2016:81)

Within these city-buildings so-called 'internal streets' took op a key role. The idea of an internal street was also present in the original school building but took another form. A long corridor would connect all three wings of the building complex, and as such joined an art school for secondary education with an art school for higher education and the programs for architecture and interior architecture. Ideally – and this was perhaps the goal of architect and first school director brother Machiels – the corridor facilitated cross-pollination between the different programs. According to Van Gompel and Roux, the cross-fertilization did not crystallize so much in the classrooms themselves: teachers from the art school rarely collaborated with teachers from interior architecture or architecture and vice versa. Yet, informal contact appeared to be invaluable: students and teachers did visit the arts studios and get acquainted with both applied arts and the students working there. In one instance, these informal contacts resulted in Het Labo, a designers' and artists' collective which still exists. According to their website, Het Labo was defined as follows:

Het Labo collective came into being in Hasselt's Gelatine factory at the end of the 1980s as a platform that defended the crossover between the applied and visual arts by means of thematic expositions. Up until the present, it is a collective consisting of applied and visual artists, who organize disproportionate expositions to establish a dialogue between designers and other disciplines, and vice versa.

This interdisciplinary approach to design and art is perhaps a specific feature of the program in Hasselt, which in both pedagogical and organizational terms took its cue from the Bauhaus. 'Colour & Form', one of the main courses from the interior architecture program and taught by Marcel Machon, Suzanne Van Gompel and Greet Persoons, used for example techniques and theories developed by Johannes Itten (Klaps & Van Gompel, 2021). The layout of the building, which wanted to encourage contact between disciplines, illustrates how teachers wanted to establish 'cooperative endeavors of all artisans', to use Gropius' words (Gropius, 1919).

However, the relation between the programs worsened after the dissolution of the P.H.I.A.T.K. – the school originally organizing architecture, interior architecture, and applied arts programs – in 1970 into the P.H.I.K.O. and the P.H.A.I., with architecture and interior architecture belonging to the latter. Since architecture and the arts now belonged to separate types of higher education, a school director for both schools had to be appointed: Nivelle for the P.H.A.I. and Roger Pulinckx for the P.H.I.K.O. According to Nivelle, the new director of the P.H.I.K.O. did not want students from the P.H.A.I. to visit the art workshops (Govaerts, 2022; Nivelle, 2022). Hence, the door between the two buildings closed. Yet, the statement was more official than actual: students from the P.H.A.I. and P.H.I.K.O. would still see each other on the school grounds or in the student dorms nearby. The actual effect on the relationship between the arts and interior architecture, therefore, is hard to measure. Nonetheless, it was the first

step in moving away from the arts, as Govaerts sees it. The idea of a new Bauhaus in Limbourg appeared to fade.

What the old building seemed to lack was a forum, a place of encounter and debate. The old corridor was, apart from the closed door that cut it in half, too much designed as a monofunctional circulatory space and could not further enable a Bauhaus-like cross-fertilization that the institute and its teachers so much desired. Moreover, the classrooms adjacent to the corridor were connected by only a blind wall and a door, which was – according to Govaerts – usually locked. In other words, the spatial pattern in terms of the building's layout was a circulation space that connected otherwise isolated cells.

To incorporate the wish for a forum, the campus building in Diepenbeek kept the idea of a circulation space that connected all classrooms of the different programs. A landscape-like circulation space that at times transitioned into classrooms – either audibly, visibly, or physically –replaced the monofunctional corridor and allowed for multiple functions to take place. In line with Hertzberger's ideas, collective spaces could now be claimed, and therefore are neither truly private nor completely public. According to Govaerts, the forum at the center of the building was initially designed to be claimed as a space for drawing classes, since drawing was considered the central activity. Classrooms for supporting courses are then placed around that central space, as equals (Govaerts, 2022).

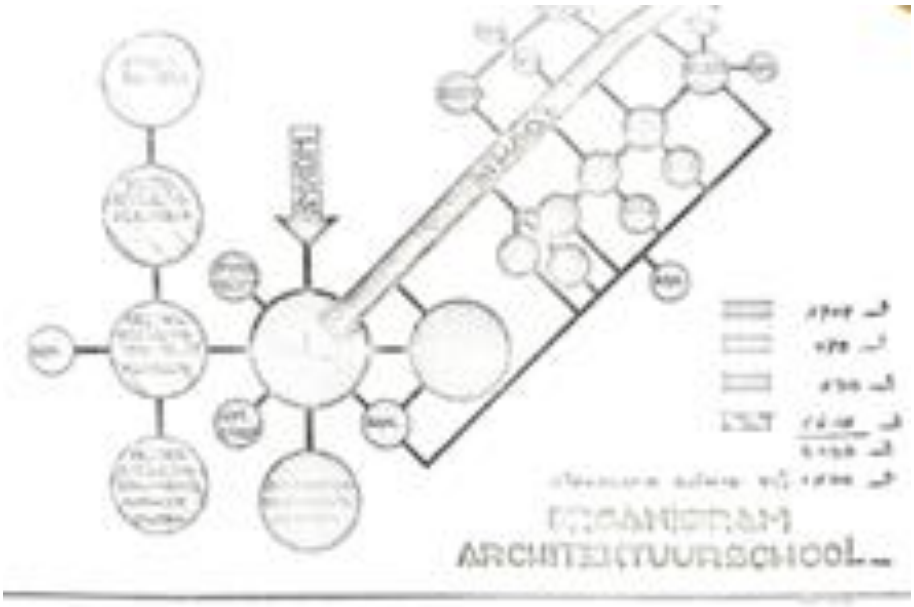

Figure 16. Organisational chart of the 1980s campus building, by Nivelle, 1980. Provincial Archives Limbourg, Provincial Building Department, box 600.

From 1987 until today, this common space has been used in different ways at once, by teachers and students alike. At the end of every academic year, this space becomes the backdrop to organize juries and continuously display student work.

Hubert Froyen referred to the layout of the new building as a compromise between a very compartmentalized setup and a plan libre (Froyen, 2021). The former is too restricting and separative, like the layout of the original school building, the latter undefined. The structuralist building with its typical concrete column-and-beam structure allowed to choose freely where to create separate spaces, and where to join them. This resulted in the complex spatial character

that is also visible in the Centraal Beheer offices in Apeldoorn. Otherwise, separated rooms are now connected by atria, providing a layered composition that heavily relies on intermediate and transitional space (Hertzberger, 2016:90). In short, the spatial pattern on the level of the building layout changed from a serial sequence of isolated cells to a field within which open and freely accessible cells were positioned.

Even though all interviewed teachers agreed that the new spatial pattern is more interesting, it appears that the physical environment is not a sufficient precondition for increased exchange and collaboration between teachers of the two programs. In the first place, the art school remained in the original building, precisely because the relocation physically marked the split between the P.H.I.K.O. and the P.H.A.I. Secondly, the forum was not used as intensively as it was expected, according to Govaerts. This has probably to do with the fact that no visitors were just passengers-by, as is more the case in a city center. Subsequently, the envisaged cross-fertilization only manifested itself in the form of visual communication rather than actual collaboration. Teachers and students from both programs could see what others were working on, because it was now exhibited. In other words, while the circulation space succeeded in facilitating interdisciplinary visual exchange, the building failed to facilitate the emergence of a new Bauhaus, where students of several disciplines truly worked together.

2.3 Pattern Three: Classroom

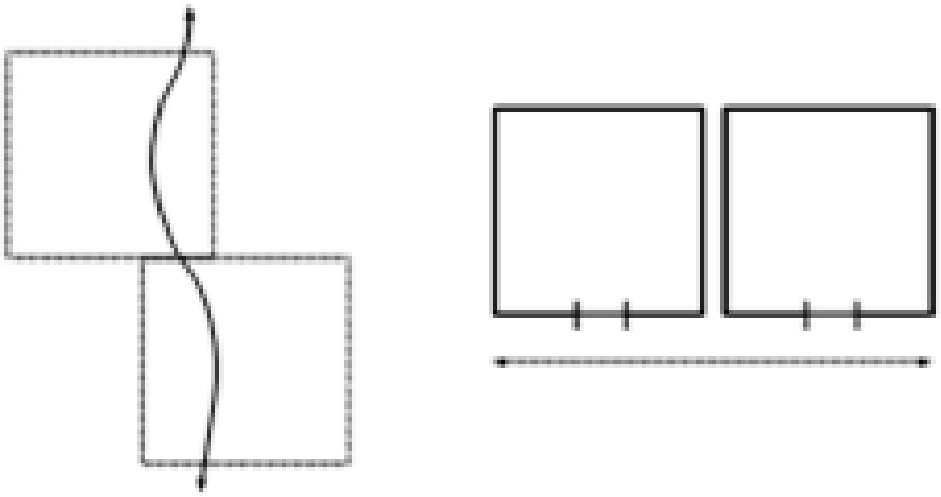

Figure17. Spatial pattern before (left) and after (right) the relocation. From separated classrooms to linkable modules.

One of the main reasons for the relocation was the increasing number of students, mostly architecture students. In 1980, after the expansion of the basement and the addition of barracks, the school had about six studios for practical courses and eight rooms for theoretical courses. The classrooms varied in size, ranging from 49 m2 for most rooms to 84 m2 (Nivelle, 1980:40). While the standard size of a platform in Diepenbeek is hardly larger (81 m2), they were not separated classrooms: the walls were initially no higher than a handrail (Govaerts, 2022). Nivelle stresses that ‘those were no classrooms. They were platforms, workshops in an open space’ (Nivelle, 2022). Nivelle wanted to avoid one-way schoolish teaching and stimulate debate between students and teachers by redefining the relation between the classroom and the school building. For that, he was inspired by Henry Van De Velde’s attempt to transcend the rigid separation between disciplines in the Higher Institute for Decorative Arts in Brussels, founded by Van de Velde in 1926 (ibid.).

Furthermore, the classrooms were designed to be adaptable, in order to absorb changing numbers of students. Govaerts says ‘Some years we had two platforms, other years we only had one’ (Govaerts, 2022). The classroom became a module that could be grouped or separated. In the preliminary design drawings made by Nivelle in 1980, there are several diagrams showing the modular approach to linking classrooms.

Figure18. Platform connected to another platform by means of a small bridge. Picture by author (2021).

Figure 19. Organizational diagram of the 1980s campus building, by Nivelle, 1980. Provincial Archives Limbourg, Provincial Building Department, box 600.

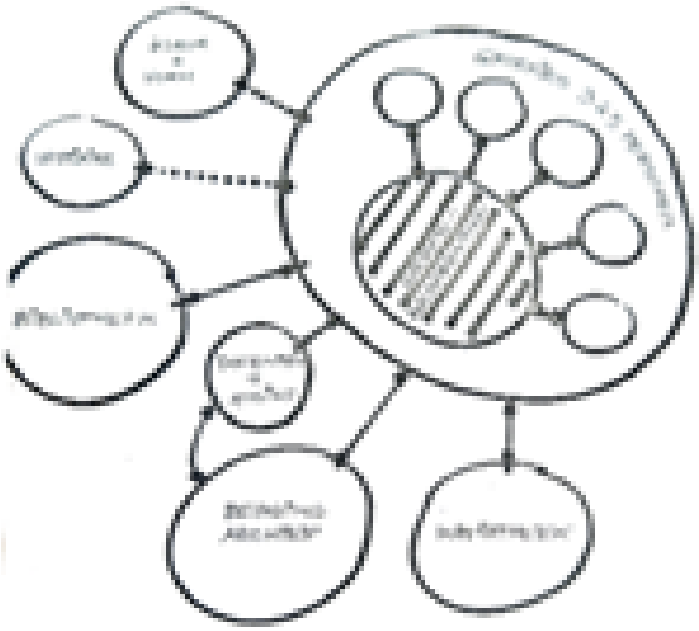

Figure 20. Organisational diagram of the 1980s campus building, by Nivelle, 1980. Provincial Archives Limbourg, Provincial Building Department, box 600.

The adaptability of classrooms might have been a strategy for bridging the gap between the steep increase in the number of architecture students and the slow increase of the number of interior architecture students. While the architecture program sought to expand itself and establish itself as a full-fledged university program, the interior architecture teachers interviewed all agreed that the interior architecture program had nothing to gain from scaling up or joining the university. Roux says:

Among the architects, there was little to no resistance to the relocation, because to them, the status of the program would be solidified. That was good for architecture and the program. At that time, we [interior architecture teachers] did not profit from architecture becoming part of the university or not (Roux, 2021).

Van Gompel stresses that before the relocation, the students worked in the classroom and the teachers got to know their students better. Later, with more students, the distance between teacher and student increased and the teaching became depersonalized (Klaps & Van Gompel, 2021). The school building itself was not the direct cause of that, but allowed more students and, hence, a more depersonalized way of teaching. Because of acoustic issues, the open platforms were closed with translucent windows. Both the rising number of students and the later addition of translucent windows partially inhibited the interactive debate between students and teachers. However, some platforms are still expandable. In general, the patterns of the classrooms changed from undividable and isolated cells to a modular network of linkable rooms.

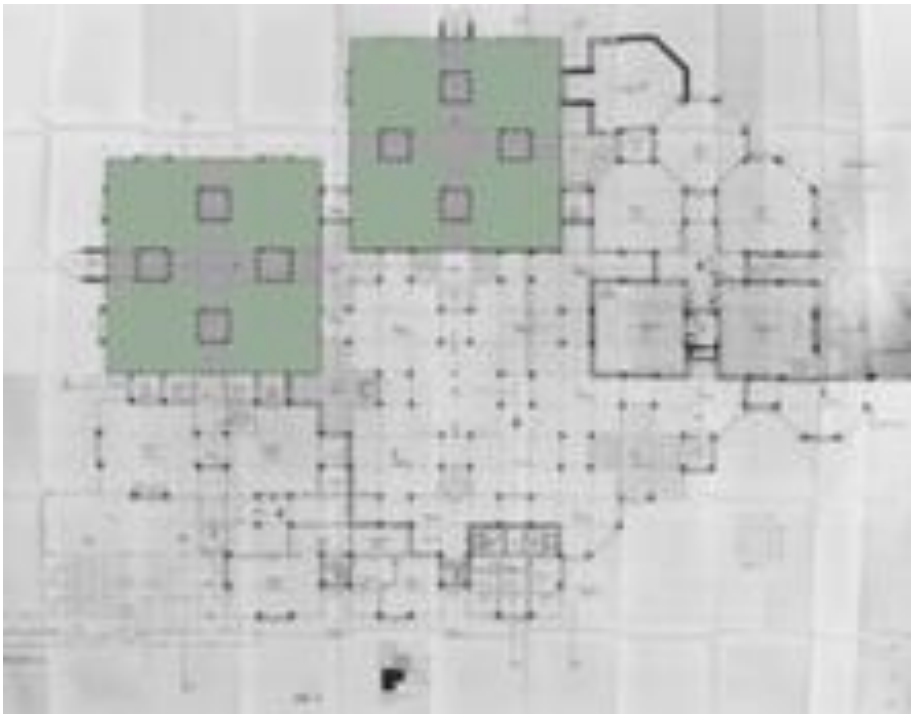

Figure21. Adapted floor plan of the building in Diepnbeek, with highlighted grouping of rooms, by Nivelle, 1982. Provincial Archives Limbourg, Provincial Building Department, box 518.

3. CONCLUSION

The new school environment brought about different conditions, for both architecture and interior architecture students and this in at least three ways. Firstly, the building provided room for expansion. Of course, the increasing number of students was not triggered by the building itself, but the building facilitated the growth and it did so in a particular way. While the new building to some extent still alluded to the scale of the former classroom using platforms, these platforms were open and could be clustered. In the open acoustic environment, one was no doubt always aware of the presence of many others – much like in a city environment. The larger numbers of students at the same time inevitably led to a more depersonalized way of teaching in both programs, even in the context of studio teaching. Secondly, the new building provided a forum for open communication, both in terms of continuously displaying student work as through the openness between circulation space and workshop. This meant that

students, even if they were following different courses, were more involved in each other's work, both audibly and visibly. Lastly, the relocation particularly affected the pedagogy of interior architecture as interior architecture students could not rely anymore on technical schools for the execution of their designs. Consequently, during the design process, they had to consider the limits of their own fabricating skills.

A comparison with the previous building more explicitly lays bare the power relations between the architecture and the interior architecture community in P.H.A.I. Nivelle's design for the campus building in Diepenbeek was in several ways a reaction against the limitations of the building before the relocation. An open and interactive setting replaced the functionalist building layout. The Bauhaus was put forward as an inspiration for the ambition of the new building, what meant that Nivelle aimed for an approach with open workshops, which facilitated interdisciplinary cooperation. And while all interviewees acknowledge the quality of the new building, at least two important sacrifices were made. First, the relocation did not involve the art school, which disproportionately impacted interior architecture teachers. Second, the suburban campus in Diepenbeek implied an explicit separation from Hasselt's city center, which before the relocation often acted as the locus for design assignments and public interaction. Those sacrifices mainly impacted the smaller group of interior architecture teachers, who were much more involved in societal matters at the time and cherished an explicit interest in the potential of the existing urban fabric.

We can conclude that the architectural program, and especially the desiderate of the architects, dominated that of the interior architecture program. It is mainly the inertia of many architecture teachers that appeared to have silenced the activist fantasies of their colleagues from interior architecture. More than thirty years after the relocation, however, those fantasies have gained momentum: the two programs are planned to partially move to the city center and will – ironically – occupy Hasselt's Beguinage (Architectuurwijzer, 2020).

REFERENCES

Archival Resources

Bosmans, J., & Draye, J. (1959, July 13). Plannen Provinciaal Hoger Instituut voor Architectuur en Toegepaste Kunsten. *Floor plan.* Provincial Building Department (box 493). Provincial Archives Limbourg, Hasselt.

Jacobs, J., & Draye, J. (1969, April 17). Uitbreidingswerken Provinciaal Hoger Instituut voor Architectuur en Toegepaste Kunsten. *Floor plan*. Provincial Building Department (box 495). Provincial Archives Limbourg, Hasselt.

Nivelle, A. (1980). Programma tot het bouwen van het Provinciaal Hoger Architectuurinstituut op de terreinen van de campus in Diepenbeek. *Preliminary design research*. Provincial Education Department (box 600). Provincial Archives Limbourg, Hasselt.

P.H.A.I. (1981, December 18). Provincial Education Department (box 4). Provincial Archives Limbourg, Hasselt.

P.H.I.A. (1975, November 4). Voorstel tot visie i.v.m. de huisvesting van het P.H.I.A. Private Archive Jos Roux, Hasselt.

Bibliographical References

Adams, D. (2012). *Shaped by Memory: Oral Histories of Post-War Modernist Architecture*. Birmingham City University.

Architectuurwijzer. (2020, November 30). Provincie Limburg als opdrachtgever voor Begijnhof Hasselt. Architectuurwijzer. https://architectuurwijzer.be/provincie-limburg-als-opdrachtgever-voor-begijnhof-hasselt/

De Nieuwsgierige Hasselaar. (2020, March 30). De Nieuwsgierige / Wakkere Hasselaar 1976-1985, het verhaal van een stadsbeweging. De Nieuwsgierige Hasselaar. https://www.denieuwsgierige.be/de-nieuwsgierige-wakkere-hasselaar-1976-1985-het-verhaal-van-een-stadsbeweging/

Dumarey, A. (2018, November 9). Markante Plekken: De Herckenrodekazerne in Hasselt. VRT Nieuws. https://www.vrt.be/vrtnws/nl/2018/11/09/markante-plekken-de-herkenrodekazerne-in-hasselt/

Gillings, M., Hacıgüzeller, P., & Lock, G. (Eds.). (2020). *Archaeological Spatial Analysis: A Methodological Guide*. Routledge.

Gosseye, J., Stead, N., & Van der Plaat, D. (Eds.). (n.d.). *Speaking about buildings. Oral history in architectural research.* Princeton Architectural Press.

Gropius, W. (1919). *Bauhaus Manifesto*.

Hertzberger, H. (2016). *Lessons for Students in Architecture*. nai010 Publishers.

Somers, I. (2017). *Advancing Interiors Interiorist Voices on Identity Issues*. University of Antwerp.

Wanderful Design (n.d.). *Het labo – Bedrijf.* Wanderful Design. https://www.wanderful.design/nl/companies/het-labo/

Wilensky, H. L. (1964). The Professionalization of Everyone? *American Journal of Sociology*, *70*(2), 137–158.

Interviews

Klaps, J., & Van Gompel, S. (2021, August 4).

Nivelle, A. (2021, July 5).

Nivelle, A. (2022, January 19).

Froyen, H. (2021, November 4).

Berger, H. (2021, October 26).

Roux, J. (2021, November 18).

Govaerts, G. (2022, January).

Revisiting Critical Pedagogy in Architectural Design Studios of Multi-National Students

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ABSTRACT

Over the years, scholars have recommended critical pedagogy in architectural education where both students and instructors improve the learning process. This pedagogy has improved architectural education allowing the students to be more creative and engaged in the learning procedure. It also aligns with the nature of design studios, where students need critical thinking to identify design problems and search for their solutions. Nevertheless, critical pedagogy implementation is still on the implicit level rather than the explicit one. Several studies have highlighted this gap underlining the need for a student-centered learning process in architectural education. This paper aims to re-shed light on the studies' consensus and arguments on the theoretical-practice gap of adopting critical pedagogy within the architectural design studios. The study reviews the related literature on multi-national architectural education, critical pedagogy in education in general, and critical pedagogy in architectural education (design studios) in specific. The findings show the different attempts and approaches to adopt such pedagogy in the architectural studios, but with limited consensus, requiring more attention from the field. The present discussion of studies' understanding and implementing ideas of critical pedagogy might pave the way for further attempts to create an implemented framework of critical pedagogy within design studios' context.

Keywords: Critical Pedagogy, Architectural Design Studios, Multi-National Architectural Schools, Theoretical-Practice Gap, Student-Centered Learning

1. INTRODUCTION

Architecture is society's method of expression to generate a product that considers both the individuals and the surrounding cultural values (Barrie, 2013). It encompasses many factors beyond the buildings' structural and physical features to reflect the surrounding life of the located community (Ibrahim & Utaberta, 2012). Fowler (2013) added that architecture had been affected by other disciplines' aspects like the social context. Due to the consistent transformation of contemporary societies, the architects are obligated to correspond to these varied demands in-field and their learning system (Spencer, 2016). Accordingly, architectural education also needs to reach the field that combines social and cultural aspects; "Architectural education is not restricted to physical building design and incorporates value system, philosophy, sustainability, technologies, and other related areas" (Ibrahim & Utaberta, 2012, p. 1).

Recently, it can be noticed that architecture has been universally drifting towards industrial and technical development, which neglected the consideration of other aspects, such as social, historical, cultural, and so forth. This has been indicated since (2005) by Mazzoleni, who underlined that the western model had detached architectural education from the contextual, historical, traditional, and previous aspects. Despite all the negative consequences of the western model, the author noticed a rapid attempt to imitate the perverse Western model among the developing countries that are still experiencing a significant demographical and economic explosion.

Multi-national architecture schools (architectural programs that contains international students) seem to follow the universal western model directing the design studio towards the industrial application neglecting the context's multi-layered identity in social, ethical, national, cultural, and traditional aspects (Mazzoleni, 2005). More attention should be given to the education pedagogy, especially in this diverse design studio, which could be reached through a critical pedagogy that enables both teachers and students to realize how the knowledge is constructed, why, and by whom (Crysler, 1995).

2. LITERATURE REVIEW

2.1 The Multi-national Architectural Education

"Architectural education is not restricted to physical building design and also incorporates value system, philosophy, sustainability, technologies, and other related areas" (Ibrahim & Utaberta, 2012, p. 1). In addition, since contemporary communities worldwide may have witnessed many social, cultural, political, and environmental transformations, the significant need for further investigation of the architectural learning pedagogy, goals, and adopted knowledge is underlined (Ashraf Salama, 2016).

Moreover, multi-national architectural education has shown a consistent interest in enhancing sustainable aspects integration in the curriculum (Keumala et al., 2016). Nevertheless, this interest has followed the primary universal concern that has been drifted mainly towards sustainability within environmental and economic perspectives, which raised the eclipsed attempts to comprehend sustainability within the social aspect, i.e., social sustainability (Dempsey, Bramley, Power, & Brown, 2011).

Studies emphasized that students need to understand mainly the significance of their social role since their attitudes, actions, and believes can shape the future of their community, culture, and heritage. To reach this sense, architectural learning needs to enable the students to improve their intellectual ability as the critical pedagogy proposes.

2.2 Critical Pedagogy

The term *Pedagogy* can be traced to the 7th century in religious schools in Europe, which aimed to address the education of the young men who wanted to become part of the priesthood (Ozuah, 2016). Nevertheless, it was derived from "paid" that means a *child,* and "agogus" for the meaning of *leader of* which purpose that pedagogy used to refer to *the education of children* (Holmes & Abington-Cooper, 2000). On the other hand, *Andragogy* was coined in 1833 by Alexander Kapp, which became known in 1926 by Eduard C. Lindeman to be referred to as the education of adults, as Ozuah (2016) explained. The author also stated that due to the pedagogy- andragogy meaning conflicts, *Humanagogy* was also proposed by Knudson in 1980 to combine both approaches to address the entire educational circle.

Nevertheless, Ozuah elaborated that the term pedagogy is still used to address the learning process where the teacher plays a central role in the education process. Holmes and Abington-Cooper (2000) also implied that young education starts from 6 to 21 years old, while Yoshimoto, Inenaga, and Yamada (2007) explained that the pedagogy mode is for teaching immature students who need the guidance of the teachers to improve their maturity, experience, and knowledge. Hence, pedagogy can also be used for undergraduate education.

On the other hand, "critical pedagogy" has made the learning process a collaborative procedure between teachers and students where the teachers consider the students' different backgrounds, experiences, and understanding (Henry Giroux, 1988). Critical pedagogy is the concept that refers to Freire (1987), who initiated the ideas to empower both teachers and students in the learning process and develop a critical awareness of their relationship with the community (as cited in Luguetti, Oliver, Dantas, & Kirk, 2017). Then Giroux (1988) added that education is about generating a transformative intellectual who can be active citizens.

Shor (1992/2012) also elaborated that critical pedagogy is an empowering student-centered pedagogy that intends to enhance the individual's active, cooperative, and social abilities related to the person with the surrounding society. For empowering education, eleven values must be considered "participatory, effective, problem-posing, situated, multicultural, dialogic, de-socializing, democratic, researching, interdisciplinary, and activist" (Shor, 1992/2012, p. 17). Shor also mentioned that critical teachers need to research the students' understanding, language, experiences, and emotions, which required dialogue as the primary teaching method. In this sense, critical pedagogy is crucial for creating a socially responsible and engageable generation (Giroux, 2014).

Nevertheless, Aliakbari and Faraji (2011) highlighted that the full attention of critical pedagogy during the past until recent years has resulted in only few studies that attempt to examine the essential themes of critical pedagogy; the role of students and teachers, critical praxis, and dialogue. This lack of studies continued over the years despite the previous attempts to address different aspects of critical pedagogy. Still, they always lead to the pragmatic features of learning and teaching, as Romanowski and Amatullah (2016) discussed. The scholars also elaborated that the primary purpose of these studies was to emphasize the importance of adopting critical pedagogy as a neoliberal educational approach. Despite the studies that highlighted this issue before, the gap between theory and practice has widened and ultimately limited studies that explained how to implement critical pedagogy into practice (Aliakbari & Faraji, 2011; Clark, 2018; Nouri & Sajjadi, 2014; Sawyer, 2017).

Romanowski and Amatullah (2016) study were one of the limited studies that guided critical pedagogy integration by providing and translating the essential aspects of pedagogy into practical questions to investigate the actual case of Qatar education among teachers and students. The scholars explained that critical pedagogy considers the students, teachers, and curriculum where the educational center can create a site of transformation. Accordingly,

Romanowski and Amatullah concluded that critical pedagogy consists of five essential components: 1) “Education as a Discursive Practice,” which refers to the academic language and context the explain the related knowledge, thoughts, and principles; 2) “Voice” (i.e., opinions, values, perspective, and views of teachers and students); 3) “Culture” as a form of human understanding of their lives, emotions, ideas, and their society; 4) “ Pedagogy” where the teachers play the role of the transformative intellectuals who combine theoretical and practical knowledge to educate the students becoming more active and comprehensive citizens; and 5)” Social Transformation” that concern about the changing state of both the education and the society where people need to learn from their social experience.

According to Romanowski and Amatullah (2016), due to the crucial role of critical pedagogy in enhancing the social position among the learning community, one of its main factors is the ‘social transformation’ that contains two aspects. Firstly, Freire’s simple concept of social transformation is through teacher-student dialogic communication, which teaches the students to become active individuals in their communities besides its ability to improve their knowledge actively. Secondly, philosophers’ concept links education to its society where education teaches people to correspond and cope with society’s changes, which can be related to the teacher-student sense of social position, i.e., social sustainability. In addition, Dempsey et al. (2011, p. 6) explained that social sustainability could be indicated by exploring the “Social interaction/social networks in the community”, “Participation in collective groups and networks in the community” , “Community stability” , “Pride/sense of place” , and “Safety and security”.

It is worth mentioning that Romanowski and Amatullah (2016) depended on the Giroux works; one of the pioneers in critical pedagogy studies, in concluding the critical pedagogy main components that can be used in practice. As critical pedagogy has been elaborated differently, it can be noticed that Giroux has his school of thought in interpreting critical pedagogy aspects, which will be adopted in the present study.

2.3 Critical Pedagogy According to Giroux Argument

Giroux emphasized in his early work that education is the combination of both theory and practice that requires designing a suitable curriculum and applying it in the educational site that usually has a cultural variety. He considered the *culture* as a political aspect to address the articulation power of a particular group (as cited in Simon (1984). Henry Giroux and McLaren (1986) explained that the term “culture” refers to the different social practices and ideologies that people use to draw a sense of the world. Moreover, Simon said that Giroux considered educators as political actors where critical pedagogy helps them to *be politically subjective*. Giroux and McLaren also emphasized that within critical pedagogy, educators need to be *cultural politicians* and play an influential role in restructuring ideologies with everyday living conditions that might lead to a democratic community. The “cultural politics” term was used “to capture the significance of the sociocultural dimension of the schooling process” (Henry Giroux & McLaren, 1986, p. 229).

Thus, Aronowitz and Giroux (1991) also emphasized that education needs to rely on a language and a theory that connects the school with the public democracy to establish a groundwork to generate a *cultural politics* education which eventually *will pursue a new form of culture and knowledge*. Freire also confirmed that critical thinking is not about reframing the past and comprehending the present. Still, rather it is about offering a different method of thinking beyond both past and present, directing towards a critical dialogue that reinterprets the history and aims to draw a better future (as cited in Giroux, 2010).

Furthermore, Henry Giroux (1991) argued that, for a democratic community, critical pedagogy aims to create, adopted pedagogies need to contain principles for improving the ethics that challenge the social ideologies and practices by understanding the students’

identities and subjectivities. He explained that *moral education* is an approach that questions and critiques the school experience, social relations and interactions, ons, and curriculum content. Giroux added that the concept of diversity is fundamental for creating a moral education that directs the curriculum to enhance the students' abilities in making judgments about the social structure, relation, history, power, and equality. Due to these beliefs, Giroux (2010, p. 720) stated that politics with moral education is "also about creating the conditions for people to govern rather than be merely governed". In other words, critical pedagogy intends to provide a vision of a better moral to provide the required knowledge, abilities, and social connections that enable the students to become more critical citizens.

Freire explained that education needs to teach the students to become self-reflective citizens and have self-managed life, which could only be achieved if the students reach a high level of self-reflection in understanding different life aspects (as cited in Giroux, 2010). In this sense, the scholar pointed out that critical pedagogy can be invested in self-criticism regarding the teaching values and self-consciousness about providing the students with the analytical skills to be self-reflective towards the classroom knowledge and values. Hence, critical pedagogy is concerned to create a space for the students to have their power and to offer new ways for the students to think critically and ultimately expand their skills and knowledge by engaging their experience and understanding, i.e., *Voice*, as Henry Giroux and McLaren (1986) explained.

The scholars added that students would not be able to reach the mentioned abilities unless the teacher improves an understanding that addresses the diversity of the students' experiences, backgrounds, emotions, perceptions, and identities. Giroux and McLaren also described the concept of voice as an essential principle for enhancing the link between knowledge and the student's experiences while at the same time for creating a forum to examine broader issues regarding education and the surrounding community. They added that voice also refers to the student-teacher dialogue where teachers allow and encourage the students to represent their self-expression.

Within this context, students need to become more critical by questioning and negotiating the theory-practice relations, requiring the educators to be *transformative intellectuals* (Aronowitz & Giroux, 1991; Henry Giroux, 2010; Henry Giroux & McLaren, 1986). "Teachers are bearers of critical knowledge, rules, and values through which they consciously articulate and problematize their relationship to each other, to students, to subject matter, and to the wider community" (Henry Giroux & McLaren, 1986, p. 225). The mentioned studies explained that within the term of transformative intellectuals, teaching and learning is correlated to political goals that educate the students to take risks in elaborating their judgments, which will link knowledge with power and ultimately provide the student with their voice. Critical pedagogy, unlike the standard teaching modes, insists that one of the essential educator's roles is to seek a social world where social values such as equality and freedom are shaping day-to-day lives Giroux, 2010). Critical pedagogy provokes the question of "who speaks for whom, under what conditions, and for what purpose?" (Giroux, 1991, p. 306).

To sum up, Giroux highlighted first that critical pedagogy concerns teacher, student, and the used curriculum. Also, the scholar explained in his work that critical pedagogy is about political subjectivity, ethics, pursuing a new form of culture and knowledge, challenging the objective knowledge, moral education, teachers as transformative intellectuals, and students' voice. Although Henry did not address architectural students in his work, the significance of the mentioned aspects can be noticed in architectural education.

2.4 Critical Pedagogy and Architectural Education

Design studios consider the core of architectural education where the students communicate with their tutors to get comments on their design projects (Pasin, 2017). They are the place where the real cities are designed and transformed due to the simulation of the actual situation and the ability to propose diverse solutions (Demirbaş & Demirkan, 2003). These studios need to operate with a learning center and a social community to enhance teacher-student communication Sidawi, 2012). Hence, communication can consider the actual image for the design studio Demirbaş & Demirkan, 2003), which has triggered the endless debate about creating a suitable learning environment in these studios.

As many studies underlined the crucial need to address the students' psychological, emotional and intellectual aspects within the learning process, they suggested adopting critical pedagogy either in education in general Robinson, Neergaard, Tanggaard, & Krueger, 2016), or in architectural education in specific Harriss, 2015), to achieve this goal. For creating a dynamic curriculum that responds directly to the community and the environmental needs, many educators have recommended the critical pedagogy that reconfigures the traditional student-teacher relationship (Duncan-Andrade & Morrell, 2008; Ashraf Salama, 2009). Salama (2016) has also suggested the implementation of critical pedagogy with other concepts to evaluate the knowledge in design studios following the work of Dutton (1987/2014). Dutton confirmed the importance of critical pedagogy for the education environment. It addresses social and cultural aspects and creates a learning space where students learn and develop their intellectual identities to play a responsible-social role in their communities.

Breunig (2011) added that critical pedagogy also adopts the critical praxis cycle that starts by identifying the problem, researching about it, developing a related combined plan of action, implementing the generated plan of action, and then evaluating the efficiency of the actions to re-test the problem state. This cycle is not a new thinking procedure for the architectural field since it parallels with Schon's argument that students learn how to design within the "seeing-doing" practice where they take the tutor comments and do them to see the results that eventually will propose a design solution in a conversational procedure (as cited in Bowen, Dearden, and Dexter (2014). This procedure represents the "Reflection" process that plays the role of "back-and-forth" bridge which links the student between what they learn from the studio and what they experience from the surrounding context Tracey & Baaki, 2014), which confirms that similarities between critical pedagogy and the context of the architectural thinking.

Moreover, critical pedagogy creates knowledge through teacher-student dialogues instead of one-way knowledge communication to consider the students' characteristics and cultural backgrounds (Ashraf Salama, 2013). Similarly, the primary teaching method in design studios is "dialogue", where verbal interactions aim to help, facilitate, and improve students' skills (Crowther, 2013). Accordingly, studio-based learning has been implicitly applying the critical pedagogy to a certain level but not necessarily reaching the critical pedagogy learning outcomes.

In this sense, critical pedagogy has been recommended in architectural education either implicitly Dutton, 1987/2014; Robinson et al., 2016; Sidawi, 2012; Tracey & Baaki, 2014) or explicitly Farivarsadri, 2001; Ashraf Salama, 2009, 2013, 2016; Sawyer, 2017). Despite the long effort in recommending this pedagogy with the architectural design studios, a noticeable drift has been noticed in adopting critical pedagogy in evaluating the design studio knowledge instead of teaching within its context (Farivarsadri, 2001; Ashraf Salama, 2009, 2013, 2016; Ashraf Salama & Wilkinson, 2007; Sawyer, 2017). This might be due to the many challenges that the teachers face in adopting critical pedagogy as a teaching program (Clark, 2018). In this sense, Sawyer (2017), conducted a meta-analysis study of 65 peer-reviewed articles from

1,488 articles for all the student-centered studies within art and design studios and underlined the need for the further practical implementation of student-centered approaches.

In summary, the following table concludes the related study results and emphasizes the lack of practical implementation of critical pedagogy despite its broad recommendation among different education fields (Duncan-Andrade & Morrell, 2008; Romanowski & Amatullah, 2016). On the other hand, the table shows that design studies have recommended the integration of critical pedagogy either implicitly or explicitly, which aligns with the recommendation of Sawyer (2017) for integrating practical student-centered learning in studio-based learning.

Table 1. Summary of critical pedagogy understanding

The author	**The study ideas**	**The study understanding of critical pedagogy**
Dutton (1987/2014)	Design studios require the social-critical thinking	Implicit addressing of critical pedagogy on *architectural education*
Shor (1992/2012)	Empowering education towards a critical teaching	Critical pedagogy is a student-centered pedagogy that intends to create an empowering education
Farivarsadri (2001)	Critical pedagogy need to be implemented in Introductory design studio	Recommending the critical pedagogy in *architectural education*
Duncan-Andrade and Morrell (2008)	Educators have recommended the critical pedagogy for creating a proper educational environment	Investigating the practical implementation of critical pedagogy among children students
Salama (2009)	Educators have recommended the critical pedagogy for creating a dynamic curriculum	Recommending the critical pedagogy in *architectural education*
Aliakbari and Faraji (2011)	Critical pedagogy principles	Few studies had attempted to examine the essential themes of critical pedagogy
Sidawi (2012)	Design studios = learning center and a social community	Implicit addressing of critical pedagogy in *architectural education*
Salama (2013)	Critical pedagogy creates knowledge through teacher-student dialogues	Explicit recommending of critical pedagogy in *design education*
Crowther (2013)	The main teaching method in design studios is “dialogue”	Implicit addressing of critical pedagogy in *architectural education*
Giroux (2014)	Investigating critical pedagogy in schools	Critical pedagogy is crucial for creating a socially responsible and engageable generation
Bowen et al. (2014)	Critical pedagogy is paralleling with Schon’s “seeing-doing” notions (i.e. reflection-in-action”	Recommending the critical pedagogy
Tracey and Baaki (2014)	Reflection-in-action is crucial in design studios	implicit addressing of critical pedagogy in *architectural education*
Nouri and Sajjadi (2014)	Investigating emancipatory pedagogy in the practice	Future studies need to focus on improving a practical framework of emancipatory pedagogies
Harriss (2015)	Architectural students need to improve their critical thinking for solving design problems	Implicit addressing of critical pedagogy in *architectural education*
Robinson et al. (2016)	Student psychology, emotional and intellectual need to be addressed within the learning process	Implicit addressing of critical pedagogy in education
McLaren (2016)	Critical pedagogy addresses social and cultural aspects as well as creating a learning space	Recommending the critical pedagogy in education
Salama (2016)	Proposing “trans-critical” pedagogy to evaluate the design education knowledge	Explicit recommending of critical pedagogy in *design education*
Romanowski and Amatullah (2016)	Injecting the critical pedagogy within the educational framework in Qatar	Investigating the practical implementation of critical pedagogy among adults

The author	The study ideas	The study understanding of critical pedagogy
Dutton (1987/2014)	Design studios require the social-critical thinking	Implicit addressing of critical pedagogy on *architectural education*
Luguetti, Oliver, Dantas, and Kirk (2017)	Teach sport students in an active pedagogy	The need for empowering both teachers and students in the learning process
Sewyer (2017)	The need for a student-centered learning framework for practical implementation in design studios	Recommending the critical pedagogy in *architectural education*
Clark (2018)	Exploring critical pedagogy implementing in Higher Education	A wide gap between theory and practice of critical pedagogy

3. DISCUSSION AND RESULTS

Despite the consistent recommendation of several design studies over the years to explicitly integrate this pedagogy into the studio-based architectural education Farivarsadri, 2001; Mahon, 2014; Romanowski & Amatullah, 2016; Ashraf Salama, 2009, 2013, 2016; Ashraf Salama & Wilkinson, 2007; Sawyer, 2017), design studios kept their adoption for critical pedagogy (student-centered learning) on the implicit level Ashraf Salama, 2013).

Sawyer (2017) also explained that after evaluating all the related studies of student-centered pedagogy within design and art studios, the lack of a framework to implement practically a student-centered learning among design and art studios seems to be a crucial need due to the limited practical frameworks despite the total interest of the studies in this type of learning. Clark (2018) emphasized on this argument underlining the noticeable gap between theory and practice addressing critical pedagogy that needs to be limited.

In (2016), Romanowski and Amatullah guided critical pedagogy integration by providing and translating the critical pedagogy aspects into practical questions. Still, it only investigated and addressed the case of Qatar education among teachers and students. As such, architectural education still lacks this type of practical addressing of critical pedagogy that considers the context of architectural education, although the field needs to adopt critical pedagogy to generate critical thinkers who will be able to understand the complexity of architectural, urban, and housing projects (Dutton, 1987/2014). Thus, the need for investigating the critical pedagogy aspects with the architectural education context, needs, and consideration is highlighted.

Moreover, it is noteworthy that some Departments of Architecture of the Multi-national universities are putting efforts to improve social aspects which can be noticed in their students' graduation projects that address international case studies (as the case in Eastern Mediterranean University, Malay University, University of Jordan, and others). However, some teachers seem still to overpower the students' voices and ultimately suppress their thinking and self-reflective abilities. In addition, aspects as cultural and social ones, are still neglected or in need of more consideration. This might stop the students' voices during the learning process and ultimately weaken their abilities to become critical citizens (Henry Giroux & McLaren, 1986).

4. CONCLUSION

Giroux and Romanowski, and Amatullah's studies seem to address the critical pedagogy from the three main parts of the education process, i.e., teachers, students, and curriculum, by investigating the component of critical pedagogy during the design studio. According to the work of the scholars, critical pedagogy is the teaching model that considers the following:

1) **Political subjectivity** *(restructuring ideologies with everyday life conditions).*
2) **Moral education** *(direct the curriculum to enhance the students' abilities in making judgments).*
3) **Cultural politics** *(a new form of culture and knowledge and challenging the objective ones).*
4) **Pedagogy** *(Teachers as transformative intellectuals to educate the students to take risks in elaborate their judgments).*
5) **Social transformation** *(transforming the education and the related community to learn from previous social experience).*
6) **Students' voice** *(experiences, backgrounds, emotions, perceptions, and identities).*

Although Giroux, Romanowski, and Amatullah did not address architectural students in their work, the mentioned aspects are equivalent to the components of architectural education as well. For instance, Goldschmidt, Hochman, and Dafni (2010) highlighted the importance of the encouraging teaching pedagogy where the teachers guide and encourage the students to be self-reflective and critically engaged citizens. In addition, Kvan and Jia (2005) underlined the important role of the social context during the design studio that will enhance the relationship between the educators and the students. Demirbaş and Demirkan (2003) also emphasized that teachers need to create an understanding that comprehends the students' differences in learning, thinking, and abilities during the design studio, i.e. transformative intellectuals. Sigmar, Hynes, and Cooper (2010) added that studio-based learning needs the student's ability to create their judgments and reflections, i.e., voice. Furthermore, in design studies, Webber (2017) underlined the impact of self-reflection on the design students' communication skills, which they will need either during their academic years or even further for practice.

REFERENCES

Aliakbari, M., & Faraji, E. (2011, October). Basic principles of critical pedagogy. In *2nd International Conference on Humanities, Historical and Social Sciences IPEDR*, *17*, 78-85).

Aronowitz, S., & Giroux, H. (1991). *Postmodern Education: Politics, Culture, and Social Criticism.* Univ. of Minnesota Press.

Barrie, T. (2013). *The sacred in-between: the mediating roles of architecture*. Routledge.

Bowen, S., Dearden, A., & Dexter, M. (2014). *Wearing Two Hats: Reflecting Alongside Authentic Designing.* Paper presented at the DSR, Design Research Society Biennial International Conference.

Breunig, M. (2011). Paulo Freire: Critical praxis and experiential education. In *Sourcebook of Experiential Education*, 70-77. Routledge.

Clark, L. B. (2018). Critical pedagogy in the university: Can a lecture be critical pedagogy? *J Policy Futures in Education, 16*(8), 985-999.

Crowther, P. (2013). Understanding the signature pedagogy of the design studio and the opportunities for its technological enhancement. *Journal of Learning Design, 6*(3), 18-28.

Crysler, C. G. (1995). Critical pedagogy and architectural education. *Journal of Architectural Education, 48*(4), 208-217.

Demirbaş, O. O., & Demirkan, H. (2003). Focus on architectural design process through learning styles. *J Design Studies, 24*(5), 437-456.

Dempsey, N., Bramley, G., Power, S., & Brown, C. (2011). The social dimension of sustainable development: Defining urban social sustainability. *J Sustainable development, 19*(5), 289-300.

Duncan-Andrade, J. M. R., & Morrell, E. (2008). *The art of critical pedagogy: Possibilities for moving from theory to practice in urban schools*, *285*. Peter Lang.

Dutton, T. A. (1987/2014). Design and studio pedagogy. *Journal of Architectural Education, 41*(1), 16-25.

Farivarsadri, G. (2001). A Critical view on pedagogical dimension of introductory design in architectural education. *J Architectural Education Exchange, 2001*, 11-12.

Fowler, M. D. (2013). Soundscape as a design strategy for landscape architectural praxis. *J Design Studies, 34*(1), 111-128.

Giroux, H. (1988). *Teachers as intellectuals: Toward a critical pedagogy of learning*. Greenwood Publishing Group.

Giroux, H. (1991). Beyond the ethics of flag waving: Schooling and citizenship for a critical democracy. *The Clearing House, 64*(5), 305-308.

Giroux, H. (2010). Rethinking education as the practice of freedom: Paulo Freire and the promise of critical pedagogy. *Policy Futures in Education, 8*(6), 715-721.

Giroux, H. A. (2014). *The violence of organized forgetting: Thinking beyond America's disimagination machine*. City Lights Publishers.

Giroux, H., & McLaren, P. (1986). Teacher education and the politics of engagement: The case for democratic schooling. *Harvard educational review, 56*(3), 213-239.

Goldschmidt, G., Hochman, H., & Dafni, I. (2010). The design studio "crit": Teacher–student communication. *J AI EDAM, 24*(3), 285-302.

Harriss, H. (2015). *Architecture Live Projects: acquiring and applying missing practice-ready skills.* Oxford Brookes University.

Holmes, G., & Abington-Cooper, M. (2000). Pedagogy vs. andragogy: A false dichotomy. *The Journal of Technology Studies, 26*(2), 50-55.

Ibrahim, N. L. N., & Utaberta, N. (2012). Learning in architecture design studio. *J Procedia-Social Behavioral Sciences, 60*, 30-35.

Keumala, N., Younus, M. A., Kuan, Y., Razak, A. S. B. A., Ismail, M. A., & Al-Obaidi, K. M. (2016). Pedagogy of architectural education on sustainability in Malaysia -student perspective. *J Open House International, 41*(4), 104.

Kvan, T., & Jia, Y. (2005). Students' learning styles and their correlation with performance in architectural design studio. *J Design Studies, 26*(1), 19-34.

Luguetti, C., Oliver, K. L., Kirk, D., & Dantas, L. (2017). Exploring an activist approach of working with boys from socially vulnerable backgrounds in a sport context. *Sport, Education and Society*, *22*(4), 493-510.

Mahon, K. (2014). *Critical pedagogical praxis in higher education.* Google Scholar.

Mazzoleni, D. (2005). *Architecture as a language of peace*. Arti-arch.

McLaren, P. (2016). Critical pedagogy. *This fist called my heart: the Peter McLaren reader*, *1*, 27.

Nouri, A., & Sajjadi, S. M. (2014). Emancipatory Pedagogy in Practice: Aims, Principles and Curriculum Orientation. *The International Journal of Critical Pedagogy*, *5*(2).

Ozuah, P. O. (2016). First, there was pedagogy and then came andragogy. *Einstein Journal of Biology and Medicine, 21*(2), 83-87.

Pasin, B. (2017). Rethinking the Design Studio-Centered Architectural Education. A Case Study at Schools of Architecture in Turkey. *J The Design Journal, 20*(sup1), S1270-S1284.

Robinson, S., Neergaard, H., Tanggaard, L., & Krueger, N. F. (2016). New horizons in entrepreneurship education: from teacher-led to student-centered learning. *J Education+ Training, 58*(7/8), 661-683.

Romanowski, M. H., & Amatullah, T. (2016). Applying Concepts of Critical Pedagogy to Qatar's Educational Reform. *J Critical Questions in Education, 7*(2), 77-95.

Salama, A. (2009). *Transformative pedagogy in architecture and urbanism*: Umbau-Verlag Solingen.

Salama, A. (2013). Seeking responsive forms of pedagogy in architectural education. *J Field, 5*(1), 9-30.

Salama, A. (2016). *Spatial design education: New directions for pedagogy in architecture and beyond*. Routledge.

Salama, A., & Wilkinson, N. (2007). *Design studio pedagogy: Horizons for the future*: Arti-Arch.

Sawyer, R. K. (2017). Teaching creativity in art and design studio classes: A systematic literature review. *J Educational research review, 22*, 99-113.

Shor, I. (2012). *Empowering education: Critical teaching for social change*. University of Chicago Press.

Sidawi, B. (2012). The impact of social interaction and communications on innovation in the architectural design studio. *J Buildings, 2*(3), 203-217.

Sigmar, L., Hynes, G. E., & Cooper, T. (2010). Emotional Intelligence: Pedagogical Considerations for Skills-Based Learning in Business Communication Courses. *Journal of Instructional Pedagogies, 3*.

Simon, R. I. (1984). Signposts for a critical pedagogy: A review of Henry Giroux's Theory and Resistance in Education. *Educational Theory, 34*(4), 379-388.

Spencer, D. (2016). *The architecture of neoliberalism: How contemporary architecture became an instrument of control and compliance*: Bloomsbury Publishing.

Tracey, M. W., & Baaki, J. (2014). Design, designers, and reflection-in-action. In *Design in educational technology*, 1-13. Springer.

Webber, S. B. (2017). Emotional Intelligence in the Interior Design Context. *Journal of Interior Design 42*(4), 29-44.

Yoshimoto, K., Inenaga, Y., & Yamada, H. (2007). Pedagogy and andragogy in higher education—a comparison between Germany, the UK and Japan. *European Journal of Education, 42*(1), 75-98.

Public Interior Spaces within the Interior Architectural Education

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ABSTRACT

Public spaces are an important site for functional and ritual activities within an urban context. The notion of interiority is increasingly becoming essential these days to interior architects, architects, urban designers, and other stakeholders of the built environment, which are linked to the physical setting, activities, and meanings within the public space. Studying the conditions of interiority from an urban perspective, notions of legibility, orientation, human scale, privacy, experience, memory and place attachment are discussed with the visual characteristics of the space. Public interior spaces have a strategic importance within the discipline of interior architecture and it is important to analyze their space within interior architectural education. This would enable the highlighting of public interior spaces' relevance as a part of an existing urban network of public spaces.

Public interior are places of social interaction, related to attachment-based meanings; by extension, are interior spaces in public holding the identity and experience associated with that space. Their activities, physical characteristics, and meaning define the qualities of the spaces, perceived by their users. To understand these qualities, the notion of interiority is brought in, as it offers description and identification for the abstract qualities of an interior space. The main aim of this paper is to extract qualities from public interior spaces in relation to the notion of interiority and to identify the extent to which these qualities take place within interior architectural education.

To achieve the aim, the method was centered on a matrix that includes the curriculum of the undergraduate program of the EMU-Interior Architecture Department and conditions of interiority in public interior spaces, which were generated from a literature review of critical keywords of the study. The findings of the analysis reflected the presence of the notion of interiority.

Keywords: Architectural Education, Interiority, Public Interior Spaces, Interior Spaces, Curriculum

1. INTRODUCTION

Public spaces are an important site for functional and ritual activities within an urban context. Public interior spaces constitute a significant portion of urban life, thereby making them crucial to cities as well as the everyday lives of their citizens. They are places of social interaction and can be related to attachment-based meanings. Therefore, these spaces, by extension, are interior spaces in public as they hold the identity and experience associated with that space. The activities or events, physical characteristics, and meaning embedded in these spaces define these public interior qualities that are perceived by their users. The notion of interiority is increasingly becoming essential these days to interior architects, architects, urban designers, and other stakeholders of the built environment, as it relates not only to the physical setting, but also to activities and meanings within the public space. Therefore, by studying the conditions of interiority from an urban perspective, notions of legibility, orientation, human scale, privacy, experience, memory and place attachment are all being discussed in addition to the visual characteristics (volumetric aspects, color, texture, lighting, plan layout, furniture, and more) of space. In addition, the reconsideration of urban public spaces for adaptation to multiple uses due to the inward-centered development of urban areas rises from the challenges of rapid urbanization issues. However, to understand these qualities of space, the notion of interiority comes into play as it aids in the description and identification of the abstract qualities of an interior space. Therefore, public interior spaces have a strategic importance within the discipline of interior architecture and it is important to analyze their space within interior architectural education. This would enable the highlighting of public interior spaces' relevance as a part of an existing urban network of public spaces. Architectural education, being a platform where several issues affecting the built environment are deliberated on, seeks ways in which the discipline would assist in tackling them.

The paper is built on the bases of extracting qualities from public interior spaces in relation to the notion of interiority and to identify the extent to which these qualities take place within interior architectural education. This brings the main question of to what extend is the public interior spaces found in the interior architecture education. Therefore evaluating the connections between interior space, public spaces, and notion of interiority, thereby showing how public interior spaces are produced. This will also highlight the qualities of these spaces. The role of interior architecture is also defined to also show the connection between the notion of interiority and interior architecture education.

To achieve the aim of the study, the research approach employed for this study, is an evaluative research approach, in which qualitative means is used. The study’s methodology is divided into two parts with the first part focusing on literature of the keywords, this review builds the theoretical bases of the study. The second part involves a case study technique for collecting data, in which EMU-Department of Interior Architecture is the focus, as the curriculum of the undergraduate program is crossed analysed (Matrix) with the notion of interiority generated from the literature review of the keywords. The finding showed that the interior architecture studios of various levels has the presence of notion of interiority.

The implication of the study shows the significance of the notion of interiority in the interior architecture education in meeting the role of interior architect or designer as defined by International Federation of interior architects and designers. Still, further studies are required in this topic, as the presence of public interior spaces through the notion of interiority in various institutions of architecture encompassing the both the department of interior architecture or design and department of architecture, would be vital to bridge the gap, to provide a well-grounded knowledge for the design of public interior spaces that meet the needs and issues confronting us now and future.

2. PUBLIC INTERIORS AND THE NOTION OF INTERIORITY

Space can be said to be a multitude of mental constructs that all depend on the engagement of the human body with its surroundings (Tuan, 1979; Mahoudeau, 2016). Space is made up of junctions of moving elements (which are people and the various activities) (De Certeau, 1984). Space is the vacant area between the elements that defined the location in which event or activities occur, that are within ones control (Meiss, 1998). Lefebvre (1991) claimed in his book (production of space) that space is not only what is inherited from the past or that is governed by spatial geometry laws, but also that humans create and reproduce space in which they arrange their daily activities. As a consequence, a specific place is created as a result of human interactions, and experiences are created. This means that space is organized based on its utility (Nnaji.et al, 2019). The core factor as well as the key component in a designer's palette is space. The sensory and aesthetic qualities of the components within its area are passed down to space. People see forms, hear noises, feel soft breezes and the warmth of the sun, and smell the aromas of flowers in bloom thanks to the volume of space. However, a visual link is created once an element is placed in its field. Multiple connections are developed between the space and the elements, as well as among the components themselves, as more elements are brought into the field. The perceptions of these interactions shape the space in which one lives (Francis and Binggeli, 2018). Herein, the mental construct of space can be within an architectural enclosure (a building or structure) or outside it. Space can be made up of the interior or exterior, which are mental representations with the aid of tangible and intangible elements.

The term "interior," which was originally used to denote the abstract notion of a metaphysical human dimension: an inward component or entity which was something other than just outside, was later expanded to include the physical qualities of the body within. The term "interior" was first used exclusively to refer to the inside of a building in the nineteenth century. It was often used to define household space even back then. The term interior, in essence, refers to a strong site-specific connection (Brooker, 2017). Still, interior is made-up of its tangible (physical or material) characteristics as well as its intangible (psychological) characteristics (Attiwill, 2018). In the case of physical characters interior refers to a specific space enclosed by a barrier. This is a line that demarcates, albeit ambiguously, where the inside and outside meet, and where the interior begins and ends (Brooker, 2017). We perceive shelter and containment when we enter a building or an enclosed space. The limiting floor, wall (boundary elements), and ceiling planes (the sky) of interior space give this impression. These are the architectural and interior components that establish a room's physical boundaries. They enclose space, define its borders, and divide it from into public and private spaces. Floors, walls (defined boundaries), and ceilings (sky) do more than just define the size of a room. The shape, layout, and pattern of window and door openings impart particular spatial and architectural features to the specified space, all representing the spatial arrangement of the space (Francis and Binggeli, 2018). Some elements that form the interior space are, the spatial layout bearing the various planes of the space, openings, lighting treatments, and collections of objects.

Herein, in the part of the psychological characters, interiors are frequently transient and supplementary additions; they are the most delicate aspect of design. These explain their adaptable and transitory characters that make them a spatio-temporal place. The interior is the possibilities' circumstances and state of being able to reflect these (inter-) subjective parameters: relations of power, intimacy, (semi-)public interactions, vision, memory, awareness, wants, and understanding. These aspects describe symbolic representation, the ability to interpret and portray the world through language despite our 'biological adaptability', thereby containing the cultural essence of the space (Brooker, 2017, Ionescu, 2018). These symbolic representation aids in the production and reproducing of interior spaces in conjunction with the physical characters of the space. Thereby, making the interior space a place of everyday experience, which is the site for the production of subjectivity. This also highlights the

point of individual experience, which promotes the feeling of familiarity and intimacy resulting to domesticity (Ionescu, 2018). Therefore, it can be stated that interior space is more of an individual space, which is a site of felt emotions, individual and everyday experience, which fosters the sense of identity, ownership, interaction and sense of place.

2.1 Public Space

A public space is a place that is basically open and access is granted to people. Cities' sociopolitical life revolves around public space, activities like protesting, socializing, and experiencing diversity may all take place in the streets, squares, and parks. They add to the liveliness and livability of cities, as well as the well-being of city dwellers (Damian and Stadler, 2020). Diverse viewpoints as well as physical factors define the geometric boundaries of public space. As a result, we can only recognize interior and external space as public space if its geometrical traits and aesthetic aspects are clearly legible and are accessible to people.

Public spaces can be perceived in two ways as a collective perspective and structural perspective. The collective perspective of public space, considers the location of the "public", to be the result of the social and institutional factors that accompany urbanization of most spaces. While structural perspective of public space, on the other hand, as the result of the social structures and interactions that characterize urbanization. When the collective and structural perspective are combined, social elements with links with public space are identified, which comprises of diversity of social roles and connections, as well as institutional structures and social networks required for efficient social order (French, 1978, Mitchell, 2000). The primary means of integrating a city is through its public space. City inhabitants and other users share public spaces, which serve as a platform for cultural transmission and relearning. Public spaces have some of the following characteristics, which make it distinct from other spaces; these characteristics can grouped into the spatial character and the perceived characters. The spatial character comprise of the urban space have a definite boundary, possession of public spaces; it is usually designed through basic patterns; geomorphic, radial, concentric, and rectilinear and Physical environment generally constraint the form in which a city is constructs (Stevenson; 2003; Miles, 2017). In the case of the perceived characters urban spaces comprise; Heterogeneity, Anonymity, Mobility, autonomy and transiency, Regimentation, Segmentation of personality, absence of uniform and fixed social norms, hubs for cultural institution and rapid social and cultural change (Stevenson; 2003; Miles, 2017). Therefore, public spaces are collective spaces with several individual experiences meeting in a point for specific social interactions.

2.2 Interiority

Interiority can be defined as the intangible feature that enables the identification and description of an interior. Moreover, it is the abstract and immaterial group of concurrences and variables resulting in the possibility of an interior. However, it is not an outright condition that depends on limiting architectural delineation. Interiority is instead moveable and interchangeable. It abide by to sensual prospects conditions like visual, haptic, tactile, olfactory and acoustic that are intimate with, but that challenge the preciseness of a particular interior (McCarthy, 2005, Attiwill, 2018, Pimlott, 2018). The conditions of an interior it influenced, to give a certain interior space. Furthermore, Arrizabalaga (2020) stated that the adjustment of spatial elements at a human scale, atmospheric operation, the degree of people's assumption of a specified space, and the sort of 'system of setting' and system of activities, governs the grade of "interiority". Pimlott (2018) described interiority as that has to do with the personal's inner life, which is set in contrast to the pressures of the world, the idea is connected to

exclusive space or refuge of the interior. Herein, the process of internalization of subjectivity occurs through activities or experience in a space. Interiority is an extensive comprehension of the interior space, thereby opening up the idea interior to several scalable settings for instance the packs, streets, courtyards sidewalks, building blocks and cities (McCarthy, 2005; Caan, 2011; Stace, 2013; Pimlott, 2018; Tine et al., 2019). Here, after analyzing at the psychological aspects of interior space, it can be seen that interiority is made up of psychological parameters which contain the lived experience which are cognitive and emotional in their nature; these psychological features are time, immateriality, conditions, domesticity, privacy, control, atmosphere, everyday experience and behavior (Mcathy, 2005; Hvejsel, 2011; Attiwill, 2011; Petit, 2019; Atmodiwirjo and Yatmo, 2020), Interiority also possesses a spatial features which aids in their description of the space; these spatial features ate Condition of the space privacy level (public or private space), material, Historic layering, programs, activities, community type, movement, stillness, densities of circulation, flow, transition, lighting and lighting conditions, sound, urban characters, and urban furniture (Mcathy, 2005; Hvejsel, 2011; Attiwill, 2011; Petit, 2019; Atmodiwirjo and Yatmo, 2020). Therefore, interiority is the vessel that has the meaning of space. Herein the cultural relevance of space comes in play (Ionescu, 2018). Interiority contains the characters, emotions, and nature of the space, thereby reacting to several degrees of socio-phenomenon in a space. It also reflects individual and collective experience found in the everyday life of a space (Deluchi, 2018). Therefore, interiority is a condition that is found in both interior space and urban space; it provides the conditions for both the urban space characters and that of interior space character to co-exist in a space. The table below shows the characteristics of interiority in its spatial and perceived state.

Table 1. Characteristics of interiority by authors based on; (McCathy, 2005; Caan, 2011; Hvejsel, 2011; Stace, 2013; Attiwill, 2011; Pimlott, 2018; Deluchi, 2018; Ionescu, 2018; Petit, 2019; Tine et al., 2019; Atmodiwirjo and Yatmo, 2020)

Characteristics of Interiority	
Spatial characters	Perceived characters
Openings Material Make Up Historic Layering Programs and Activities Community Type Movement And Circulation Stillness Densities Of Circulation Transition Lighting And Lighting Conditions Sound Urban Setting Urban Furniture Or Objects	Time Immateriality Conditions Domesticity Privacy Control Atmosphere Everyday Experience Sense Of Security Intimacy Containment Place of identity

2.3 The Interior Dimension of Public Interior Spaces

The fundamentals of both interior space and public space have been discussed in the sections above, in which the spatial and perceived characters of both spaces were dissected, the intrinsic nature of both spaces show the commonalities within them. The interior with the public space is not independent of exterior nature of the public space, but born out of the nature of the public space, which make it special from other spaces. This interior dimension of public space is the place of urban subjectivity (Attiwill, 2018). It is also an interface between the

individual experience of interior space and collective space of a public space. Therefore, this space is known as the public interior.

The public interior is an interior affair, which is the core of public life, which is the site of agency where the culture is shaped (Rybezyuksi, 2011; Warakanyaka et al. 2017). Public interior is the domestic interior of the urban environment; that is a place in the everyday life of an urban environment in which people have physical and visual access fostering human connections and interactions (Tibbalds, 2012; Sahar et al, 2020). Public interiors are place where we learn, dwell, and become part of the community in the urban environment. The cross points among people and space are show in the public interior become shared places for individuals to interact in programs that define the community (Sahar, 2020). The relationship between individual experience and collective experience in the Public interior reflects symptomatic reaction to the urban character in the urban environment of the everyday life (Deluchi, 2018).

Interiority embodiment can be found within the Public spaces as well as private spaces with the interior character of intimacy; So Public interiority are conditions of interiority which are perceived in exterior urban places (Teston, 2020). Public Interiority refers to the development of definite interior dimensions in the urban setting. These interior illustrations stand in divergence to the classic perception of the urban context as an exterior form (HMA, 2019). Public interiority is the method of interiorization of the exterior. Public interiority is the shift from the beginning with the individual as the producer of subjectivity to working in the midst of a dynamic network of relations and forces where subjectivity is generated as a spatio-temporal immanence of unity in multiplicity or of interiority of exteriority (Bains, 2002; Attiwill, 2018). The public interior is the base of many casual meetings. However, urban interior are often regarded more as environments than interior. The interior space in the urban context focuses on the “the psychological, physiological, sensory and the emotional” aspects of the space, therefore it deals with the human experience of the urban space (Caan, 2011; Stace, 2013). In addition, the public interior is the place where daily, lived experience is found within the urban context, which is at the human scale (micro-scale) level of the urban space (Tine et al., 2019). Public interiority encapsulates the cultural essences of the urban life, fostering setting for individual experience, still with the autonomy and anonymity associated with and urban space. Public interiority is the lens through which sociocultural discourses with immerse impact on the individual and collective experience of people in the urban are perceived and understood. Herein, Public interiority reflects the current trends and even underlying issues (whether economical, technological, political, legally, educational and environmental) affecting a society. These are reflected through physical and psychological features of the Public interiority. The characteristics of public interiors are reflected through the combination of public spaces and interior spaces in where the quality of the interior is shown through the interiority. These characteristics are shown with that of characteristics of interiority as it encompasses the very nature of very interior space, which might be seen from a spatial or perceived perspective.

2.4 Challenges to Public Interior Spaces Qualities

With every space typologies, there are issues that affect their qualities. With most public interior spaces, several issues have affected their ability to be optimal in the function and capacities to meet the needs of its users. The gradual loss of urban theatrics of most public interiors shows the loss of character, which makes some of these spaces standout, leading to homogenization of spaces. Furthermore, the privatization of the public interior, thereby reducing the accessibility quality of the space, increasing the exclusivity associated with those privatized spaces. Nonetheless, some of the public interior spaces provided now, are mainly

for consumption, that is for profit, with spaces like cafe, bars, fast-food eateries, thereby limiting the type of people to use the space. Furthermore, urban and interior designers frequently lack the essential abilities to conduct extensive ethnographic investigations to fully comprehend settings, whereas social scientists frequently overlook the spatial dimension (Poot, et al, 2015).

3. INTERIOR ARCHITECTURE IN EASTERN MEDITERRANEAN UNIVERSITY (EMU), NORTH CYPRUS

The International Federation of Interior Architects and Designers (IFI) clarifies the role of the interior architect and interior designer as design professional that 'determines the relationship of people to spaces based on psychological and physical parameters, to improve the quality of life' (IFI Interiors Declaration, 2011; Attiwill, 2018). This declaration counters the premise that interior design is a practice that occurs inside a building or structure, which gives a chance to reflect on the practice of interior design beyond the boundaries defined by the building or the structure (Attiwill, 2018). The definition of the role of interior architects or designer as those that boost the quality of life through the connection of people to space by carefully managing the physical and psychological variables within their disposal. The definition stresses the relevance of interior design practice of not being limited to the defined limits of the building or structure, which is critical to public interiors. This role is stressed in the interior architecture education of EMU. The courses offered, spanned across various aspects, with the aim of producing well-grounded interior architects. These courses are shown in the table below as well as the level in which they are offered. It is important to note, for the purpose of the study the courses would be limited to undergraduate program of the department.

Table 2. EMU-Department of Interior Architecture Undergraduate Curriculum (English program) adopted from department web page

YEAR	SEMESTER	COURSE NAME AND COURSE CODE
FIRST YEAR	**Semester 1 (FALL)**	Basic Design Studio(FARC101) Graphic Communication - I (FARC103) Introduction to Design (FARC113) Academic English - I (ENGL181) Communication in English - I (ENGL191) Mathematics and Geometry for Designers (MATH191) Ataturk's Principles and History of Turkish Revolution (HIST280) Turkish as a Second Language (TUSL181)
	Semester 2 (SPRING)	Graphic Communication - II (FARC104) Introductory Design Studio (FARC102) Introduction to Digital Media (ITEC185) Academic English - II (ENGL182) Communication in English - II (ENGL192) Freehand Drawing (INAR108) Introduction To Design Technology (FARC142)
SECOND YEAR	**Semester 3 (FALL)**	Interior Architecture Studio - I (INAR291) Human and Social Factors (INAR211) Approaches to Influence and Persuasion (PRAD206) History of Interior Architecture - I (INAR225) Concept of Structures (INAR231) Advanced Computer Aided Presentation Techniques (INAR287) Internship- I - Technical Trip (INAS100)

	Semester 4 (SPRING)	Interior Architecture Studio - II (INAR292) Measured Drawing for Adaptive Re-use (INAR276) Color and Lighting for Interior (INAR207) History of Interior Architecture - II (INAR226) Construction and Materials for Interiors - I (INAR244) Internship- II - Construction Site Training (INAS200)
THIRD YEAR	**Semester 5 (FALL)**	Interior Architecture Studio - III (INAR391) History of Furniture (INAR328) Construction and Materials for Interiors - II (INAR349) Integrated Building Systems and Sustainability (INAR377) Area Elective I (AE01) Philosophy of Art and Design (INAR323)
	Semester 6 (SPRING)	Interior Architecture Studio - IV (INAR392) Finishing and Detailing (INAR348) Reading Room : Text and Image (COMM107) University Elective - I (UE01) Internship- III - Office Training (INAS300)
FOURTH YEAR	**Semester 7 (FALL)**	Interior Architecture Studio - V (INAR491) Furniture and Fixtures (INAR403) Sociology (SOCI212) Area Elective II (AE02) University Elective - II (UE02)
	Semester 8 (SPRING)	Interior Architecture Studio -V (INAR492) Professional Practice Management & Ethics (INAR410) University Elective - III (UE03) Area Elective III (AE03)

3.1 Public Interior Spaces within the Interior Architectural Education of EMU

From the understanding of public interior spaces, which possess the characteristics of public spaces still containing the qualities of interior spaces, which can be seen from the lens of interiority. And it meeting the definition of the role of interior architects and designers from IFI declaration. 2011, which spells out the limitation of the profession. The analysis of the Curriculum of EMU-Department of Interior Architecture Undergraduate program to find the presence of public interior spaces with the interior architectural education through analysis notion of interiority is the main focus of the study. To achieve that a matrix containing the EMU-Department of Interior Architecture Undergraduate Curriculum as well as the characteristics of notion of interiority are used for the analysis to meet the core aim of the study.

From public interior spaces assessing matrix above it can be seen that the presence of public interior spaces in the EMU-Department of Interior Architecture through the lenses of the notion of Interiority; it can be seen that the presence is seen in all the interior architecture studio courses from the first year to the fourth year. This so as the characters of the notion of interiority are the critical considerations for a successful studio product at the end of each semester. Other courses have traces of the notion of interiority, which highlight the presence of public interior spaces in their focus. From the matrix, it can also be seen that the extra curriculum activities like the design week, Nurten Aksugür Competition, design week, last lecture, IFI WID Events, and student project Exhibition, also have the presence of public interior spaces through the notion of interiority.

Table 3 Public interior space assesing Matrix

4. CONCLUSION

As it has being stated, Public spaces are an important site for functional and ritual activities within an urban context. Public interior spaces constitute a significant portion of urban life, thereby making them crucial to cities as well as the everyday lives of their citizens. The notion of interiority is increasingly becoming essential these days to interior architects, architects, urban designers, and other stakeholders of the built environment, as it relates not only to the physical setting, but also to activities and meanings within the public space. Giving rise to the need for study the conditions of interiority from an urban perspective, aiding the re-evaluation of urban public spaces for adaptation to multiple uses due to the inward-centered development of urban areas rises from the challenges of rapid urbanization issues.

The paper is focused on the evaluating the presence of public interior spaces in interior architecture education, through the analysis of notion of interiority. This led to a critical review of the keywords of the study, to assess the connection to each other as well as comprehending their characteristics. The main question of the study is to understand, to what extend are the characteristics found in the notion of interiority is being thought in the interior architectural education- focusing on the public interior spaces -at the intersection of urban and interior scales. Main aim here is to assess that every aspect of interiority is somehow handled within the architectural education at different scales. However, the limitation of the study is to evaluate the notion of interiority within the department of interior architectural education. Further studies are necessary to evaluate the same concept at architectural and urban design curriculum. Here, the research approach employed for the paper is an evaluative research approach, in which qualitative means is used. Furthermore, a case study technique was adopted for collecting data, as EMU-Department of Interior Architecture is the focus, as the curriculum of the undergraduate program is crossed analysed with the notion of interiority generated from the literature review of the keywords.

The literature review and the evaluation of the case study through a matrix produced a finding that reflected the presence of the notion of interiority in the curriculum of the undergraduate program of EMU-Department of Interior Architecture. The finding showed that

the interior architecture studios of various levels has the presence of notion of interiority. Still, due abstract nature of the notion of interiority, it is complicated to quantify and describe in other non-design studio, which are technical. It was also found that the notion of interiority has being more successful, than in contemporary cities. The implication of the study shows the significance of the notion of interiority in the interior architecture education in meeting the role of interior architect or designer as defined by International Federation of interior architects and designers. However, considering the interdisciplinary nature of public interior space design, it can be argued that the urban dimension of the issue- as it involves sequence of spaces within an urban setting is missing within the interior architectural education. This can be supported from departments of urban design and architecture and incorporated within the department of interior architecture. As public spaces are crucial for cities and the city culture, they have always played significant roles in various social-spatial changes. These spaces are parts of everyday urban life; places for socio-spatial transformation and should also take place within the interior architectural education from that perspective.

Further studies are required in this topic, as the presence of public interior spaces through the notion of interiority in various institutions of architecture encompassing the both the department of interior architecture or design and department of architecture, would be vital to bridge the gap, to provide a well-grounded knowledge for the design of public interior spaces that meet the needs and issues confronting us now and future..

REFERENCES

Attiwill, S. (2004). Towards an Interior History. *IDEA Journal* 2004. ISSN 1445/5412

Attiwill, S. (2018). Urban Interiority as Collective Individuation. In *Arch International Conference 2018 Proceedings*. ISBN: 978-602-72857-9-8

Attiwill, S. (2012). Beyond building: interior designs. *IDEA Symposium 2012 (Interior: A State of Becoming)*, 1–7.

Burdett, M. (2018). *Characteristics of urban places. Content and case studies in context for post-16 Geography*. GeographyCaseStudy.com

Damian and Stadler. (2020). *Urban Public Spaces*. International Encyclopedia of Human Geography, 103–111. https://doi.org/10.1016/B978-0-08-102295-5.10212-4

De Certeau, M. (1984). *The Practice of Everyday Life*. Trans. Steven Rendall. University of California Press.

Deluchi, C. (2018). Urban Interiority and the Spatial Processes of Securitizations in Medellin: A Speculation on the Architectures of Reassurance. *Interiority*, *1*(1), 37-48.

French, J. (1978). *Urban Space: A Brief History of the City Square*. Kendall/Hunt.

Kier, R. (1979). *Urban Space*. Rizzoli International.

Miles, M. (2017). *Cities and Cultures*. Routledge Critical Introductions to Urbanism and the City. 1st Edition.

Mitchell, K. (2000). The Culture of Urban Space. *Urban Geography 21*, 443-449.

Atmodiwirjo, P., & Yatmo, Y. A. (2021). Urban Interiority: Emerging Cultural and Spatial Practices. *Interiority, 4*(1), 1-4. https://doi.org/10.7454/in.v4i1.131

Pimlott, M. (2018). Interiority and the Condition of Interior. Delft University of Technology, the Netherlands. *Interiority, 1*(1), 5-20.

Poot, T., Van Acker, M., & De Vos, E. (2015). The Public Interior: The meeting place for the urban and the interior. *IDEA journal, 15*(1), 44-55.

Poot, T., Van Acker, M., & De Vos, E. (2015). The Public Interior: The Meeting Place of the Urban and Interior. *IDEA Journal*, *15*(1), 54-64.

Rybczynksi, W. (2011). Domesticity. In L. Weinthal (Ed.), *Toward a New Interior, an Anthology of Interior Design Theory*. Princeton Architectural Press, 394-403.

Stevenson, D. (2003). *Cities and Urban Culture.* Routledge Critical Introductions to Urbanism and the City, 1st Edition.

Teston, L. (2017). The transient micro-urbanisms of protest architecture. *MONU: Small Urbanism, 27*, 3-8.

Teston, L. (2018). Politicizing the Interior. In *Interior Architecture Theory Reader*, edited by G. Marinic. Routledge.

Poot, T., De Vos, E., & Van Acker, M. (2018). Thinking beyond dualities in public space: the unfolding of urban interiority as a set of interdisciplinary lenses. *Interiors*, *9*(3), 324-345. https://doi.org/10.1080/20419112.2019.1622235

URL 1. Urban Space. http://sociology.iresearchnet.com/urban-sociology/urban-space/

Warakanyaka, A., Zhara, L., & Atmodiwirjo, P. (2017). Feeling at Home in Starbucks: Revealing Transient Urban Interior. *UIA 2017 Seoul World Architects Congress.*

Weinthal, L. (Ed.). (2011). *Toward a new interior: An anthology of interior design theory.* Princeton Architectural Press.

Accreditation Processes in Interior Architecture/Design Education

The Case of İMEPAK-Interior Architecture/Design Education Programs Accreditation

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ABSTRACT

Design education does not only face the problem of curriculum structure but also deals with the problem of self-regulation. To develop a sustainable educational approach and create the means for the system to self-control and improvement, the term “accreditation” arrives into the field of design education. Considering design education, with respect to its nature, it is not easy to classify as applied or social sciences. Moreover, it is not easily defined as an act of art. Mainly it can be defined as an education that is positioned at the cross-sections of both science and art.

The major concern of this study is to highlight different dimensions of accreditation that gained value in interior architecture/design education. In this respect, the study aims to share and discuss the processes of developing regulations for interior architecture/design education nationally. The case of İMEPAK, a recently established organization, targeting to carry out the accreditation process in Turkey and North Cyprus is introduced with its various dimensions. The main body of the study covers the vision, mission, strategic targets, and the brief background related to the period of establishment of İMEPAK (İçmimarlık Eğitim Programları Akreditasyon Komitesi) – Interior Architecture Education Programs Accreditation Committee.

IMEPAK within the body of a joint accreditation association TAPLAK (Tasarım Planlama Akreditasyon Kurulu – Design and Planning Accreditation Association), targets to improve the profession and carry it to the future through the education of young professionals by scrutinizing the Interior Architecture education programs throughout the country.

Keywords: Interior Architecture/Design Education, Interior Architecture/Design Accreditation, Interior Architecture/Design Education Regulations, Quality Education, Undergraduate Education, Undergraduate Curriculum

1. INTRODUCTION

Interior architecture education in our country was first founded in 1883, as the department of Garb Teyzini Arts, which was connected to the school of Sanay-i Nefise-i, under the Ministry of Commerce. The department carried echoes of the École des Beaux-Arts, as it aimed to connect the arts and crafts, which were reflections of the Industrial Revolution's effects in our country. Afterwards, with the influence of the German Bauhaus Movement in 1957, it was started to be given again under the name Furniture and Interior Architecture under the Istanbul Applied Fine Arts College. In the following years, as Bilkent University started to offer Interior Architecture and Environmental Design education, the American influence was also added to the different schools of education. Today, we can see the effects of these schools of thoughts and many more other approaches in the education of Interior Architecture departments.

This diversity in Interior Architecture Education has been a major topic of evaluation in both conferences and Interior Architecture Department Head Meetings. The necessity to reach for a universal and contemporary standard within this diversity has been a focal point and emphasized. The accreditation of Educational Programs has been a major point of discussion. Besides standardizing the Educational Programs, the concept of accreditation also rose with the aim to inspect and control the internal affairs to modernise all programs.

Studies that showed the importance of accreditation were presented on the 2nd National Congress of Interior Architecture Education, which took place on 20 December 2012. These studies were exemplary on the discussion of accreditation. They evaluated accreditation through other educational programs and emphasized the need to form institutional organisations in which the accreditation processes were carried for Interior Architecture Education.

"In order to prepare these criteria, it has been considered appropriate to establish an institution that evaluates all the universities that provide interior architecture education in Turkey. This institution should both provide an accreditation in which education programs can be evaluated and appropriated to the social processes of interior design education in Turkey and determine the academic standards of interior architecture education." (Cordan, Görgül, Çinçik, and Numan, 2012:14),

"Today, this diversity and difference provided by the undergraduate programs of interior architecture departments that are operated under the Architecture, Fine Arts and Design faculties, in a way, creates a pluralistic environment. On the other hand, this diversity in interior architecture undergraduate education, which is observed universally and changes in dimension depending on regional development levels, necessitates a common plane that will cut through all these structured layers both in terms of a scientific discipline and in terms of professional execution processes In this regard the notion of accreditation and the concept of standardization that accompanies it become integral elements that are far from the restriction of creative design education, but are components that will reveal the reality of professional actions and education process." (Özsavaş, and Güler, 2012:9)

After the assessments made in 2012, it has been observed that today, as of 2021, according to ÖSYM's university settlement data, there are a total of 81 different Interior Architecture education programs given under different program names and faculties in Turkey and The Northern Cyprus. This number shows indisputably that both national and international accreditation between the educational programs is an important factor in the development of the profession in our country. The 'İç Mimarlık Eğitim Programları Ulusal Akreditasyon

Kuruluşu', 'Interior Architecture Education Programs Accreditation Committee', (İMEPAK), created with this specific aim, targets concrete institutional structures, sustainability, continuous improvement, reliability, openness, transparency, and participation for an improved quality in interior architecture/design education and demands at least a decade for the losses and gains to be determined.

Although accreditation is a live topic in contemporary interior architecture/design education, national accreditation processes is a brand-new subject in Turkey and North Cyprus.

North Cyprus, where the Council of Higher Education and the universities acknowledged by the council are eager to initiate and implement. Therefore, the methodology puts forward the means IMEPAK and its documents were designed. IMEPAK is a rich hybrid accreditation program combining CIDA (Council for Interior Design Accreditation), MÜDEK (Mühendislik Eğitim Programları Akreditasyon Derneği – Association for Evaluation and Accreditation of Engineering Programs), MIAK (Mimarlık Eğitimi Akreditasyon Derneği - Association For Accreditation Of Architectural Education) and many more accreditation councils'/associations' documents while designing the structure of IMEPAK; and CIDA and AQAS documents, for defining the principles, regulations and criteria in the accreditation process with regard to national, cultural, socio-economical and educational conditions of two countries.

Utilization and combination of CIDA and AQAS accreditation documents were specifically referred to in constructing the accreditation criteria such as program mission, objectives, and educational objectives; program outcomes and curriculum; students; teaching staff; alumni; were referred to in continuous improvement; physical facilities and resources; management and financial resources and community relations. Besides, these documents were depended on, to prove the national interior architecture/design programs' adequacy independent from architecture programs. This study aims to record the processes of the founding of İMEPAK and to communicate it to the Interior Architecture community.

2. INTERIOR ARCHITECTURE EDUCATION PROGRAMS ACCREDITATION COMMITTEE (İMEPAK) PREPARATION PROCESS

The first idealistic formations for the preparatory work of the National Accreditation for Interior Architecture/ Interior Architecture and Environmental Design undergraduate programs were formed by the decisions taken in the Interior Architecture Department Heads (İBBT) meetings. The Interior Architecture Department Heads meetings are organised bi-annually to support any study aiming to contribute to the field of interior architecture and to raise awareness, sharing, and partnerships in interior architecture education. In this regard, the decision to form a committee for the study and work of the interior architecture undergraduate education accreditation was decided on the ''3. Interior Architecture Department Heads Meeting''.

Under this committee, the meeting held on 2014, at the Istanbul-Taşkışla campus of ITU Interior Architecture department, resulted in the creation of three articles with emphasis on the importance of forming the ''National Accreditation Committee' under the TMMOB Interior Architecture Chamber. Organized by TOBB ETU Department of Interior Architecture and Environmental Design in 5-6 January 2015, the accreditation working group was formed at the ''6. Interior Architecture Department Heads Meeting' and the data and findings of the previous meeting were advanced and developed. At the 7th Interior Architecture Department Heads Meeting held at Eastern Mediterranean University on 20 November 2015; Negotiations regarding the formation process of the National Accreditation were held and a workshop report

was published on the “Accreditation Board Regulation”. According to this, these points of view were accepted;

1. ‘The Interior Architecture Accreditation Committee’ should be organised as independent. The committee should house a defined electoral system that elects an executive board with representatives from TMMOB Interior Architecture Chamber, universities, professionals working in the sector and student spokespersons.

2. While preparing and penning the regulation, the regulations of international accreditation institutions such as CIDA, AQAS, MÜDEK, MİAK should be taken as a reference point, and the relevant and related parts should be compared and considered to reflect and implement their positive areas into the regulation.

3. To invite faculty members from universities who have experience in this field to support the soon to be formed commission, the preparation of the "Interior Architecture Accreditation Board Regulation", and to organise the regulation so that it will provide representation at national and international level.

Organized by Girne American University, Department of Interior Architecture and Environmental Design on April 20, 2018, the decisions taken on the “11. Interior Architecture Department Heads Meeting" (11. İBBT), were to establish an "Accreditation Board" for the accreditation of National Interior Architecture Education Programs and to form a "working group" for this purpose. Eastern Mediterranean University, Faculty of Architecture, Head of Interior Architecture Department Prof. Dr. Uğur Ulaş Dağlı was chosen unanimously as chairman to the committee that would carry out the National Accreditation studies. According to the decisions taken on the ‘’11. Interior Architecture Department Heads Meeting’’; Per the TMMOB Interior Architects Chamber 24. Term Board of Directors, with the decision dated 27.06.2018 with the decision number 6/41, the ‘’Interior Architecture Education Programs Accreditation Committee (İMEPAK)’’ was founded to ‘’meet the general needs of the members of the profession, to facilitate their professional activities, to ensure the development of the profession in accordance with the general interest, to cooperate with official authorities on works related to the professional interest, to provide the necessary assistance, opinions, thoughts and offers by examining all the legislation, norms and scientific specifications related to the profession and to inform the relevant people, and to evaluate interior architecture education and to improve it through competency studies’’.

As per the decision taken, with the participation of Prof. Dr. Uğur Ulaş Dağlı (Chairman), Doç. Dr. Özge Cordan (ITU Department of Interior Architecture), Prof. Dr. Sezin Tanrıöver (Bahçeşehir University, Head of Interior Architecture and Env. Design Department) and Yrd. Doç. Dr. Münevver Özgür Özersay (consultant), The Accreditation Board (İMEPAK) started its work with its 1st meeting held in Ankara on 24-25 July 2018. Per the decision (dated 31.08.2018 with the decision number 10/78) taken from the 24. Term Board of Directors, representing the TMOOB Interior Architects Chamber, Başkent University GSTMF Interior Architecture and Environmental Design Department Faculty Member, PhD. Betül Bilge Özdamar was appointed to contribute to the work on İMEPAK. Prof. Dr. Nur Ayalp (TED University In. Arch. and Env. Design Department Head) also joined and took place in the İMEPAK work group.

It is possible to review the required study and work for the formation of İMEPAK National Accreditation Program’s fundamental founding concept in 2 terms.

2.1 İMEPAK 1. Work Term

There is no national accreditation institution for the accreditation of Interior Architecture / Interior Architecture and Environmental Design Education Programs. To create a systematic setup, İMEPAK started its work by scrutinizing the contents of other national and international accreditation institutions. (Türkiye Yükseköğretim Yeterlilikler Çerçevesi, 2021) (AQAS, 2021) (CIDA, 2021) (ECIA, 2021)

İMEPAK, in its evaluation; sought to find a hybrid system that would be in accordance with interior architecture education, that would be transparent, that would be supportive and open to development. At the end of the evaluation; IMEPAK decided to design a rich hybrid accreditation program combining CIDA (Council for Interior Design Accreditation), MÜDEK (Mühendislik Eğitim Programları Akreditasyon Derneği – Association for Evaluation and Accreditation of Engineering Programs), MIAK (Mimarlık Eğitimi Akreditasyon Derneği - Association For Accreditation Of Architectural Education) and many more accreditation councils'/associations' documents while designing the structure of IMEPAK; and CIDA and AQAS documents, for defining the principles, regulations and criteria in the accreditation process with regard to national, cultural, socio-economical and educational conditions of two countries.

CIDA Council for Interior Design Accreditation is a North America based organization, which has determined the expertise of the interior architecture field, which areas it should be strong in, and the accreditation conditions. CIDA has as basis the aim of supporting educational institutions on the grounds of creating, spreading, and preserving the professional culture in the field of interior architecture. On the İMEPAK evaluation, it has been observed that CIDA has flexible variations in its own retentive structure and that it places emphasis on continuous approaches. Conversely, a notion that CIDA standards are somewhat constrained has developed. In this case, the question of "what the originality of the education program would be" was found to be important.

AQAS (Agency for Quality Assurance) accredits all educational programs. It is an institution that is placed as a supervisor to educational administration and student rights. Two factors stand out in the accreditation program: ''internal consistency'' and ''originality''. This is an important approach regarding quality management, and it not only evaluates its own internal consistency inclusively, it also questions the novelty and originality of programs without creating a monotype for all of them. However, it has been contemplated that AQAS might carry the risk of not being capable of answering the dynamics of interior architecture educational programs.

At the end of the first İMEPAK Work term;

- The general approaches of İMEPAK; should not contradict the IFI (International Federation of Interior Architects/ Designers) general declarations as the Interior Architects Chamber is a member of IFI and was accepted as a stakeholder of İMEPAK. (IFI, 2021)

- A hybrid understanding and evaluation of values that would contribute positively to the field of interior architecture were formed by drawing from existing AQAS and CIDA criteria, and a decision to create unique system of values oriented towards interior architecture education accreditation criteria that will be formed by İMEPAK was taken.

2.2 İMEPAK 2. Work Term

The second term hosted a long and busy working process. It included studies on İMEPAK values and evaluation studies in Interior Architecture Department Heads Meetings. The İMEPAK work group has completed its studies on the National Interior Architecture Accreditation Association Regulation, Working Principles, Program Evaluation Criteria and Processes and the activity chart of the association with the support of TMMOB Chamber of Interior Architects Headquarters in around 2 (two) years.

Table 1. Examples of İMEPAK studies conducted between 2018 and 2019.

	Place	Worked Documents	Discussed Topics
25-26 July 2018	TMMOB Chamber of Interior Architects Ankara	-İMEPAK Regulation -İMEPAK Work Principles	-Advantages and disadvantages of the Chamber of Interior Architects as a stakeholder -The formation of an association and the evaluation of the work under said association -The relationship between YÖK-Non - governmental organisation
22-23 January 2019	KKTC- Famagusta	-İMEPAK Regulation -İMEPAK Work Principles -İMEPAK Education, Context and Content, Terms and Criteria	Evaluation of the CIDA program criteria
20-21 September 2019	TMMOB Chamber of Interior Architects Ankara	-İMEPAK Regulation -İMEPAK Work Principles -İMEPAK Education, Context and Content, Terms and Criteria - İMED (Interior Architecture Education Association) Evaluation and Accreditation Practice Principles Directive	Evaluations regarding the worked documents

At the end of the second İMEPAK Work term;

1-İMEPAK Regulation
2-İMEPAK Work Principles
3-İMEPAK Education, Context and Content, Terms and Criteria
4-İMED (Interior Architecture Education Association) Evaluation and Accreditation Implementation Principles Directive had been completed.

In parallel, İMEPAK (Interior Architecture Education Programs Accreditation Committee) Work Chart had been completed Figure 1).

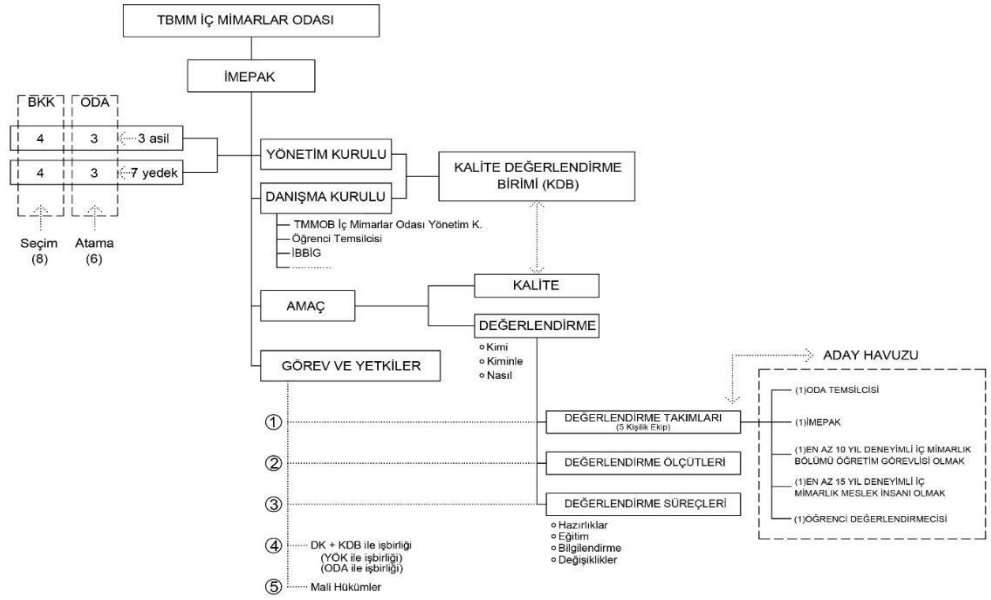

Figure 1. İMEPAK Interior Architecture Education Programs Accreditation Committee work chart

At the end of the work term, a draft study was also carried out under the name IMED (Interior Architecture Education Association) and a working scheme was created for this (Figure 2).

The work done and the suggestions given for the foreseen procedure were shared regularly in İBBT, and the preliminary draft study was completed with the feedback taken.

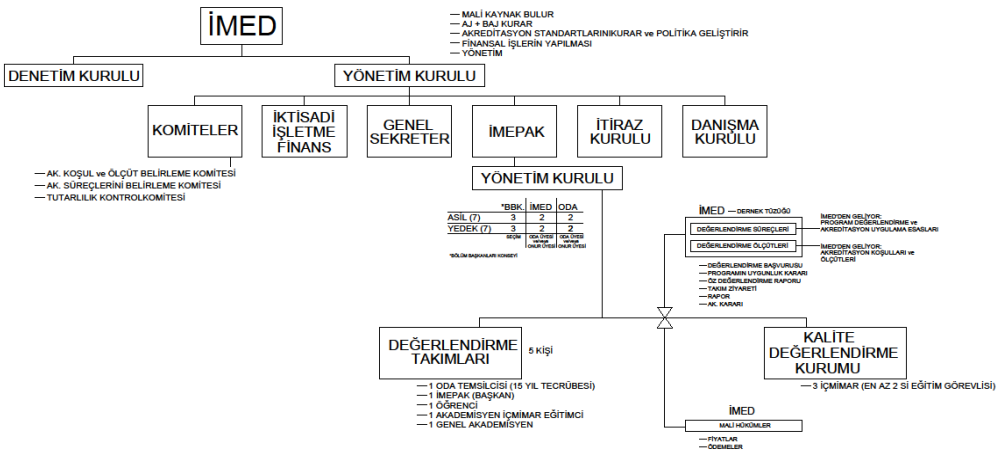

Figure 2. İMED- Interior Architecture Education Association Work Chart

On 16.05.2019, the formation and development process of İMEPAK, its stakeholders, structuring system and system setup were shared and evaluated with YÖKAK Vice President. As a result of this meeting, the following decisions were taken:

1. An association regarding Interior Architecture Education Program Accreditation should be formed, and it is important for the TMMOB Chamber of Interior Architecture to be a stakeholder in its formation and decision stages for the association to be and stay independent.

2. Important requirements for the formation is for it to be inclusive of all interior architecture education programs, to be transparent and to have easy access to information flow.

4. The association should be established for accreditation purposes only. İMEPAK will then work as a commission of this association.

At the end of this process, the decision of establishing IMED in IBBT (Interior Architecture Education Association) was changed in favour of forming an association that would meet a participatory and strong structuring with multiple associates, and the TAPLAK Association process was started.

3. TAPLAK (DESIGN AND PLANNING ACCREDITATION ASSOCIATION) FORMATION AND WORK

On January 11, 2020, TMMOB Chamber of Interior Architects Chairman Emrah Kaymak and the İMEPAK working group met with the management of TMMOB Chamber of Landscape Architecture and the team that carries out the landscape architecture accreditation studies. It was agreed upon to gather under the roof of a single association for the two professions and to establish the TAPLAK Association, which would carry out accreditation studies with autonomous program evaluation criteria specific to the education programs of both fields.

Following this meeting, the assessments regarding TAPLAK associations founding were presented to the department heads at the 14. Interior Architecture Department Heads meeting held at Fatih Sultan Mehmet University and after general acceptance the association was founded. TAPLAK was formed by combining the institutional efforts of two of the design and planning disciplines in cooperation with professional chambers and academia (A structure similar to MÜDEK, Association for Evaluation and Accreditation of Engineering Education Programs) (Taplak, 2021).

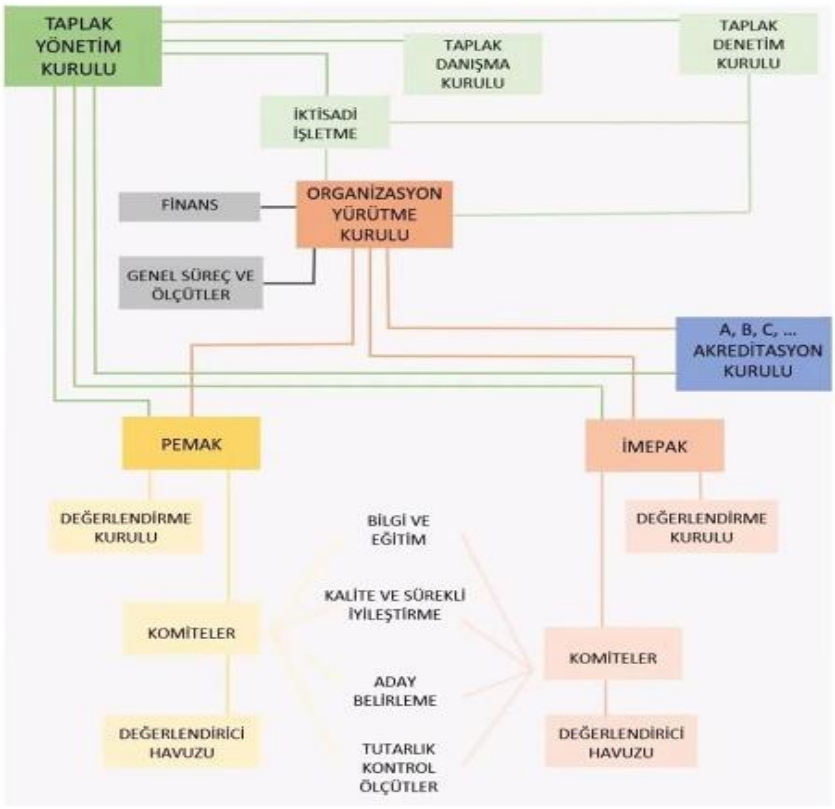

Figure 3. TAPLAK Association Organizational Chart

From 29 March to 8 April 2021, the first TAPLAK Ordinary General Meeting was held, and a final declaration was published. According to this declaration:

- The "Design and Planning Accreditation Association" (TAPLAK) was established to contribute to the improvement of the education quality in the fields of design or planning in Turkey by carrying out accreditation, evaluation and informational studies for educational programs operating in the fields of design or planning.
- Design and planning disciplines have common foundations as well as their own specializations. Design and planning training programs are aimed to be accredited under a common roof within the scope of TAPLAK activities.
- In the accreditation studies of design and planning education programs, it is important to include professional associations and academic institutions amongst all stakeholders. The common platforms of professional organizations, whose duties and authorities are determined by law, and which are public institutions along with academic institutions at undergraduate and graduate levels are indispensable stakeholders of TAPLAK activities.
- Equal representation is the basic principle in TAPLAK activities. In this context, the continuity of this principle is essential in the formation and management of TAPLAK Accreditation Boards and Committees.
- Another aim of TAPLAK is to ensure the interaction and cooperation of other architecture, planning, and design main programs with the association within the scope of accreditation processes. In this context, TAPLAK will continuously encourage the necessary dialogue and cooperation, and will carry out activities that will support all kinds of events aimed at

strengthening sector-university relations and cooperation to increase the quality of education.

TAPLAK Association, in which Professional Chambers, academicians and relevant Department Heads of universities are stakeholders, has been applied to YÖKAK to be officially registered and is waiting for the process to be done.

4. İMEPAK- MISSION, PURPOSE, AND EDUCATIONAL GOALS

İMEPAK gives a basic definition of undergraduate programs that would like to be accredited as follows:

“Interior Architecture/ Interior Architecture and Environmental Design undergraduate programs provide vocational education that will equip its graduates with the ability to attain accurate and up-to-date information on the field and to synthesize information. For this context, it has an educational philosophy with a mission, a vision, and a strategic (plan) purpose.’’ In order to achieve this, the candidate programs are required to make a statement that provides information about the mission and vision of the relevant institution, the educational philosophy, and the distinctive features of the program. İMEPAK expects the program related to this approach to define "consistency within the program" and "authenticity".

The education fields that are expected to be included in the interior architecture/interior architecture and environmental design undergraduate programs as bare minimum are defined below.

Table 2. Education fields of interior architecture/interior architecture and environmental design undergraduate programs

International Context	Environmental Systems and Comfort	People Oriented Design	Professional Practice and Professionalism
Partnership	Construction/Structure/Building	Design Process	Regulation and Legislation
Communication	Product and Materials	History	
	Light and Colour	Design Principles and Elements	

The curriculum knowledge and skill criteria definitions that are expected to be included under these titles by İMEPAK were based on CIDA's professional standards (Council for Interior Design Accreditation). Hence, under each field of definition, descriptions of “purpose”, “learning outcome”, and “program expectations” were integrated. Each program is expected to define its own value of originality and to provide, with proof, the systematic concept regarding its internal program consistency.

İMEPAK has given clear definitions of time periods regarding students receiving the aimed output of the educational program (information, skill, behaviour) and the required qualifications, along with supporting a student-tuition approach on educational teaching. It has expressed the need to define transparent, impartial, and objective methods regarding this educational teaching.

İMEPAK has defined the value of having educational staff in sufficient numbers and competence to fulfil the mission, purpose, and educational goals of the program. It has also defined the necessity to have interior architects as academic personnel.

İMEPAK strongly emphasizes the need to keep track of students after they graduate from interior architecture programs, to monitor their success rate and to develop approaches that will help build sustainable relationships with them. It expects documented strategic planning and program development processes regarding the integration of alumni to the education process.

İMEPAK states that a long-term plan, along with a systematically operated self-assessment procedure is necessary to continuously improve interior architecture programs. The participation of lecturers, students, alumni, and exterior associates are seen as valuable.

İMEPAK expects internal, multidisciplinary, and external associate collaborations to be created and supports it regarding social contribution in interior architecture programs. It expects the planning and actualization of activities that will inform society about the values, processes, and professional ethics of the program.

5. CONCLUSION AND EVALUATION

To conclude, it is clear that the accreditation of interior architecture educational programs is more of a necessity rather than a choice for the development of the profession. This study aimed at conveying the establishment processes of İMEPAK, which is a committee formed to ensure the continuous development of the profession while reaching the contemporary standards. Although the final version of IMEPAK accreditation system and documents are open to discussion within the scope of this conference, the concrete results regarding the performance of IMEPAK (İçmimarlık Eğitim Programları Akreditasyon Komitesi) targeting concrete institutional structure, sustainability, continuous improvement, reliability, openness, transparency and participation for improved quality in interior architecture/design education, demands at least a decade for the losses and gains to be determined.

REFERENCES

Agency for Quality Assurance (AQAS). (2021). https://www.aqas.eu

Cordan, Ö., Görgül, E., Çinçik, B., & Numan, B. (2012). İç Mimarlık Eğitiminde Günceli Yakalamak: İTÜ Örneği. *İÇMEK / İçmimarlık Eğitimi 2. Ulusal Kongresi*, İstanbul, Turkey, 20 December 2012.

European Council of Interior Architects (ECIA). (2021) *About ECIA*. http://www.ecia.net

International Federation of Interior Architects/Designers (IFI). https://ifiworld.org

Özsavaş, N., & Güler, K. (2012). İç Mimarlık Eğitiminde Akreditasyon: ECIA ve CIDA Ölçütleri Karşılaştırması. *İÇMEK / İçmimarlık Eğitimi 2. Ulusal Kongresi*, İstanbul, Turkey, 20 December 2012.

Tasarım ve Planlama Akreditasyon Derneği (TAPLAK). (2021). https://www.taplak.org

The Council for Interior Design Accreditation (CIDA). (2021). *About CIDA*. http://accredit-id.org

Türkiye Yükseköğretim Yeterlilikler Çerçevesi (TYYC). (2021). http://tyyc.yok.gov.tr

Beyond the Common Issues: Students' Perspective on Participation in Online Education

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ABSTRACT

The recent outbreak of the Coronavirus pandemic has increased the gaps in the education sector globally for changing the common route of face-to-face education to a virtual one. While this model is not free of shortages and challenges, documenting the literature illustrated remarkable tangible obstacles. Unfortunately, there is little in-depth research on students' points of view on the intangible struggles of online education, while intangible issues have been overlooked in developing countries such as Iraq. Therefore, this study aims to understand the unspoken problems that challenge students' participation in online courses. This qualitative study provides in-depth interviews with university students, more specifically architectural students, who participated in the online classes from 2019 to 2021 that online teaching was compulsory at the beginning and blended education last year. Realizing the phenomenon of low performance or not participating in the online lectures from the active students' side. Documenting literature has been taken in the second step of this study to illustrate the students' perspectives on the touchable issues in their university life. Based on previous studies, an in-depth interview has been conducted to understand intangible obstacles in front of students through online lectures. Interpreting the responses and analyzing the results are the methodological tools of the study. As a result, the respondents show that despite providing all access to online lectures in architectural education, many obstacles faced the students. Surprisingly, both genders have faced problems, but the females had forced rather than the males. The participants demonstrated four main issues due to their online lectures: emotion, educational culture, family culture, and change resistance. In conclusion, this study attempts to emphasize the hidden issues for online architectural education in cultures such as the Middle East, particularly in Iraq. So this study recommends for the further researches to explore the solution of the uncommon issues.

Keywords: Pandemic, Online Learning, Architectural Education, Intangible Issues, Students' Perspectives

1. INTRODUCTION

An epidemic of the coronavirus Covid-19 occurred around the end of 2019, and by the end of March 2020, it had become a worldwide pandemic (Ibrahim, Attia, Asma'M, & Ali, 2021). Many nations, namely Iraq, were obliged to shut down with a whole or partial shutdown to stop the virus from spreading (Obla & Ukabi, 2021). Schools, and notable universities, were obliged to halt academic activity. As a result, the educational influence of Covid -19 should be investigated (Adebisi, Agboola, & Okereke, 2020; Hayter, 2020). Regarding the future of architectural education and its stability, it involves several issues that need to be addressed by scholars (Salama & Crosbie, 2020).

As per data from the United Nations Educational, Scientific, and Cultural Organizations (UNESCO), almost 1.2 billion students worldwide have abandoned face-to-face education (Khogali, 2020; Kristóf, 2020). Governments and various Ministries of education have supported remote learning using online digital tools (Setiawan, 2020), including Iraq. Nevertheless, many communities are unable to participate in online learning completely (Goswami, 2020; Ibrahim et al., 2021; Kristóf, 2020) because of inequitable distribution of resources, tactics, and poverty (Ceylan, Şahin, Seçmen, Somer, & Süher, 2020).

Other factors in Iraq include uneven internet access, haphazard alternate learning methodologies, government inactivity, and interactive online tools (Varma & Jafri, 2020). Furthermore, according to Allu-Kangkum (2021), there is a significant divide in Nigeria between those who can afford and those who cannot afford to do online learning (Allu-Kangkum, 2021; Amorighoye, 2020).

2. RELATED LITERATURE

Following the introduction, this part examines the theoretical foundations of covid-19 and the promise and problems provided by the new normal in architecture education throughout the world.

The current coronavirus epidemic and the demand for online or remote learning have sparked debate in architectural education throughout the world. Because of the coronavirus pandemic, these talks are centered on the possibilities and new obstacles to learning (Ceylan et al., 2020; Gautam, 2020; Goswami, 2020; Ibrahim et al., 2021). Besides, according to Schwarz et al. (2020), online learning enhances educational sustainability. Therefore, education is the greatest way to pursue sustainable objectives (Allu, 2018). Earlier studies (Boarin, Martinez-Molina, & Juan-Ferruses, 2020; Donovan, 2018; Kowaltowski et al., 2020), have emphasized the relevance of sustainable education in architecture education.

In many nations, the design studio is the primary learning setting for architectural education (Brown, 2020; Rauf, Shareef, & Othman, 2021). This circumstance, however, has prompted calls for a more interconnected learning environment (McGrew, Schonauer, & Jamieson, 2019; Rauf & Shareef, 2019). Wright and Grover (2020) agreed with this viewpoint and advocated for a more adaptable and sustainable architecture education (Herrera-Limones, Rey-Pérez, Hernández-Valencia, & Roa-Fernández, 2020) learning environment to address the current coronavirus epidemic.

Other studies have underlined the importance of connecting theory, application, and practical training in architecture education (Kalantzis & Cope, 2020; Piplani & Brar, 2020a; Piplani & Brar, 2020b) and sustainability (Allu, 2018; Milovanovi, et al., 2020). Many academics have endorsed online learning as a viable alternative to the new normal in education.

Despite the apparent growth of the online learning (Brown, 2020; Friedman, 2020), the physical dimension of the studio learning environment remains vital to architectural education (Jones, Lotz, & Holden, 2021). In support of this, Jones et al. (2021) have determined that

online formal learning systems must be upgraded to accommodate the unique nature of architectural education. MAYUK and COŞGUN (2020) findings with student workshops demonstrated that students prefer to learn by doing rather than hearing, supporting this viewpoint once again.

3. METHOD

This qualitative study has been conducted to understand intangible issues in online education in architectural design studios. Qualitative research is a method of investigating and comprehending the meaning that individuals or groups attribute to a social or human issue (Creswell & Creswell, 2017). This study takes the phenomenon of low performance and low participation in the online lectures by the high-performing students in the on-campus courses. For this reason, the in-depth interview was provided as a data collection tool with the students who experienced this phenomenon (Giorgi, 2009; Ortiz & Greene, 2007).

3.1 The Procedure of the Study

The phenomenon was realized with the beginning of the pandemic and quarantine period, when, through the Ministry of Higher Education-KRG, Iraq, the online platform had been provided for practical courses in universities. In the territory of Sulaymaniyah Province, three universities have Architecture Departments. However, one of the departments postponed its education to post-pandemic time in that time. The second department provided e-learning education by postponing its practical courses to post quarantine time. At the same time, Tishk international University-Sulaimani provided online lectures for the practical courses. So, the latter department has been taken as a case for this study. Students' names were noted after perceiving the phenomenon of low participation and low-performance students in their online design studio courses. After the end of the online courses and going back to campus, the selected students were observed again to understand their performance. By this, the confirmation of the selected students' low performances was only obtained during online lectures. Previous literature was documented to understand a pandemic's influences, opportunities, and challenges on architectural education. However, the current literature addressed common issues such as the internet or/and electricity, whereas this study attempts to understand unspoken problems deeply. Therefore, an in-depth interview was conducted with the selected students. The questions of the interview were open-ended in order to give more freedom to respondents to explain their life stories at that time. For policy matters, the codes have been given to the students from S1 to S12.

3.2 Sample of the Study

Despite the number of seventy-five students, twelve (10+2 for confidence interval to face the minimum error) students have been taken into consideration in the in-depth interviews (Boddy, 2016; Malterud, Siersma, & Guassora, 2016; Marshall, Cardon, Poddar, & Fontenot, 2013; Sandelowski, 1995). Those students had a high performance in the pre-pandemic and post-pandemic on-campus lectures, while those with low performance decided to provide all the necessary equipment for an online course. Among the interviewed students, five are males, and seven are females.

Table 2. The population of the students with the number of sample size for the in-depth interview

#		Population	Sample Size	
1	Second Stage	15	There is a homogeneous variety with a specific phenomenon, so the minimum sample size is 10	The sample size of this study is 12 (10+2) for Confidence Interval to face the minimum error (Malterud et al., 2016; Marshall et al., 2013)
2	Third Stage	33		
3	Fourth Stage	9		

4	Fifth Stage	18	students (Boddy, 2016; Sandelowski, 1995)	

4. FINDINGS

In the in-depth interview, five open-ended questions were asked. The participants have a response for each them. The explanations and interpretations of respondents' answers are illustrated below:

Q1: Do you prefer on-campus education or online education? Can you tell me your reason?

According to the answer to this question, approximately most of them, 10 students, mentioned that on-campus classes are more impressive. The eye contact, student-instructor interaction, and student-student interactions are stronger for them, while they pointed out that they cannot understand well from online class since there are many reasons such as internet interaction and lack of information about using online platforms by their instructors. Furthermore, one of the students said that online classes are more joyful when other students have no interruptions. Surprisingly, despite his high performance in the campus classes, one of the students mentioned that "architecture education is nothing for me when my mind is with another department, so I hate both campus and online classes" (S4).

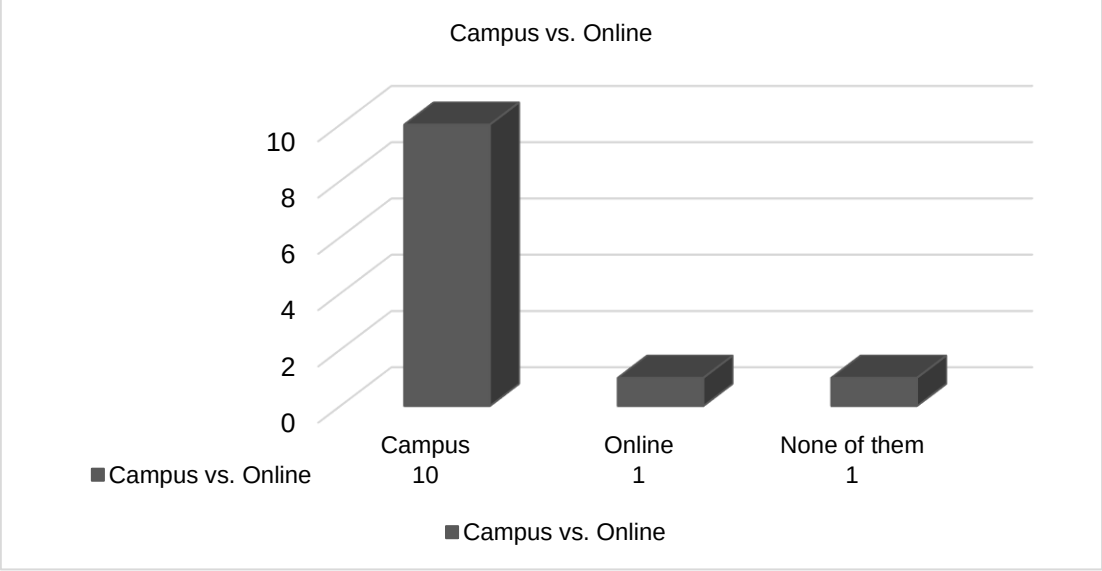

Figure 1. Findings of the students' response to their chosen campus vs. online courses

So, it is obvious that 83.34% of the interviewed students preferred on-campus learning. In contrast, only 8.34% of them chose online learning.

Q2: Can you tell me a good memory of your online lectures?

In responding to this question, many answers had emphasized. So, for more understanding, the answers are interpreted in six main points:

Have fun during the class: one of the most repeated answers, four students out of 12, was "having fun, it was fun, we had a fun time". For instance, S6 mentioned that "during an online session a funny thing happened, which was our instructor became angry and that time the grocery man outside our lecturer's home shouting for fresh tomatoes to sell". Also, S11 said,

"I had much chocolate, snacks, video gaming, and my amazing, comfortable bed, without letting my instructor feel them, hahaha".

No Need for Preparation: three interviewed students pointed out that coming to the campus takes too much time for preparation; what made a good memory for them, as they did not need to prepare themselves for class because they closed the camera and no one saw them. S5 declared, "Every day I need 1 to 1.5 hours to prepare and do my makeup, but in online classes, I was sometimes in my bed, and sleepy my class was started".

Sleeping during the class: two of the respondents mentioned that they had a chance to sleep during class time because other students took critiques.

Repeating Lectures: During online lectures, the sessions were recorded and uploaded to the university's platform, so the students had the chance to listen to their critiques more than once. S1 mentioned that "during on-campus lectures, I forgot what my instructors said to me most of the time, but I could listen to my project critiques ten times".

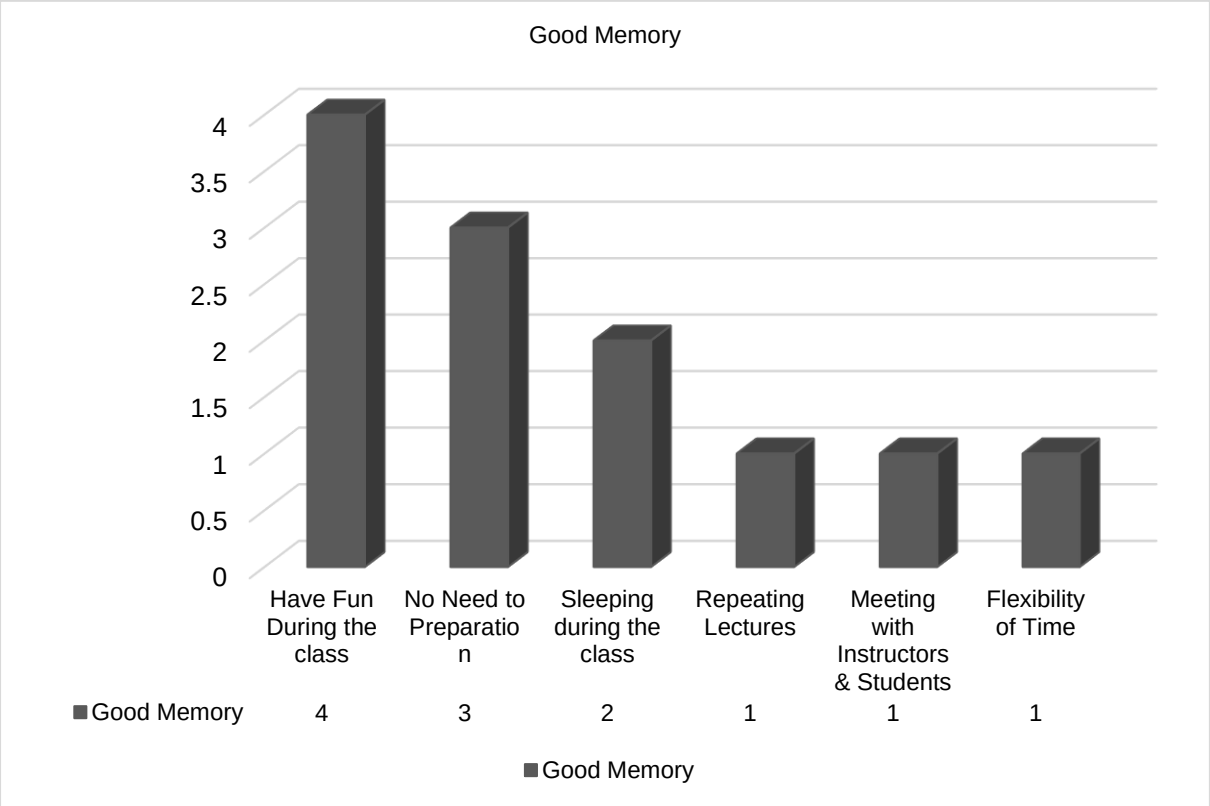

Figure 2. Students' explanations on their good memories during online lectures

Meeting with Instructors & Students: one of the students (S5) illustrated that "do not forget, our online lectures were in quarantine time, so it was a good opportunity to meet our instructors and my lovely friend, even though the meeting was virtual".

Flexibility of Time: another student (S7) stated that "in on-campus classes after 15 mins. If we do not enter the class, the instructor writes us as absent, but in online lectures, we agreed to have our lecture according to our appropriate time."

Therefore, the percentage of recorded good memories by the participants was 33.3% of the students had fun during the class, and 25.0% believed there was no need to prepare. Also, 16.67% of the participants mentioned their sleep during the class without letting their

instructors feel it. At the same time, 8.33% of the students demonstrated repeating lectures at another time, another 8.33% said meeting the instructors and students was a good memory, and the last 8.33% mentioned flexibility of time was a good memory.

Q3: What was/were your worse experience/s during your online courses?

Throughout asking this question, the participants' answers had classified into three classifications.

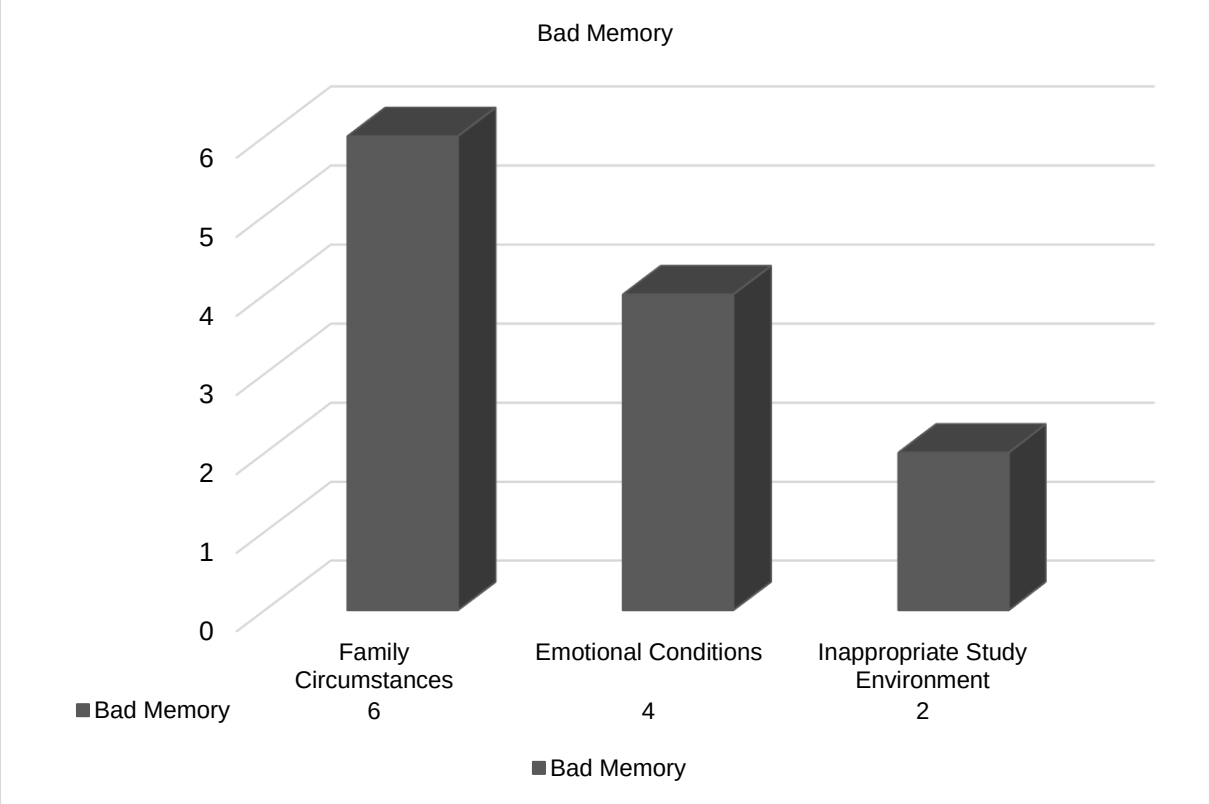

Figure 3. Students' explanations of their bad memories during online lectures

Family Circumstances: Half (six Students) have mentioned their family circumstances during online lectures. Despite S7 mentioning flexibility of time as a good memory, S3, S5, and S9 demonstrated a change of time as bad memory when their parents or at least one of them were at home and did not accept their children to talk to their instructors. For instance, S3 said, " My dad said to me, shame on you… in front of me you are laughing and talking very comfortably with X instructor!" when X was Mr and S3 was female.

Emotional Conditions: Four of the students believed that having no opportunity to hug, kiss, and touch their friends and they could not see their instructors' language, bodies, and faces were the worst experiences of online lectures. S11 mentioned that "I used to hug and kiss my friends every day, but because of quarantine I could not do… when in the online lectures I heard their voice, I sometimes cried a lot". At the same time, S12 stated, "How much was nice when I had on campus Lectures I saw my teacher's face, from his/her smile or aggressiveness I understood how much s/he was happy or upset about my works".

Inappropriate Study Environment: two of the students pointed out the importance of the study environment. As S4 said, "when I was at my home and my teacher at his home, we didn't see each other in reality, getting distracted easily and not concentrating on what the

teacher says was so normal!". Also, S2 mentioned, "too many temptations at home. Students will always struggle to focus during online lessons".

So, this question can be concluded as 50% of the students had family circumstances, 33.3% had emotional conditions, and 16.67% had an inappropriate study environment during online lectures.

Q4: In your opinion, what was/were the struggles to participate in online courses?

By asking this question, each respondent had the opportunity to choose more than one answer to figure out all of the aspects of the struggles they faced during the pandemic. All of the students agreed that electricity and the internet were the common problems. In addition, however, the participants illustrated other issues such as lack of dialogue, cultural-educational shock, lack of motivation, and lack of group work participation. These points are explained in the following sections.

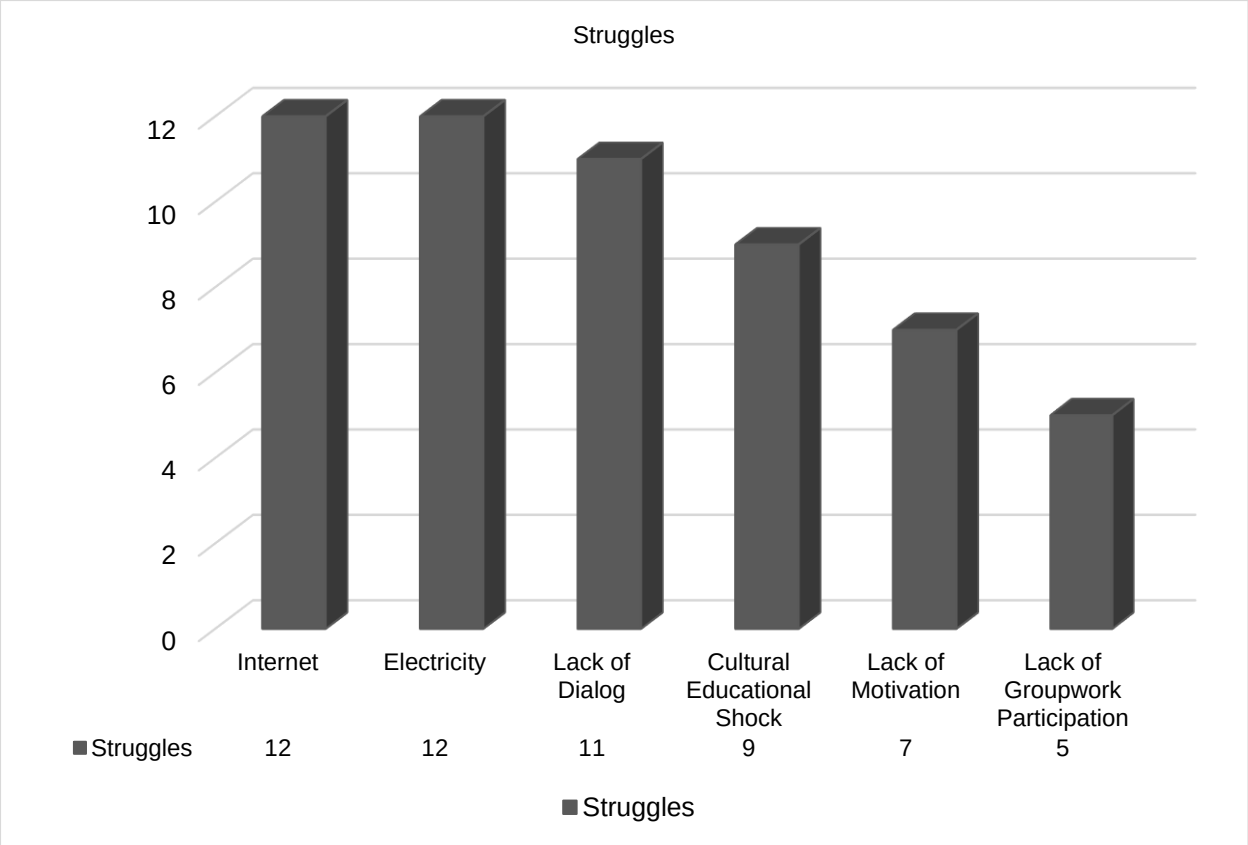

Figure 4. Students' Demonstration of Struggles in Online Education

Lack of Dialogue: through answering this question, eleven students mentioned 'that lack of dialogue' was one of the most obvious obstacles for them when the instructor muted their mics; as S7 stated, "it made me so nerves when my teacher muted all of us and didn't allow us to talk or to ask, sometimes I raised my hand, but he didn't see my request, I was so upset".

Cultural-Educational shock: in Iraq, attending a physical class environment is one of the most crucial requirements. Yet, during quarantine time, the students experienced virtual classes for the first time, so somehow it was difficult for them to adapt to using their laptops and participating in the class from home. S3 mentioned that "when they said to me we will have design lecture from home, I socked, I remember I was shaking for more than 20mins. In

the first lecture, I got critiques when I realized that I was at home. I have design lectures without any access to draw on my drawing papers. That shock still in my mind, I don't think I will forget, and every day I remember". Some other students, such as S6 and S12, believed that even their instructor's voice differed in the online classes.

Lack of Motivation: seven students demonstrated that lack of motivation was one of the struggles in front of their online lectures. S2 stated, "Online learning requires motivation to complete tasks, stay engaged, and make progress. But we couldn't get it well from our instructors, even from administrations of department or university". At the same time, S5 mentioned, "there wasn't any motivation to go with the project. I think in that time, our instructors even need to be motivated, we all were in a big shock, and there was no one to motivate us".

Lack of Groupwork Participation: whereas, in pandemic time, everyone has obliged to stay at home. The students lost the opportunity to work as teams. Although most students usually prefer working as individuals, five of the participants mentioned that working as an individual and not participating in a group was another struggle for online education. S1 said:

> You might prefer to join a study group or go hang out with classmates as part of your college experience, but we didn't have this chance, sometimes with my friends we study in a group, even if we have an exam which needs to study individual, but to understand more and to motivate each other to study, we gathered to study… but in online classes, we didn't have this, I was sometimes crying because I couldn't study alone.

Therefore, by the respondents' replies, many remarkable obstacles have been demonstrated. The obvious problems such as electricity and internet had mentioned by all interviewed students. Yet many unspoken issues include lack of dialogue, cultural-educational shock, lack of motivation, and lack of group work participation.

Q5: Due to online education, did you prefer theoretical or practical courses with online participation?

In the last question, the participants were asked if they prefer theoretical or practical courses in an online mode. As a result, seven students (58.33%) preferred theoretical courses to be taught on online platforms. At the same time, three students (25%) did not accept both theoretical and practical courses in online mode. As S8 stated, "none of the theoretical and practical courses is good to be taught online… I hated bot". In contrast, only one of the students (8.33%) mentioned that practical courses are better to be taught in online mode. Yet, one student (8.33%) believed that both theoretical and practical courses can be taught online and is better than on-campus courses.

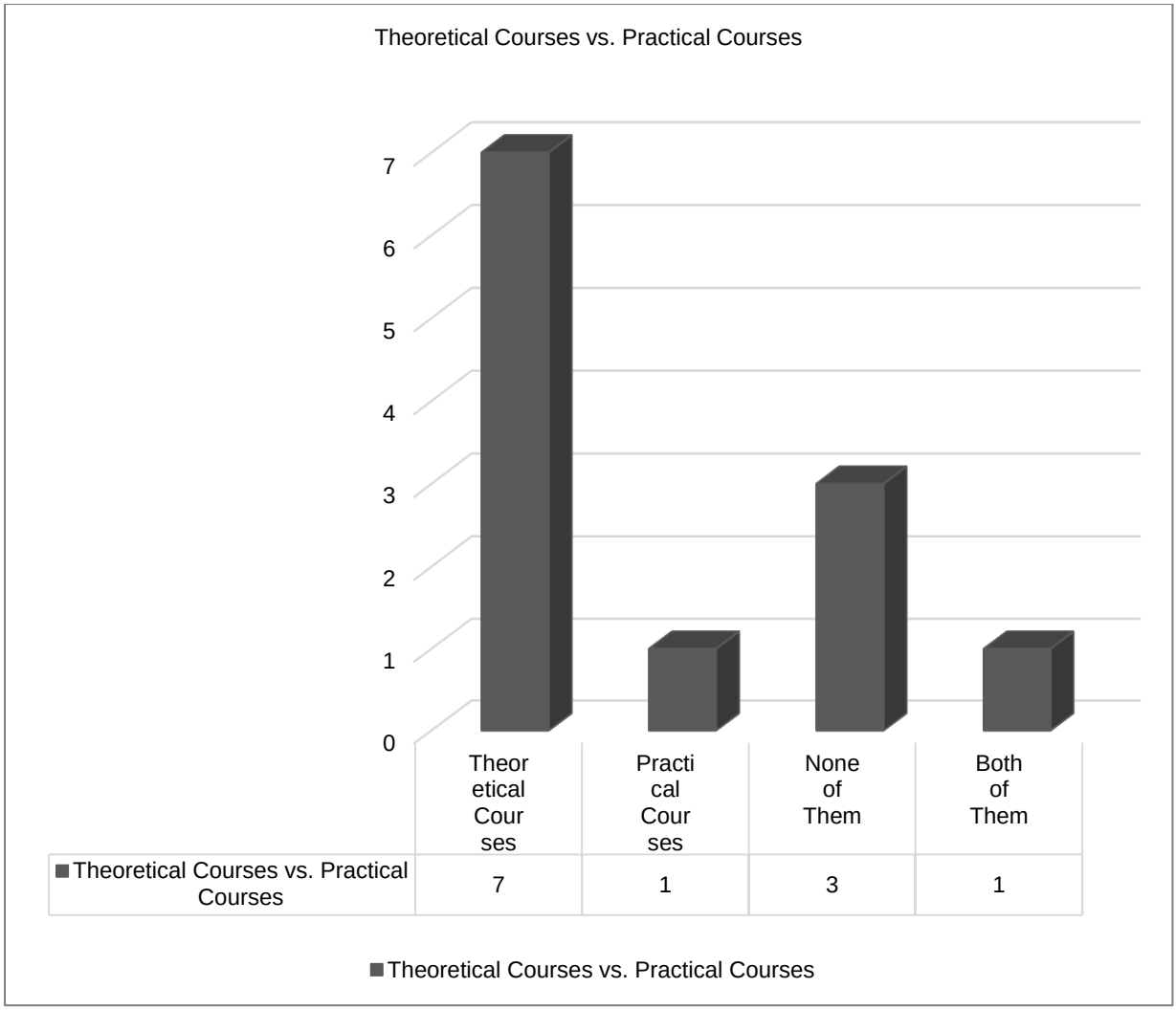

Figure 5. Students' response to preferring theoretical or practical courses by online platform

5. DISCUSSION

Coming to analysis of the findings, it can be mentioned that, generally, students are for on-campus courses, which is somehow predictable and shown in Figure 1. So, the students are expected to experience different subjects when involved in online education. Responding to the second question (Figure 2), most of them mentioned that they had fun during the online classes as a good memory. This is also contradictory to what they mentioned in the first question, as the majority were for on-campus classes. Thinking of this subject, we can understand that spending no time for preparations, flexibility for leaving anytime they wanted during the online sessions, and availability of the classes on the university's online platform could fill the gap in the students' desire for on-campus classes. Students could adapt themselves to the new education model (online education).

Considering the students' obstacles during the online classes can be seen in Figure 3, which have been listed as 'Family circumstances', 'Emotional conditions', and 'Inappropriate study environments'. So, we can say these are the points that this study tried to find and understand.

Starting with the first point, the 'Family circumstances', students did not hide how they were under stress sometimes under these circumstances. This may open many discussions

regarding gender issues and cultural beliefs. However, both genders experienced the same stress coming from their families and having no suitable places to participate in online classes free from their family interventions. Part of this may be because the subject of online learning is somehow new to the country in general and specifically to the families of these students.

This second point was 'Emotional conditions'. Students explained how they needed their friends to be around them and practice their emotional being with them. It seems that regardless of the virtual or online meetings, they still needed to mingle. So, it is human nature to meet and see their loved ones face-to-face, which makes them spiritually relaxed, and when this happens, they may better learn and be involved in the classes. Another point is instructor-student relations in online classes. Students reported that they lacked this important relationship in the online classes because they could have missed what the instructor said due to the lack of face-to-face meetings. Sometimes, in on-campus classes, instructors can observe if students get tired or busy with something else, while online, it is not possible. Some students may just open the meeting link and leave it open without listening to the instructor.

The third point was 'Inappropriate study environment'. This may be because of the families' social network as in this city, and specifically to some families they have strong family ties to their close ones and relatives, so when their relatives visit them, the parents might have felt online education of their sons or daughters hinder an appropriate gathering with them. This also may be different from one family to another related to the area of their homes and if their sons/daughters have their own rooms or not. So, students could not have enough focus for their courses.

Answering their struggles during online classes, students pointed out several issues: the internet, electricity, lack of dialogue, cultural-educational shock, lack of motivation, and lack of group work. To summarize, issues like cut-offs and internet problems are omnipresent, and students from many countries might experience especially in developing countries. What was important was the rest of the problems. Not having enough dialogue can be linked to the previously mentioned issue of 'Emotional conditions'. Students can be better involved in the classes if they keep a dialogue with their peers and instructors. In this way, they can construct a 'meaningful learning' that has an unforgettable nature (Jonassen & Strobel, 2006).

The subject of 'cultural educational shock' is also essential to understand. Education in Iraq rarely allowed online learning to be practiced, but the overall system has been designed for a face-to-face situation, at least before the pandemic. This issue is bolder for architectural education due to its specific nature, especially in design and other practical courses that need face-to-face interaction. That is why students felt this shock.

In some architectural courses and especially in the design studio, students can get motivation from their fellow students and instructors when they keep their discussions around their design projects (Shareef & Farivarsadri, 2020). Students showed that they lacked this motivation, resulting in less performance in online classes. Another subject they have mentioned is the absence of group working. Students stated how they enjoyed working in groups when on-campus studying. While they missed this chance to gather in groups face-to-face even if they had tasks in groups in online classes. Students can learn best from their peers in the social circumstances of the design studio or the courses alike. This can also go under the 'Emotional conditions' and link to students' social activities.

When students asked which one' theoretical or practical courses' to go online, most chose 'theoretical courses' to be on-campus. So, this is an indication that students were against having their core course (design) to be taught online.

6. CONCLUSION

The current Coronavirus epidemic has widened the gap in the worldwide education industry for transitioning from traditional face-to-face education to virtual education. As a result, during the Covid-19 epidemic, online schooling has been approved as an alternative. However, some believe that the unorganized and hasty transition to online learning – with no practice, insufficient bandwidth, and little grounding – will result in a poor user experience that will impede long-term development; others believe that the new blended educational model will emerge with significant benefits.

While this model has limitations and challenges, reporting the literature revealed notable tangible hurdles such as internet networks, electricity, technological instruments, and so on, while disrupting social interactions is also a problem when educational settings try to practice online education.

As a result, practically all prior research on the impact of the Covid-19 pandemic on schooling has identified similar issues. This study looked at students' perspectives on intangible concerns often disregarded in poor countries like Iraq. First, qualitative research conducted in-depth interviews with university students, especially architecture students, who took online classes from 2019 to 2021, when online instruction became mandatory at the start, and blended education became mandatory last year. Recognizing the phenomena of low performance or non-participation in online lectures from the perspective of engaged students. The students' viewpoints on touchable concerns in their university lives were shown in the second part of this study by documenting literature. Based on past research, an in-depth interview was done to understand students' intangible barriers better when attending online courses. The study's methodological tools include interpreting the replies and assessing the outcomes.

Consequently, the answers reveal that, despite providing all students with free access to online courses in architectural education, students experienced several challenges. For example, both genders have had issues, but females have been coerced more than males. In addition, due to their online courses, the participants exhibited the key issues: emotion, educational culture, family culture, and change resistance. Finally, this research highlights the unspoken issues surrounding online architectural education in cultures such as the Middle East, particularly Iraq. As a result, this study suggests that the solutions to the difficulties raised above be addressed while conducting online classes.

REFERENCES

Adebisi, Y. A., Agboola, P., & Okereke, M. (2020). COVID-19 pandemic: medical and pharmacy education in Nigeria. *International Journal of Medical Students, 8*(2), 162-164.

Allu-Kangkum, E. L. (2021). Covid-19 and Sustainable Architectural Education: Challenges and Perceptions on Online Learning. *Journal of Educational Research, 6*(2), 7-13.

Amorighoye, T. (2020). *Coronavirus has exposed the education divide in Nigeria.* Paper presented at the The World Economic Forum COVID Action Platform.

Boarin, P., Martinez-Molina, A., & Juan-Ferruses, I. (2020). Understanding students' perception of sustainability in architecture education: A comparison among universities in three different continents. *Journal of Cleaner Production, 248*, 119237.

Boddy, C. R. (2016). Sample size for qualitative research. *Qualitative Market Research: An International Journal*.

Brown, J. B. (2020). *From denial to acceptance: A turning point for design studio in architecture education.*

Ceylan, S., Şahin, P., Seçmen, S., Somer, M. E., & Süher, K. H. (2020). An evaluation of online architectural design studios during COVID-19 outbreak. *Archnet-IJAR: International Journal of Architectural Research*.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*: Sage Publications.

Donovan, E. (2018). Sustainable architecture theory in education: how architecture students engage and process knowledge of sustainable architecture. In *Implementing Sustainability in the Curriculum of Universities*, 31-47. Springer.

Friedman, J. (2020). Tackle Challenges of Online Classes due to COVID-19. *US News*.

Gautam, P. (2020). Advantages and Disadvantages of Online Learning-eLearning. *Industry*, *17*, 2021.

Giorgi, A. (2009). *The descriptive phenomenological method in psychology: A modified Husserlian approach*. Duquesne University Press.

Goswami, S. (2020). Online Education in Corona Outbreak: A Challenge, Boon or Curse in India. *Boon or Curse in India*.

Hayter, S. (2020). Business as unusual: How COVID-19 could change the future of work. *UN News: Economi Development, 27*.

Herrera-Limones, R., Rey-Pérez, J., Hernández-Valencia, M., & Roa-Fernández, J. (2020). Student competitions as a learning method with a sustainable focus in higher education: The University of Seville “Aura Projects” in the “Solar Decathlon 2019”. *Sustainability, 12*(4), 1634.

Ibrahim, A. F., Attia, A. S., Asma'M, B., & Ali, H. H. (2021). Evaluation of the online teaching of architectural design and basic design courses case study: College of Architecture at JUST, Jordan. *Ain Shams Engineering Journal, 12*(2), 2345-2353.

Jonassen, D. H., & Strobel, J. (2006). Modeling for meaningful learning. In *Engaged learning with emerging technologies*, 1-27. Springer.

Jones, D., Lotz, N., & Holden, G. (2021). A longitudinal study of virtual design studio (VDS) use in STEM distance design education. *International Journal of Technology Design Education, 31*(4), 839-865.

Kalantzis, M., & Cope, B. (2020). After the COVID-19 crisis: Why higher education may (and perhaps should) never be the same. *Educational Philosophy Theory, 40*(1), 51-55.

Khogali, H. (2020). The effect of COVID-19 corona virus on sustainable teaching and learning in architecture engineering. *Modern Applied Science, 14*(8), 44-58.

Kowaltowski, D. C., Gomes da Silva, V., de O Neves, L., Deliberador, M. S., Zara, O. O. d. C., Colleto, G. M., & Victorio, E. R. (2020). Action research and architectural sustainable design education: a case study in Brazil. *International Journal of Technology Design Education, 30*(4), 815-836.

Kristóf, Z. (2020). International trends of remote teaching ordered in light of the coronavirus (COVID-19) and its most popular video conferencing applications that implement communication. *Central European Journal of Educational Research, 2*(2), 84-92.

Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample size in qualitative interview studies: guided by information power. *Qualitative health research, 26*(13), 1753-1760.

Marshall, B., Cardon, P., Poddar, A., & Fontenot, R. (2013). Does sample size matter in qualitative research?: A review of qualitative interviews in IS research. *Journal of computer information systems, 54*(1), 11-22.

MAYUK, S. G., & COŞGUN, N. (2020). Learning by doing in architecture education: Building science course example. *1*(1), 2-15.

McGrew, T., Schonauer, E., & Jamieson, P. (2019). Framework and tools for undergraduates designing RISC-V processors on an FPGA in computer architecture education. Paper presented at the *2019 International Conference on Computational Science and Computational Intelligence (CSCI)*.

Obla, M., & Ukabi, E. (2021). Education in the Virtual Space: A Sustainable Strategy for Achieving Tension-free and Inclusive Learning in COVID-19 Dispensation. *Journal of Studies in Science Engineering, 1*(2), 17-35.

Ortiz, D., & Greene, J. (2007). Research design: qualitative, quantitative, and mixed methods approaches. *Qualitative Research Journal, 6*(2), 205-208.

Piplani, N., & Brar, T. (2020a). "Ma?? ala" in Architecture: Symbolism and Significance for Contemporary Design Education in India. *8*(4), 171-191.

Piplani, N., & Brar, T. (2020b). Traditional building knowledge: Contemporary relevance for architecture education in India. *14*(2), 89-102.

Rauf, H. L., & Shareef, S. S. (2019). Understanding the relationship between construction courses and design in architectural education. *8*(3), 3201-3207.

Rauf, H. L., Shareef, S. S., & Othman, N. N. (2021). Innovation in Architecture Education: Collaborative Learning Method Through Virtual Reality. *21*(16), 33-40.

Salama, A. M., & Crosbie, M. J. (2020). *Educating architects in a post-pandemic world*. *Common\Edge*.

Sandelowski, M. (1995). Sample size in qualitative research. *Research in nursing health, 18*(2), 179-183.

Schwarz, M., Scherrer, A., Hohmann, C., Heiberg, J., Brugger, A., & Nuñez-Jimenez, A. (2020). COVID-19 and the academy: It is time for going digital. *Energy research social science, 68*, 101684.

Setiawan, A. R. (2020). Scientific literacy worksheets for distance learning in the topic of Coronavirus 2019 (COVID-19). *EdArXiv*. https://doi.org/10.35542/osf. io/swjmk

Shareef, S. S., & Farivarsadri, G. (2020). An innovative framework for teaching/learning technical courses in architectural education. *Sustainability, 12*(22), 9514.

Varma, A., & Jafri, M. S. (2020). COVID-19 responsive teaching of undergraduate architecture programs in India: learnings for post-pandemic education. *Archnet-IJAR: International Journal of Architectural Research*.

Level of Social Sustainability Implementation on Architecture Design Studio

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ABSTRACT

Sustainability in the fields of urban planning and architecture has become a point of discussion for a large number of researchers. Sustainability is defined by three pillars: social, environmental, and economic. Social sustainability in communities has gained prominence as a result of several experts stating that sustainability should be ingrained in human beliefs and behaviors. Consistent with this idea, the relevance of social sustainability education in the design field is critical for enhancing livability and healthy communities. However, there are few researches on curricular integration of social sustainability. The design studios, which are at the heart of the architecture and play a vital role in the educational system for architects, are also understudied when it comes to the consequences and functions of social sustainability. According to the relevance of social sustainability in architecture education and design studios, this study will analyze the level of social sustainability implementation, by conducting interviews with students, distributing questionnaires, and observing their final design projects. In this sense, this research employs the two critical indicators of social sustainability, "Social Equity" and "Social Interaction". To that end, this research evaluates the degree to which students apply social sustainability in their designs for third year design studio at Eastern Mediterranean University's Architecture Department. The findings indicate that a measure of integration of social sustainability in design project and illustrate the level of awareness and educational understanding among students about the theoretical idea of social sustainability.

Keywords: Social Sustainability, Social Equity, Social Interaction, Architectural Education

1. INTRODUCTION

The form and expectations of human existence have changed dramatically during the past century as a result of growing urbanization and economic dispersion. As a result of these developments, the negative consequences of development processes on communities have significantly grown. In this light, the necessity for the application of the idea of sustainable development has arisen as a critical problem across several areas. There has been discussion about how ‘sustainable development' practices must offer new foundations for living and working, but there has also been some discussion about how ‘sustainable development' practices must provide new foundations. Essentially, the goal of sustainability is to instill a new ethic and way of life across the planet (Du Pisani, 2006). According to various studies, sustainable development in human societies is not a finished result, but rather a goal and a process. Additionally, sustainable development is possible when the three interconnected elements of social justice, environmental stewardship, and economic equality are compatible (Newman & Kenworthy, 1999). Sustainable development would be possible if people saw it as a necessary social and cultural transformation for the whole society (Packalen, 2010) (Nurse, 2006). As one of the primary components, social sustainability is critical for communities to achieve complete and effective sustainable development (Duxbury & Gillette, 2007). Conversely, social sustainability has become a trending topic in communities, since many researchers argue that if sustainability is to have a future, it must be ingrained in human values and behaviors. Additionally, several scientists and writers have examined the significance and role of higher education in achieving sustainable development in communities. Higher education is regarded as vital for providing a knowledge basis, disseminating sustainability data, developing skills, and assisting students and individuals in recognizing their roles in advancing change in behaviors, beliefs, and lifestyles (Abd Razak, 2011).

1.1 Statement of Problem

Since the Stockholm Declaration of 1972, the incorporation of information concerning sustainable development into higher education has grown steadily (Alshuwaikhat & Abubakar, 2008). Throughout this approach, the emphasis is shifted away from material and fixed learning and toward the character of the learning experience. In this regard, the United Nations Educational Scientific and Cultural Organization noted that “Education, in short, is humanity’s best hope and most effective means in the quest to achieve sustainable development” (UNDSD, 2005). Thus, although social sustainability is required in the architectural education system with the goal of enhancing livability and healthy communities, the extent to which it is implemented and recognized by students throughout the studio design process is unknown. Receiving specific knowledge does not imply that you will comprehend and use it appropriately. By identifying the gaps, it will be possible to highlight the concerns and work toward transforming student knowledge into applicable facts in architectural practice. Lack of understanding the level of implementation of social sustainability in architectural design practice by students is defined as the research problem in this study.

1.2 Research Aim

Taking into consideration the present lack of clear understanding about the level of social sustainability implementation by students in architectural studio design, the authors establish the aim in order to reduce the gap for illustrating the current situation in education system. The purpose of this study is to ascertain the degree to which social sustainability is included into the design studio projects performed by architecture students. By determining the outcome, educators will be able to examine and change their teaching strategies in order to increase the amount of social sustainability knowledge retention in students' design projects.

1.3 Research Focus and Limitation

All variables need to be evaluated appropriately in order to optimize the construction of thermal efficiency architects, but this approach is mainly provided by engineers. After the design point, engineers analyze and improve building efficiency and do not achieve the required objective. The building performance is influenced by the nearby built environment in a significant performance dependent on natural ventilation for the thermal comfort of users and now the building performance of a day is measured without taking into account the effect of the nearby built environment on air movement. The problem can be described as a lack of close-environment consideration in the energy calculation based on the natural ventilation point of view and architect's participation in this field, which will have huge impact on decision-making. The hypothesis is that if the building performance is evaluated on natural ventilation according to the nearby built environment effect, the measurement result will be more practical and the building performance will be more valuable and real-life users will be more satisfied.

2. LITERATURE REVIEW

Throughout the previous five decades, several inquiries and studies have shown that the world's shift away from sustainable development practices has resulted in a variety of negative consequences. As a result, the idea of sustainable development was born in 1972 at the "UN Conference on the Human Environment" in Stockholm, serving as the first formal reference to global sustainable development. Additionally, this conference established education as critical to achieving sustainable development in communities for the first time (Drexhage, 2010). Thus, in 1987, the "World Commission on Environment and Development" published a report defining sustainable development and resolving the conflict between the environment and the development process (Harris, 2003). The study, termed the Brundtland Report, is internationally acknowledged and defines sustainability as a development process that allows present generations to satisfy their requirements without jeopardizing future generations' capacity to meet their own (Brundtland, 1987). As a result, there is widespread recognition that sustainable development is a requirement for preserving natural resources, environmental, social, and economic aspects, as well as coordination and integration of three critical spheres of environmental protection, social integrity, and economic development. As a basic overview of the notion of sustainability, there are three primary variables to consider: economic, environment, and social. However, there are several models that demonstrate the link between these three variables. Two models are discussed in this study in detail. The first model to consider is the "Interlocking Circle" [Figure 1(a)], in which all aspects contribute equally to the definition and attainment of sustainability. There is no distinction between factors and they all interact in the same way, which means that the action of one component cannot be reduced by the action of other factors. The second model, termed "Overlap", focuses on environmental factors that have a greater impact on achieving sustainable development, whereas economic factors play a minor part in society. In this respect, Mak and Peacock (2011) mentioned that, although the actual shares of variables are not equal, at a certain point, all variables end up interacting with one another [Figure 1(b)] (Mark 2011).

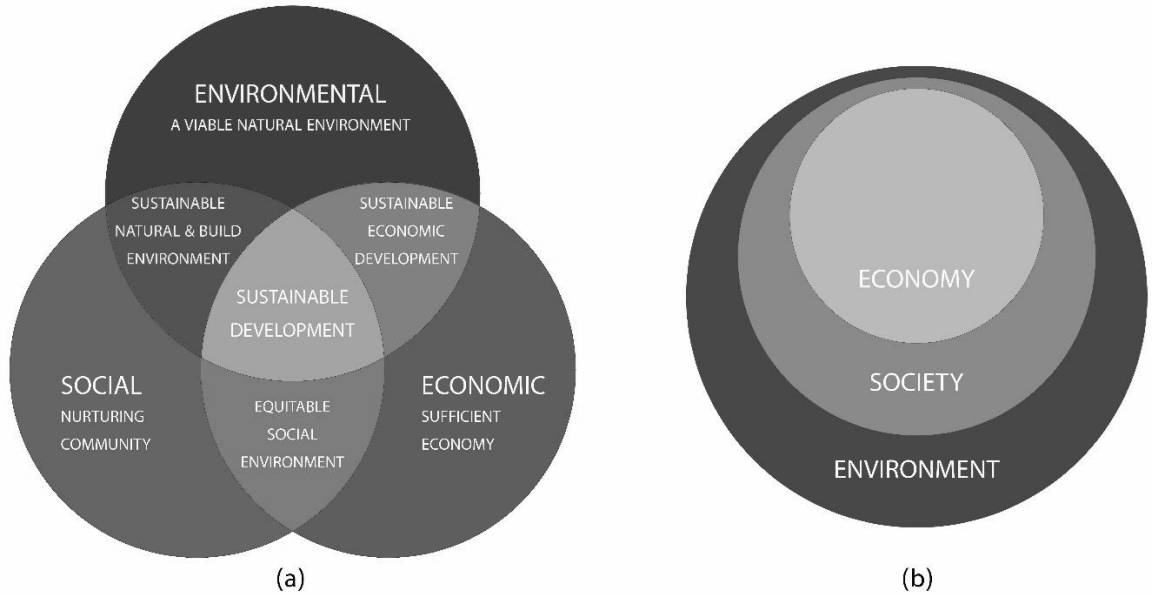


Figure 1. (a) Interlocking Circles Model of Sustainability, (b) Concentric Circles Model of Sustainability (Mark, 2011).

Sustainable development is defined as economic development that is based on social integrity and the prudent use of natural resources (Alshuwaikhat, 2008). Following that, the notion of sustainable development should integrate environmental, economic, and social sustainability, promoting sustainable development via these three interdependent and overlapping pillars (Goodland, 1995).

Social sustainability is concerned with the many aspects of sustaining the social relationships that exist in healthy and livable societies. The most widely accepted definition of social sustainability is the capacity of a social system, such as a nation, community, or society, to function at a certain level of social well-being (Palich, 2013). In this context, social sustainability is defined as a situation that improves the quality of life within communities and a process that enables communities to achieve that condition. Additionally, there are other major characteristics of the condition, as well as phases in their construction and function, that are discussed in Table 1 (McKenzie, 2004). All the components to be examined in a systematic manner for the region are going to generate an overall understanding of social sustainability by taking special characteristics related to people and place that will count as distinct identity and correspondingly clarify the demands of each application definition. As a result, even within a neighborhood, there will be differences in how social sustainability issues are seen, and a description tailored to that neighborhood may be developed as a result.

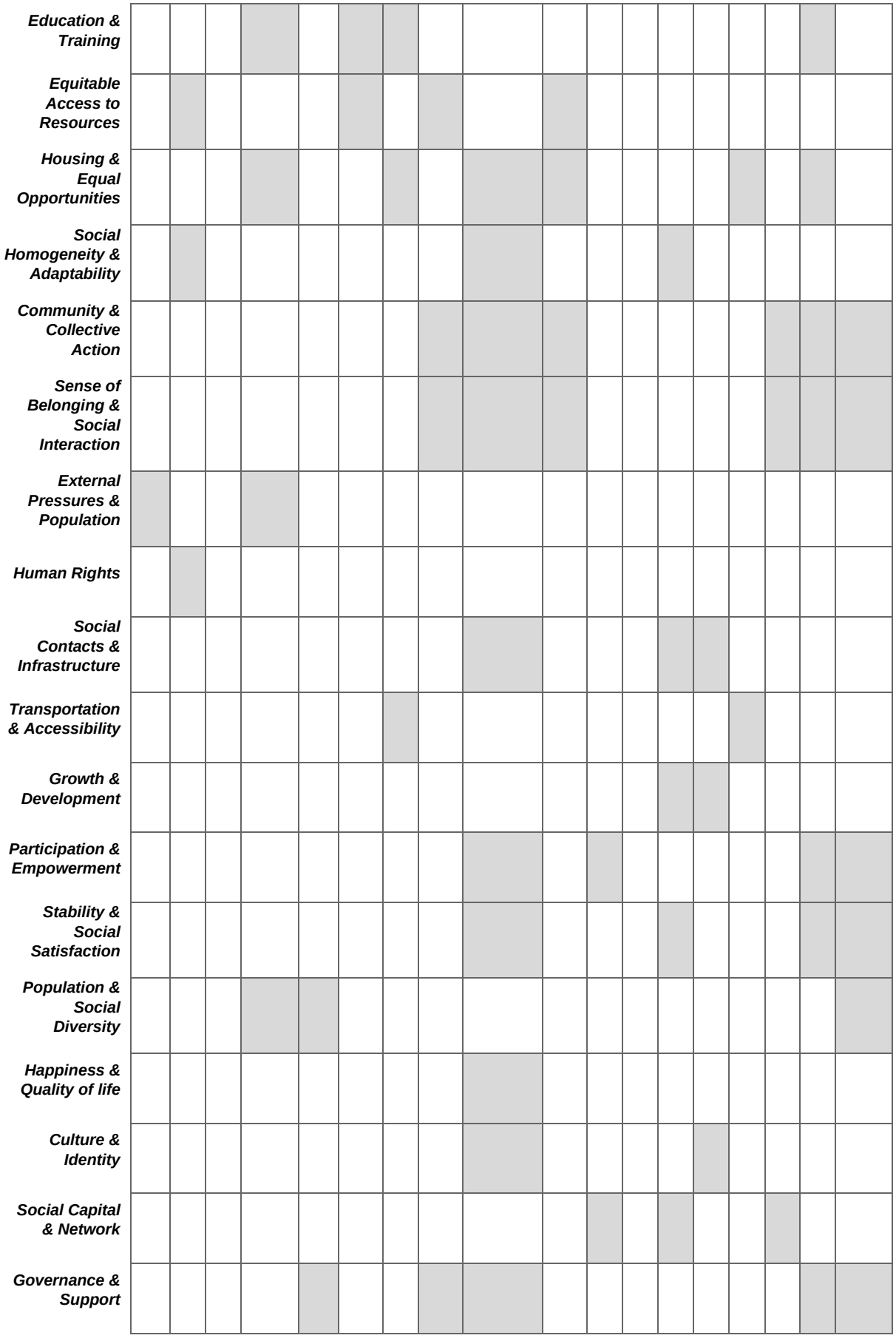
Table 1. Social sustainability condition characteristics.

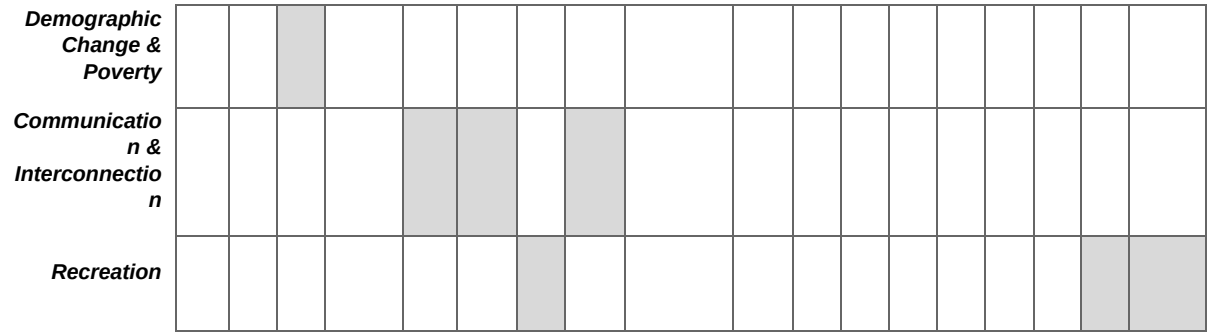
Access Equity	Access to essential services for everyone
Generation Equity	Current generation will not suffer as a result of the action of previous one.
Cultural Relations	It is a system of cultural interaction that value =s and protects the good quality of other cultures.
Politic	Citizen involvement in politic.
	Advocacy mechanisms to address issues that cannot be addressed by locals.
Awareness	Passing knowledge about social responsibility and sustainability from one generation to the next.
Community	Community based responsibilities for keeping the transmission infrastructure up and running.
	The ability of a community to recognize its strength and weakness.
	Mechanisms that allow a community to meet the needs via community based activities.

A healthy and livable society may be achieved by present and future generations being supported by the existing systemic, structural, and procedural elements to ensure social sustainability (McKenzie, 2004) (Palich, 2013). There must be a decent quality of life accessible to everyone for the sake of social sustainability in societies. Social cohesiveness and equal access to major local services like education, leisure, health, housing, and transportation may help communities maintain their long-term viability in the face of a rapidly changing world. Encouragement of social sustainability is also capable of combining actual design with social structure and individual, resulting in very effective social amenities and cultural activities that draw residents into public places (Woodcraft, 2011). There are various studies that illustrate a variety of social sustainability criteria. Table 2 lists the many sustainability criteria that have been put forward by various scholars. This data will serve as a basis for assessing social sustainability and reflect a variety of viewpoints. Several criteria, such as "sense of place", "social equality", " social interaction", and "safety", have been identified by various scholars as indicators of social sustainability, as shown in the table below. Only "social equity" and "social interaction" common criterions are used as a measure of social sustainability in this study, which is focused on assessing the amount of social sustainability implementation in students' design projects.

Table 2. Social sustainability criteria based on existing knowledge.

	(Chambers & Conway, 1992)	(Sachs, 1999)	(DFID, 1999)	(United Nations Division for Sustainable Development, 2005)	(Barron & Gauntlett, 2002)	(Shriberg, 2002)	(McKenzie, 2004)	(Choguill, 2008)	(Colantonio, Social sustainability: linking research to policy and practice, 2009) and (Davidson & Wilson, 2009)	(Glen, Dempsey, Power, & Brown, 2006)	(Glasson & Wood, 2012)	(Magis & Craig, 2009)	(Cuthill, 2010)	(Woodcraft, Tricia, & Lucia, 2011)	(Dave, 2011)	(Dempsey, 2008)	(Weingaertner & Moberg, 2011)	(Colantonio, Dixon, Ganser, Carpenter, & Ngombe, 2009)
Social Equity	■	■	■	■	■		■		■	■		■	■			■		
Livelihood and Life Quality	■		■		■													■
Safety & Security	■			■		■		■	■	■	■		■		■	■	■	■
Democracy & Social Justice		■			■							■	■				■	
Employment & Income		■				■											■	
Social Cohesion & Inclusion			■										■		■		■	■
Health & Wellbeing				■			■		■			■	■				■	■


Education & Training
Equitable Access to Resources
Housing & Equal Opportunities
Social Homogeneity & Adaptability
Community & Collective Action
Sense of Belonging & Social Interaction
External Pressures & Population
Human Rights
Social Contacts & Infrastructure
Transportation & Accessibility
Growth & Development
Participation & Empowerment
Stability & Social Satisfaction
Population & Social Diversity
Happiness & Quality of life
Culture & Identity
Social Capital & Network
Governance & Support



Social sustainability necessitates, among other factors, a high level of social equality. Various scholars have advocated a wide range of metrics for gauging social equity. One of the most important measures of social equity is ease of access (Chambers, 1992). Equity may be assessed by looking at items like access to education, transportation, a safe place to live, health care, and leisure activities. It is evident that a key role in assessing social equality is played by accessibility (Burton, 2000). Generally, equity is divided into two basic categories: access to the primary service and equity between generations (McKenzie, 2004). Besides education, transportation, housing, and health, the author also highlighted leisure as an indicator of equality. It is evident that a key role in assessing social equality is played by accessibility (Burton, 2000). Accessibility is defined as a wide range of services and facilities, including those for walking, cycling, and using public transit, that are available to everybody. Accessibility must thus be improved in order to ensure a long-term social structure. according to empirical research conducted in the west of England the most essential services and facilities that local residents must have access to are: food shops (café, supermarket, and restaurant), open spaces, postal services, cabaret, community center, bank, health centers (doctors, health clinics, and hospitals), library, sport facilities, and schools (Dempsey, 2008) (Burton, 2000) (Winter, 1997) (Smith, 2000). As a result, the availability of services and resources is seen as critical to enhancing social cohesion and enhancing social sustainability.

Additional criteria for a social sustainable include social interaction, which plays an important role in human well-being. In this respect, multiple studies have recommended various types of indicators to evaluate social interaction, such as mix land use and density, layout, social engagement for social networks and sense of life (Dempsey, 2011). Social contact, on the other hand, encompasses all kinds of interactions between individuals. Individuals' interactions with one another may take a variety of shapes depending on the context, such as pleasant or threatening exchanges, disagreements or collaborations with others, and interactions that last a short time or a long time. Individuals and organizations may engage in social interactions (Julianne, 2010). As a result, it is apparent that social interaction may help communities maintain a strong sense of social sustainability by giving individuals the chance to participate in local decision-making and to share their own social spaces and activities, as well as social events.

Studies show that education has a significant impact on human societies because it helps individuals improve their awareness, abilities, knowledge, and attitudes in order to build a better future. It is also critical that the next generation of leaders be prepared to face the problems of today and the future (Cole, 2003) (Cortese, 1999). In this regard, UNESCO declared, “Education, in short, is humanity’s best hope and most effective means in the quest to achieve sustainable development” (UNESCO, 1997). That is why education's contribution to social sustainability in communities may be seen from a wide variety of angles. Sustainability should be included into the educational process, according to Cortese. This means that through fostering new abilities, understandings, and ways of thinking, education has the capacity to

contribute to a social transformation (Cortese, 1999) (Stephens, 2008). It is thus necessary to educate individuals, particularly students, on the need of social sustainability in their communities via education. Architects have a critical role in the design of both the built environment and the urban environment. Design studios serve a critical part in architectural education since architects learn via a project-based studio approach (Akalin & Sezal, 2009). According to Milburn and Brown modernist movements in architecture education have encouraged the perception of the designer as making decisions based on “aesthetic, financial, theoretical, and political concerns” but the movement of postmodernist has focused on concerns such as “social responsibility, sustainability, environmental responsiveness, environmental integrity and human health” (Milburn, 2003). Teaching architecture students sustainable design as a foundation for their studies is becoming more common. As a result, in order to produce successful projects, social sustainability and its criteria must be applied and taken into account during the design studio process.

3. METHODOLOGY AND FINDINGS

According to the purpose of this study, which was to evaluate the level to which social sustainability was implemented in students' design projects, the authors attempted to use common criteria for measuring social sustainability after introducing the theoretical concept of social sustainability in a literature review taken from books, articles, and online sources as a qualitative research method. However, in accordance with the study's goal, the social sustainability initiatives focused on "social equality" and "social engagement" as significant and quantifiable common criteria. Turkey's Architectural Accreditation Council (MIAK) and the National Architectural Accreditation Board (NAAB) have granted accreditation to the Department of Architecture. European Network for Housing Research, European Association for Architectural Education, and International Federation of Interior Architects/Designers are just a few of the professional organizations in which recognize this faculty. A primary goal of the faculty is to create a world-class curriculum in accordance with international standards, to offer its diverse student body the opportunity to receive an interdisciplinary design education, and to encourage and educate the next generation of architects and designers as creative, critical thinkers who are sensitive to both culture and the environment (EMU, 2020). A studio course aimed at teaching students how to design in an urban setting while taking into account a variety of urban concerns. Building a multi-story structure that is both useful and aesthetically pleasing. Larger-scale concepts with an emphasis on the urban environment and a focus on the design idea. Respect for the current environment, which might include the historical background. Requirements include modern design, social factors, the quality, and hierarchy of open and semi-open spaces, street furniture and landscaping, building orientation and organization on site, public-private interface, vehicular and pedestrian circulation, climatic considerations, appropriate construction systems and materials, and regulations. Building a complex with functional and spatial sophistication is the primary goal of the Architectural Design Studio / Arch 391 course, designed to teach students how to design in an urban setting. (EMU, 2012).

Students in the third year of architectural design at Eastern Mediterranean University were observed and interviewed individually to acquire data on their grasp of social sustainability and how it was reflected in their final project. Research assistants in a 3rd-year design studio (ARCH 391) consulted with authors in order to determine what degree of social sustainability was expected from the semester students' designs and how they performed in their final project. This study also contains a "Yes" or "No" component for each project based on common social sustainability criteria, including face-to-face dialogue and an attempt to comprehend the social sustainability understanding with selected candidates. Students' grasp of social sustainability and the impact of implementing its aspect on project satisfaction will be compared and evaluated as a consequence of the data collecting process. Figure 2 represents the factors

that are evaluated in final result of studio projects and questioned during interviews and questionnaires.

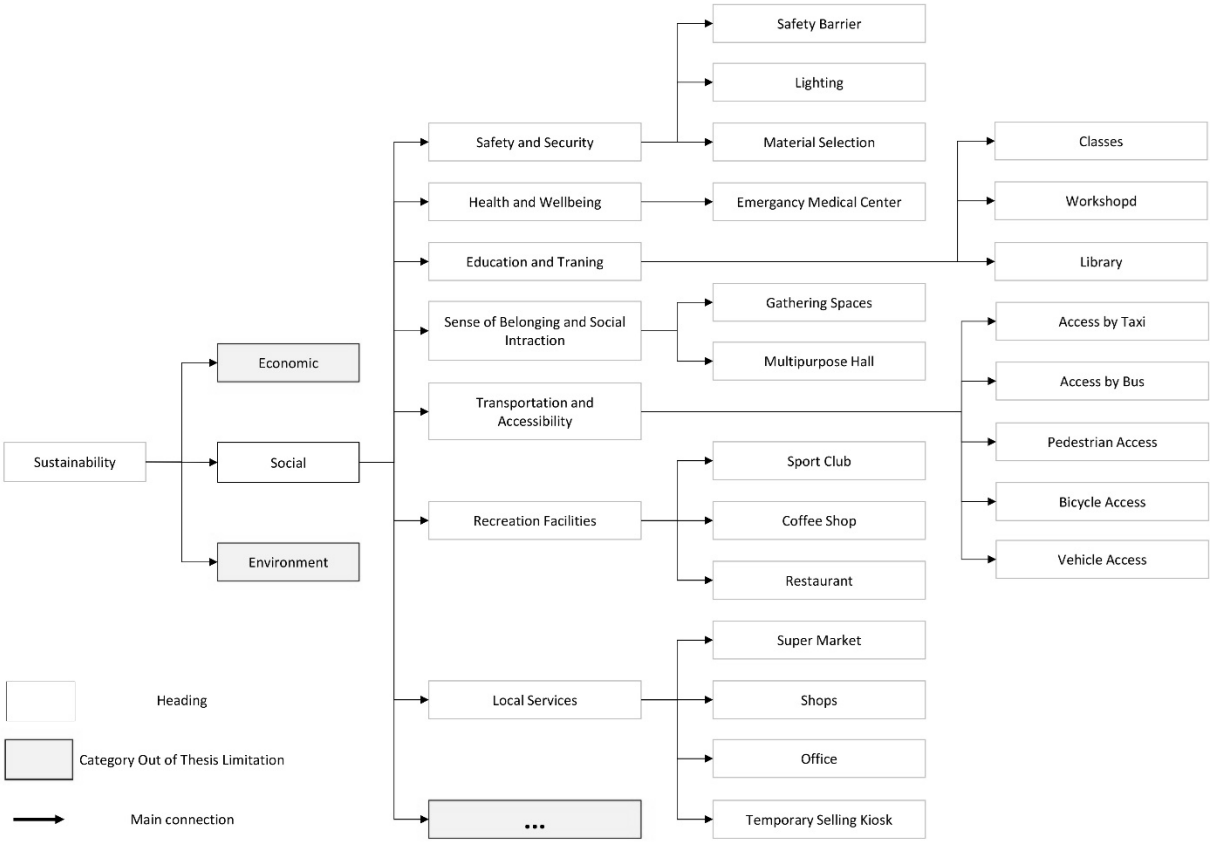


Figure 2. Evaluated factors for EMU ARCH391 studio projects.

Figure 3 illustrates the outcomes of the investigation, which highlight the level to which social sustainability is integrated into various student projects. As can be seen from both the final product and the program of study, the factors listed as requirements for the design function have been considered at all levels of the students' project, including educational spaces, vehicle and pedestrian access, restaurants and coffee shops, commercial spaces, as well as sporting venues. As an alternative, students were obliged to finish the architectural program based on their own knowledge and the requirements of the project. An evaluation of social sustainability may be done at this point. Upon closer examination of the results, it appears that nearly half of all student groups have addressed the issues of safety and security, adequate lighting, public transportation options for the area, and bicycle access to the site. However, other issues, such as the lack of a supermarket and reasonably priced temporary sales units, were not adequately addressed. Students who had a better grasp of social sustainability and were better able to implement the variables with architectural taste and space quality were more successful in their projects. During the interview, such component became more apparent as they discussed their own functional imaginations and ambitions. However, there is a lack of student desire to access their knowledge about unwritten components from social sustainability in order to begin the project by brainstorming and being rewarded for using these factors.

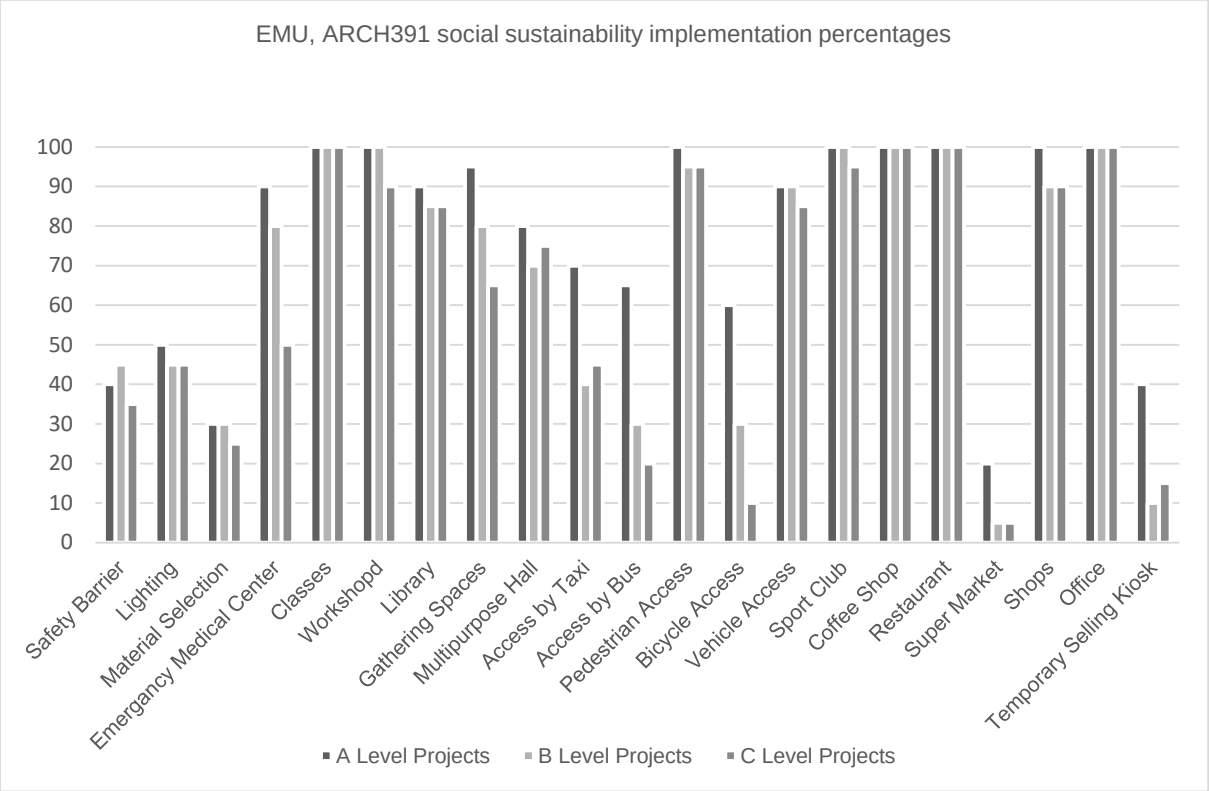


Figure 3. Result of social sustainability investigation for A, B, and C category design projects.

4. CONCLUSION

The importance of social sustainability education in the design field has grown, and it is essential if communities are to become more livable and healthier. At the center of architecture and education, design studios play a crucial role. Students have been interviewed, questionnaires have been distributed, and their final design projects observed in order to determine the extent to which social sustainability factors are being implemented and in which level. "Social Equity" and "Social Interaction" are two essential markers of social sustainability that were used in this study. To that goal, this study conducted to see how much emphasis third-year studio students placed on social sustainability in their design process. EMU ARCH391 design studio's level of social sustainability implementation was assessed as a conclusion to this investigation. This group of students was chosen based on the EMU department of architecture curriculum and the prerequisites of the courses they have enrolled in. Third-year students have a general grasp of architectural practice and are in the process of developing critical thinking and problem-solving abilities. Organizations in architectural education will progress towards the incorporation of sustainability, particularly social sustainability, in their own activities and educational methods. The inclusion of social sustainability into architectural education curriculum is an essential strategy because it is designed to reach out and offer graduates with a knowledge of sustainable concerns in architecture and the capacity to use them in actual professional life. Aside from include sustainability-related theory and criteria in their curriculum, architecture schools could think about rewarding students for academic success by considering higher grades in order to motivate students for considering and incising the level of social sustainability factors implementation in their design process. If students' designs include a larger percentage of social sustainability concerns, they will become more adept at approaching all of their design tasks comprehensively. This will let students apply what they have learned in class to their own creative endeavors. Although these courses are theoretical, they may be used as independent courses or as a lecture in the design studio.

REFERENCES

Abd Razak, M., Nur, A. A., Muhammad Farihan, I. M., Ismar, U. M., & Adi Irfan, C. A. (2011). Toward a Sustainable Campus: Comparison of the Physical Development Planning of Research University Campuses in Malaysia. *Journal of Sustainable Development, 4*(4), 210-221.

Akalin, A., & Sezal, I. (2009). The importance of conceptual and concrete modelling in architectural design education. *International Journal of Art & Design Education, 28*(1), 14-24.

Alshuwaikhat, H. M., & Abubakar, I. (2008). An integrated approach to achieving campus sustainability: assessment of the current campus environmental management practices. *Journal of Cleaner Production, 16*(16), 1777-1785.

Barron, L., & Gauntlett, E. (2002). WACOSS Housing and Sustainable Communities Indicators Project. *Sustaining our Communities International Local Agenda 21 Conference.* Adelaide.

Brundtland, G. H. (1987). *Report of the World Commission on environment and development.* United Nations.

Burton, E. (2000). The Compact City: Just or Just Compact? A Preliminary Analysis. *Urban Studies, 37*(11), 1969-2006.

Chambers, R., & Conway, G. (1992). *Sustainable rural livelihoods: practical concepts for the 21st century.* Institute of Development Studies.

Choguill, C. L. (2008). Developing sustainable neighbourhoods. *Habitat International, 32*(1), 41-4.

Colantonio, A. (2009). Social sustainability: linking research to policy and practice. Social sustainability: linking research to policy and practice. In *Sustainable development: a challenge for European research.* Brussels.

Colantonio, A., Dixon, T., Ganser, R., Carpenter, J., & Ngombe, A. (2009). *Measuring Socially Sustainable Urban Regeneration in Europe.* Oxford Institute for Sustainable Development (OISD).

Cole, L. (2003). *Assessing Sustainability on Canadian University Campuses: Development of Sustainability Assessment Framework.* Royal Roads University.

Cortese, A. D. (1999). *Education for sustainability: The university as a model of sustainability.* Second Nature.

Cuthill, M. (2010). Strengthening the 'social' in sustainable development: Developing a conceptual framework for social sustainability in a rapid urban growth region in Australia. *Sustainable Development, 18*(6), 262-373.

Dave, S. (2011). Neighbourhood density and social sustainability in cities of developing countries. *Sustainable Development, 19*(3), 189-205.

Davidson, K., & Wilson, L. (2009). A critical assessment of urban social sustainability. *4th State of Australian Cities National Conference.* Perth.

Dempsey, N. (2008). Quality of the Built Environment in Urban Neighbourhoods. *Planning Practice & Research, 23*(2), 249-264.

Dempsey, N., Bramley, G., Power, S., & Brown, C. (2011). The social dimension of sustainable development: Defining urban social sustainability. *Sustainable Development, 19*(5), 289-300.

DFID. (1999). *Sustainable livelihoods guidance sheets.* DFID.

Drexhage, J., & Murphy, D. (2010). *Sustainable Development: From Brundtland to Rio 2012.* United Nations Headquarters.

Du Pisani, J. A. (2006). Sustainable development – historical roots of the. *Environmental Sciences, 3*(2), 83-96.

Duxbury, N., & Gillette, E. (2007). *Culture as a key dimension of sustainability: exploring concepts, themes, and models.* Centre of expertise on culture and communities (CECC).

EMU. (2012). *Department of Architecture: ARCH391 Course Outline: 5th Semester / 3rd year.* Famagusta: EMU.

EMU. (2020, November 12). *Faculty of Architecture*. Eastern Mediterranean University. https://www.emu.edu.tr/en/academics/faculties/faculty-of-architecture/704

Glasson, J., & Wood, G. (2012). Urban regeneration and impact assessment for social sustainability. *Impact Assessment and Project Appraisal, 27*(4), 283-290.

Glen, B., Dempsey, N., Power, S., & Brown, C. (2006). What is 'social sustainability', and how do our existing urban forms perform in nurturing it. *Sustainable Communities and Green Futures' Conference, Bartlett School of Planning, University College London.* London.

Goodland, R. (1995). The concept of environmental sustainability. *Annual Review of Ecology and Systematic, 26*, 1-24.

Harris, J. (2003). International Society for Ecological Economics Internet Encyclopaedia of Ecological Economics Sustainability and Sustainable Development. *Sustainability and Sustainable Development*, *12*. https://doi.org/10.1.1.535.3116

Julianne, H. L., Smith, T. B., & Layton, B. J. (2010). Social relationships and mortality risk: a meta-analytic review. *PLoS Medicine, 7*(7), e1000316.

Magis, K., & Craig, S. (2009). Emergent themes of social sustainability. In *Understanding the Social Aspect of Sustainability, ed. J. Dillard et al.*

Mak, M. Y., & Peacock, C. J. (2011). Social Sustainability: A Comparison of Case Studies in UK, USA and Australia. *17th Pacific Rim Real Estate Society Conference.* Gold Coast.

McKenzie, S. (2004). *Social Sustainability: Towards some Definitions.* Hawke Research Institute, University of South Australia.

Milburn, L. A. S., & Brown, R. D. (2003). The relationship between research and design in landscape architecture. *Landscape and urban planning, 64*(1-2), 47-66.

Newman, P., & Kenworthy, J. (1999). *Sustainability and Cities: Overcoming Automobile Dependence.* Island Press.

Nurse, K. (2006). *Culture as the Fourth Pillar of Sustainable Development, Institute of International Relations.* University of the West Indies.

Packalen, S. (2010). Culture and Sustainability. *Corporate Social Responsibility and Environmental Management, 17*(2), 118–21.

Palich, N., & Edmonds, A. (2013). Social sustainability: creating places and participatory processes that perform well for people. *Social Sustainability*, 1-13. Retrieved from http://www.jstor.org/stable/26151925

Sachs, I. (1999). Social sustainability and whole development: exploring the dimensions of sustainable development. In *Sustainability and the Social Sciences: A Cross-Disciplinary Approach to Integrating Environmental Considerations into Theoretical Reorientation*, 25-36.

Shriberg, M. P. (2002). *Sustainability in United States higher education: Organizational factors influencing campus environmental performance and leadership.* University of Michigan, ProQuest Dissertations Publishing.

Smith, P. C. (2000). Sustainability and urban design. *Building Hong Kong: Environmental Considerations*, 17-42. Hong Kong.

Stephens, J. C., Hernandez, M. E., Román, M., Graham, A. C., & Scholz, R. W. (2008). Higher education as a change agent for sustainability in different cultures and contexts. *International Journal of Sustainability in Higher Education, 9*(3), 317-338.

United Nations Division for Sustainable Development. (2005). *Expert Group Meeting on.* United Nations.

United Nations Educational, Scientific, and Cultural Organization (UNESCO). (1997). Retrieved 9 January 2022 from https://www.unescoetxea.org/ext/futuros/es/theme_a/mod01/uncom01t05s01.htm

Weingaertner, C., & Moberg, Å. (2011). Exploring Social Sustainability: Learning from Perspectives on Urban Development and Companies and Products. *Sustainable Development, 22*(2), 122-133.

Winter, J., & Farthing, S. (1997). Coordinating facility provision and new housing development: impacts on car and local facility use. *Evaluating Local Environmental Policy, 1*(1), 59-179.

Woodcraft, S., Tricia, H., & Lucia, C. (2011). *Design for social sustainability: A framework for creating thriving new communities.* Young Foundation.

An Inquiry on Ethical Values in Design Education

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ABSTRACT

Acquisition of "ethical values" is one of the major objectives of university education in general and it is also mentioned as an important expected learning outcome in various educational accreditation processes. Ethical values defined broadly as 'considering the impact of one's actions on the others' have many layers beginning from professional ethics to the social and environmental responsibilities. A university student is expected to be aware of the various dimensions of ethical values and to be able to hold the responsibilities of his/her professional actions. Teaching about these values in separate courses can help but it should also be an integrated consideration in the whole program so that students feel experience and understand their importance at all stages of education. The ideal situation would be if this attitude could be internalized by all the members and bodies involved in the education. In architectural education, the notion of respect for the ethical, social, and environmental values is generally transmitted to the students implicitly through the organization of the whole curriculum, but mainly through the way the design studio teaching is organized, how the problems are formulated, and the attitudes of the instructors as related to these values. This paper suggests a threefold model including three components of design education, the instructor, the student, and the design problem to discuss the various dimensions of ethical values related to architectural education. This model proposes a broader approach to this issue and helps to develop practical and real suggestions to enhance learning and internalize ethical values. The results of interviews with graduate architectural students have been used to support the proposed model with the real-life experiences of the students. In this way, the study uses a combination of ethnographic and case study methods to discuss ethical issues in the architectural design education. The study hopes to help all studio instruction approach this implicit side of architectural education more consciously.

Keywords: Ethical Values, Architectural Education, Design Studio, Student Perspectives

1. INTRODUCTION

Nowadays, the question of what are ethical values and how to acquire them is an important concern of education in all academic disciplines. While, there are common ethical issues in every academic atmosphere such as plagiarism, cheating, etc. it can be acclaimed that this issue has to be considered differently in educational environments dealing with the design process. The reason is that besides the general ethical issues, there are the ones that are specifically related to architecture, thus architectural education has to deal with them too. D'anjou (2011) mentions that in the Venice 2000 Biennale of Architecture with the theme "Fewer Aesthetics, More Ethics", the social, economic, and ecological issues of globalization have been discussed and it shows that "there is a will to incorporate a more substantial and global level of architectural ethics to planetary problems". The mentioned statement demonstrates the need for a wider and comprehensive definition of ethics and ethical behaviors in design and its education. (d'Anjou, 2011)

In this line, Fisher (2000) defines ethics as "Ethics, in the end, defines what we, as a community, agree is in our collective best interest. It is through our actions as a community, informing each other of the consequences of actions and conversing about what consequences we judge to be good or bad, that we may begin to achieve the ethical behavior we aspire to" (p.148). So, he emphasizes the social side of professional ethics and the role of information and social consciousness rather than punishment in enhancing ethical behaviors. (Fisher, 2000)

Reviewing the literature on ethics, it can be observed that there is a large number of academic writings on ethics discussing the historical roots, philosophical approaches, relation to various professions, etc. When it comes to ethics education, this number decreases seriously. Still the available works are generally about ethics education in other disciplines such as medicine, law, and business rather than architecture. Yet, the available documents on ethics education in these fields are generally related to statistical data on the effects of age, religion, intelligence, gender, on ethical behavior, etc. The number of documents discussing how pedagogically this issue can be handled is very low, and it becomes even lower when it comes to the discussion of ethics in architectural education. And when we speak about ethics in architectural education, we generally speak about the acts of the students, not the other dimensions of the problem. This study does not aim to measure the awareness of students or give any statistical, generalizable data about this issue. Rather, the aim is to draw a framework about various dimensions of this issue in design education and understand the students' viewpoints about the issue.

For this purpose, a threefold model including three components of design education, which are the instructor, the student, and the design problem and the relationships between them, has been used to discuss the ethical issues in architectural education. Parallel to this, some interviews with senior students of faculty of architecture in Eastern Mediterranean University have been done to support this challenge with the students' opinions and insights. To begin the discussion first a short review of ethics in general and what can be the ethical values in architectural education will be given and then the argument will continue with the descriptions about the proposed framework.

2. METHOD OF THE STUDY

The current study is a qualitative study, which inhabits in a hybrid manner tools from both ethnography as well as case study research methodology.

Ray Lucas describes ethnography as “a longitudinal and subjective study, where the researcher spends extended periods in the field, interacting and recording in various ways in order to find out more about a given context (Lucas, 2016). This study has very strong ethnographic features since the authors come from the field and since it aims to describe and interprets a culture-sharing group in regards to the shared patterns of ethical issues (Creswell, 2013). It takes a challenging stand, depending on an open-minded critical approach, where being on the site to observe, interact with the students in the design studio environment is highly essential. The knowledge developed through this research is based mainly on the first author’s experiences in fulfilling her role as a studio instructor, sensitive to the role of architecture in the society in terms of ethical issues.

Creswell (p.96, 2013) mentions that “The entire culture-sharing group in ethnography may be considered as a case but the intent in ethnography is to determine how the culture works rather than to either develop an in-depth understanding of a single case or explore an issue or problem using the case as a specific illustration”. That is why, it was mentioned that this study also has the characteristics of a case study, since it has in its focus developing an in-depth analysis of a case within a real-life environment. It uses multiple sources of information (such as observations and interviews) and suggests case themes, even a model based on these themes to deepen the discussion and understanding of the topic. The unit of analysis is a specific educational program, at Eastern Mediterranean University, under the Faculty of Architecture. At the same time, the unit of analysis are multiple cases, multiple individuals who are senior students of architecture.

3. WHAT IS ETHICS?

Originally, *ethics* comes from the Greek word ethos, which means character (House, 2005). Although the word ethics has been interpreted with several implications it is mostly known as a philosophical term, which determines concepts of right and wrong addressing debates of moral diversity. In classical philosophy, ethical theory mostly has been evaluated as the moral worth of action according to the fact that how much it contributes to the basic goods of a state (Ivanohe & Van Norden, 2001). At the turn of the 20th century, there have been great changes in moral theories not to merely deal with rightness and wrongness anymore. In modern normative ethics, consequentialism determines the morally good action as the one with good outcome or consequences while Utilitarianism argues the proper course of action as the one that maximizes the positive effect such as happiness and welfare (Ethics: inventing right and wrong, the ethics toolkit: a compendium of ethical concepts and methods). According to Richards and Elder, ethics is “a set of concepts and principles that guide us in determining what behavior helps or harms sentient creatures'' (Richards & Elder, 2003). In general, “to behave ethically means to protect others, minimize harm, and increase the sum of good in the world” (Israel & Hay, 2006).

4. ETHICS IN DESIGN EDUCATION

It is now possible to begin to discuss the issue within design education as a whole and particularly in the design studio. Many studies in various fields discuss the effects of having courses related to ethics as a means to enhance the awareness of students about ethical behavior. Yet there are also discussions about the level of influence of this course on the ethical behavior of students. Some scholars discuss that the manner this course is taught is very important and that this should be taught as a part of real-life and in a participatory manner to be effective and be well understood by the student. For instance, According to Ryle (1949), it is necessary to differentiate the lectures defining the professional codes of ethics which just aim to familiarize the students with some codes as the knowledge of knowing that, and the

ones instructing ethical reasoning based on approaches for training in moral reasoning as the knowledge of knowing-how, (the concept of mind) (Ryle, 1949). Askins (2008) suggests that to be able to engage with ethical debates in the classroom in a meaningful way, a participatory pedagogy that includes students' engagement in the course is necessary (Askins, 2008). Findelli (1994) claims that the conventional theoretical type of ethics courses is not very successful in enhancing student awareness about the issue as seldom do they encourage the enthusiasm and interest of students. He continues to say, "A situational, "learning-by-doing" approach is invariably preferable" (Findeli, 1994). In this respect, the design studio seems to be a very suitable medium for conveying sensitivity about ethical manners to the students. According to Fisher, design studio can be known as an ideal venue for practicing virtue (Fisher, 2000). In the process of learning to solve the design problem, the student will also learn how to resolve the ethical issues made by their design (Lagueux, 2004). It might be also related to the amount of time a student spends in the design studio and learning the acceptable norms and standards of a good design from the design community made up of their instructors (Stevens, 2002).

One of the other ethical considerations in architectural design is respect for environmental issues and human resources. This sustainable way of thinking has to become the aim of architectural education. "The profession will only have eminence when it takes an ethical position as responsibility towards designing responsive environments." (Eldeen, 2003)

To do this some open interviews were done with eighteen 4th years (graduation students) to see their viewpoints (interviews were done in 2015-2016 academic year). Participation in the interviews was voluntary based. The aims of the research were clearly described to the students and a set of questions related to various dimensions of professional ethics and ethical behavior in the studio environment was delivered to students. There was no time limitation and students were encouraged to speak freely on these issues. It was tried to find various student thoughts about this subject in the study.

5. THE PROPOSED MODEL

These interviews let us see various ethical issues in design studios related to the relationships among students, students, and instructors, and ethics in design from the student's points of view. It also demonstrated the role of the environment, instructors, and students themselves in creating awareness about ethical behaviors. In these interviews, many subjects were discussed with the students: How do they learn to respect the other's rights without copying? How do they respond to users' needs and health? Do they care about ethical values in their design process? How much is the effect of the environment and instructors in privileging ethics? How can an educational system bring up responsible designers? What might be the strategy of the students when they confront unethical situations? Many of these issues were brought up by the students themselves during the interviews.

This model proposes a broader approach to this issue and helps to develop practical and real suggestions to enhance learning and internalize ethical values.

To be able to discuss ethical issues in a design studio it is needed to develop a clear definition of ethics and ethical behavior based on the above discussions. In its simplest definition, it could be said that ethics means to take responsibility for one action and be aware that one's actions do not harm others. With this view, awareness about environmental issues and social responsibilities can be accepted also under the scope of ethical values in architectural design as the coming generations (and even all the other creatures in the world)

in general can be accepted as the others. No need to say that equity of use can be accepted as an ethical value in this scope.

For the sake of this study, it is possible to discuss ethics in design studio education through its three main components: The student, the instructor, and the design problem (Figure 1).

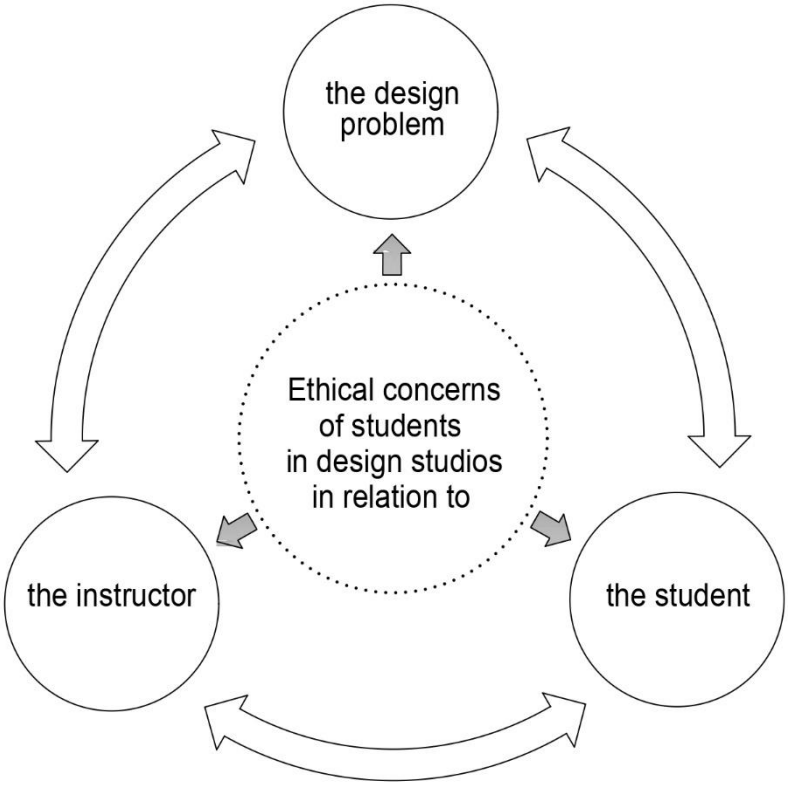

Figure 1. Proposed model of three components of design education

This model is similar to the model Austerlitz Aravot and Ben-Ze'ev (2002) use to discuss the emotional phenomena and the student-instructor relationships in the design studio. They define six components of this relationship as 1. The subject matter, 2. The instructor, 3. The student, 4. Student-subject matter relationship, 5. Instructor-subject matter relationship, and 6. Student-instructor relationship. Wendler and Rogers (1995), when discussing the crit's intellectual-psychological components, mention the studio environment, the design project, student attributes and processes, instructor attributes and processes, student's internal expectations, instructor's internal expectations, student's external expectations, and instructor's external expectations as the factors affecting this process. Similar components can be accepted to be involved in conveying ethical issues in the design studio too (Wendler & Rogers, 1995).

The first component in this framework is the students. The interesting issue realized in interviews with students was that some of the students were not aware of the meanings of Ethics or they were not able to describe the issue but when they were clarified about various dimensions of the problem, they could clearly explain their positions about ethical/unethical behaviors and actions in the design studio. Moreover, some gave very interesting definitions of professional ethics. One student defined it as "to respect all kinds of life- even the lives of

the other creatures on the earth", he went on to explain his point by mentioning that a design should not be based on suppressing, externalizing any social or cultural community.

A point that should be noticed is that the students bring with them some perceptions of ethical values to the studio. They are not blank papers. Each of them has gone through years of education and they have values gained from their culture, families, their previous education, in their social life, etc. they have various levels of intelligence, religious beliefs, etc. that affect their attitude toward unethical behavior as well. Many studies demonstrate that all these factors, even gender, have a profound effect on the attitude of students towards various dimensions of ethical/unethical behaviors. Some students also mentioned that the reason they have a strict attitude towards unethical behavior is their family nurture. So, differences should be taken into consideration. One point that the students mentioned several times was that there is a serious difference between the students that want to be designers and the ones that only want to get a diploma; they mentioned that these students can do unethical actions more easily.

D'anjou (2021) in his article on ethics in architecture admitting that each designer and each situation in architecture is different, suggests a Sartrean framework in discussions about ethical behavior in which designers should "cultivate a clear awareness of the impossibility to avoid individual freedom and responsibility for their own choices in architectural design practice. This implies that the designer is fully committed to his⁄her own design choices, to the consequences of such choices, and to the associated existential project, which consists of a consistent set of choices, and which is at the same time open to alternatives". In this view, which goes beyond conventional approach, which suggests having some ethical codes for action, freedom is the "ethical value" (d'Anjou, 2021). This approach can be a beginning point for ethics in design education too. The students should learn to take responsibility for what s/he does. And then if the student is expected to accept the responsibility, s/he should be informed about the negative consequences of unethical behavior.

The other effective addresser of studio life is the instructor. Undoubtedly, the instructors also have a set of values and ethical concerns of their own, which affects the way they behave and are involved in teaching/learning activities. Although there is a set of research on ethical awareness of the students (in various fields), almost no research has been done on how the instructors deal with this issue. The same as the student, the instructors should be aware of the consequences of their actions that they have the freedom to choose. This affects particularly the relation of student/instructor as well as the relation of the instructor to the design problem, which will be discussed later.

Another aspect related to this issue is the attitude of the instructors toward the unethical behaviors of students. The students admitted that it is very difficult to prove that a project is not a student's work but they generally expect instructors to follow students' works more seriously. Some mentioned that the worst case is when the instructors do some harsh precautions and still what happened was to punish the innocent ones and the ones who were cheating passed the course. Then the respect for those instructors was completely gone. So, it seems that the instructors are supposed to find more creative and effective methods in dealing with such issues.

The other part is the design problem. Considering what kind of design problem can be given to students is an important part of this discussion. According to Kok (2013), "the various dimensions of ethical design work can be defined as professional ethics which is about practicing the specialized knowledge and skills in service to the public and environmental ethics which deals with the impacts of design on natural systems according to our well-being

and the common habitat. He also argued that architectural education does not integrate these issues into the curriculum strategically. (Kok Ming, 2013)

Are the design problems that are given to the students ethical? Do the instructors care about ethical values in the formulation of design problems? Do they ask about the impact of their work on the environment and human beings? These are the matters to be discussed while formulating design problems. The various ways that the design problems are given to the students may make them consider the ethical values such as equity in use, environmental issues, or social side of the design or may encourage them to neglect them. These matters are related to the unwritten, implicit, or hidden curriculum as much as to the explicit part of the curriculum. The way priorities are set in design problems demonstrates the care for ethical values. While some of the students stated that they have had some design problems in some semesters emphasizing the environmental issues and equity of use, some others said that many times they were not mentioned in the design problems but were emphasized by some of the instructors in critique/ feedback sessions. If the aim is to enhance the awareness of students about ethical values, then more care should be given to the way design problems are formulated.

Rather than the three basic components of the studio, we can also consider the relationships between these three in a discussion about ethics. The first set of relationships to be considered is the instructor/student relationship. Schon argues that since the relationship between the professor and the student deepens in design studios, their dialogue becomes more ambiguous and enigmatic to outsiders. Therefore, the discussions of the professor and the design student are totally rich while it is also hard to be identified. (Schon, 1984) Some students in their interviews mentioned this relationship as the most important factor in directing students towards ethical or unethical behaviors. Almost all students mentioned that if they see respect to their works and efforts by their instructors it reduces the levels of cheating (which they all accept as unethical behavior) by the students. One mentioned that if this respect is not shown and the students feel their effort is useless (for example, when they are asked to change their projects without any explanatory reason) then they begin to think that it is not that bad to ask someone else to just do the routine part (drawing) for them.

Another aspect of this relationship that was commonly mentioned by the students in the interviews was that the instructors should be fair in both the process of design and also the assessments. Most of the students mentioned that they are bothered and accept it as unethical behavior when some instructors spend some more time on the projects of the students who have not deserve it because they have not put enough effort into their work. As well, various students complained about unfair critique times. While some foreign students felt this discrimination between the local ones and the foreigners, the local ones also complained about giving more critiques to the favorite ones. Almost all the students found it unethical that sometimes in the juries the personal criticisms get over the project critiques. They mentioned that juries sometimes can become a field of battle for some people to demonstrate their power over the other jury members or the students. It is also worth mentioning that most of the students say that they do not have personal problems with their instructors individually but the jury system makes them behave differently. One of the students pointed out the fact that students prefer to have closed juries because at least they are not humiliated then!

The other set of relationships to discuss is the student/ project relationship. An important issue that dictates the nature of this relationship is the competitive atmosphere in the design studio, according to Fisher (2000) a heritage of Ecole des Beaux-Arts in the profession, as well as in education. This atmosphere where the grade is the most important indicator of success

in the competition can become a ground for many unethical behaviors. A student puts it in this way: the grade becomes the prior concern of the students and it leads them to do whatever the instructors say instead of developing their ideas (Fisher, 2000). This can be accepted as a self-seeking unethical attitude, which is also against the pedagogical objectives of the design studio. This also makes the weaker (or those caring less about really learning to design!) students in the race go for cheating (which is not acceptable of course!). In addition, this can make students avoid more “unordinary and brave” (in their own words) approaches in the favor of more “guaranteed” ones. In addition, one student said that although they know about the importance of issues such as designing buildings that are suitable for everyone including the disabled people they do not do it properly sometimes as it can create more difficulty in design and creates some risk! Also, some students mention that the shortage of time is another pushing factor towards unethical behaviors such as asking the others (sometimes offering some money) for help. All students accept that cheating of any kind makes them feel injustice. Parallel to this, West et al. (2004) have argued that cheating is a "violation of several norms, but primary among them is justice" (Tim, Ravenscroft, & Shrader, 2004). A point mentioned by most of the students was that the internet has made cheating action much easier. This fact has been mentioned in other studies too. For example, Zopiatis and Krambia-Kapardis (2008) cite from Mc Murtry, (2001) that “cheating is increasing due to new technologies, which provide an opportunity for dishonest behavior” (Zopiatis & Krambia-Kapardis, 2008). Students also mention that there are students who take their projects from the internet. They are bothered by this fact but when it was asked what they do about this (and generally when they know that some students do cheat) their answers were varied and very interesting. Some students said that they do nothing!

They just think that they will not be successful anyway in their professional life and they feel pity for them. Some said that they had reported similar cases informally but because they could not prove it, they had to be quiet. One student said that they just isolate the ‘cheater’. They do not speak with him/her about his/her grade, or anything related to any course, and in this way, they believe that the one who has done this, feels embarrassed himself/herself. Thus, it seems that in general students accept that cheating (in design studios) of any kind is unethical behavior and are bothered about seeing these kinds of behavior but they also believe that the atmosphere in design studios can be an encouraging factor in increasing these behaviors. Also, they accept that these kinds of behaviors should be prevented and there should be some kinds of punishment for them but they are also afraid that many times when the aim is to punish the ‘cheaters’-for example through sketch exams, etc.- when these are not planned well the other innocent ones are bothered more than those who deserve punishment.

The other set of relationships to be discussed is the relation of the instructor to the design project. This generally includes the role of pedagogical methods used in formulating design problems or the instruction of design. Students admit that some instructors are more sensitive to the issues related to universal design and also sustainable design, whereas some others do not emphasize them. If the aim is to help students gain these values, then they should not be seen as risk factors in design, rather the instructors should emphasize them as an inseparable part of the design problem. Another interesting point that many students mentioned in this regard are that when they have similar projects with similar functions and definitions in different levels/semesters and only the scale/ square meters change, and when there are no challenging factors in design problems, they lose their interest in design and that creates a medium which can encourage unethical behavior as the aim becomes only to get a good grade rather than learning design.

6. CONCLUSION

In general, this research aimed to see the students' point of view about the ethical values in architectural education. It seems that there is a lot to learn from the students related to these issues. If the intention is to enhance ethical behavior in design education, the problem should be seen more holistically and all dimensions should be considered carefully. Unfortunately, even most of the research on the field concentrates on unethical behaviors of students rather than seeing the causes and the medium that these behaviors appear in. Especially in design education, the definition of ethical behavior should be farther than "not cheating". Our aim should be to help students to see this issue in a broader scope and to create a medium to "design" our education in a way that does not encourage these behaviors. Cheating and plagiarism of any kind are with no doubt unethical behaviors but they are not the only unethical behaviors to deal with in the education process. While it is necessary to struggle with this issue, the whole system should be designed in a way that positively encourages ethical behavior and gaining ethical values (in all senses) and promotes them rather than aiming at only preventing the unethical behaviors. In this respect, all of us should accept our roles and do the best we can to perform our part. Although the aim of this research was not to develop exact formulas, it seems the keyword here is respect. Respect for ethical values while formulating our design problems (such as considering environmental and social responsibilities), respect to efforts of the students, respect to the students as individuals, respect to justice, etc., and to redesign our education and assessment system accordingly.

REFERENCES

Askins, K. (2008). In and beyond the classroom: research ethics and participatory pedagogies. *Royal Geographical Society*, 500-509.

Creswell, J. W. (2013). *Qualitative Inquiry and Research Design*. *Choosing Among Five Approaches.* Sage Publications.

d'Anjou, P. (2011). An Ethics of Freedom for Architectural Design Practice. *Journal of Architectural Education*, 141-148.

d'Anjou, P. (2021). *Ethical Design Intelligence: The Virtuous Designer.* Routledge.

Eldeen, H. (2003). *Ethics for Architecture: Imperative Approach for Integrating Sustainable Thinking in Design Education*. Academia.edu.

Findeli, A. (1994). Ethics, Aesthetics, and Design. *Design Issues*, 49-68.

Fisher, S. (2000). How to think about the ethics of architecture. *Ethics and the Built Environment*, 170-182.

Random House Webster's Unabridged Dictionary. (2005). *Ethics*. Random House Reference.

Israel, M., & Hay, I. (2006). *Research Ethics for Social Scientists.* SAGE Publications Ltd.

Ivanohe, P. J., & Van Norden, B. W. (2001). *Readings in Classical Chinese Philosophy.* Hackett Publishing.

Kok Ming, C. (2013). Developing a framework of ethical dimensions invoked by the design profession. *The Journal of the NUS Teaching Academy (JNUSTA)*, 108-110. http://www.nus.edu.sg/teachingacademy/article/developing-a-framework-of-ethical-dimensions-invoked-by-the-design-profession/#sthash.XcfqejL4.dpuf.

Lagueux, M. (2004). Ethics versus aesthetics in architecture. *The Philosophical Forum, XXXV*, 117-133.

Lucas, R. (2016). Research Methods for Architecture. Laurence King Publishing Ltd.

Olson, R. (1967). *Deontological Ethics.* (T. E. Philosophy, Ed.). Collier Macmillan.

Olweny, M., & Olweny, C. (2009). Ethical Positions in Built Environment Education. *African Perspectives 2009, The African Inner City: [Re]sourced.* The University of Pretoria.

Richards, P., & Elder, L. (2003). *Miniature Guide to Understanding the Foundations of Ethical Reasoning.* Foundation for Critical Thinking.

Ryle, G. (1949). *The Concept of Mind.* University of Chicago Press.

Sahakian, W. (1966). *Ideas of the Great Philosophers.* Barnes & Noble.

Schon, D. (1984). *The Reflective Practitioner: How Professionals Think In Action.* Basic Books.

Stevens, G. (2002). *The Favored Circle: The Social Foundations of Architectural Distinction.* The MIT Press.

Tim, W., Ravenscroft, S., & Shrader, C. (2004). Cheating and Moral Judgement in the College Classroom: A Natural Experiment. *Journal of Business*, 173-183.

Wendler, W. V., & Rogers, J. S. (1995). The Design Life Space: Verbal Communication in the Architectural Design Studio. *Journal of Architectural*, 319-335.

Zopiatis, A., & Krambia-Kapardis, M. (2008). Ethical Behaviour of Tertiary Education Students in Cyprus. *Journal of Business Ethics*, 647-663.

The Significance of Environmental Education within Architecture and Planning Field: A Theoretical Evaluation

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ABSTRACT

Humankind achieved remarkable technological, innovative improvements in an enormous rate; these achievements have accelerated since the Industrial Revolution. As we succeed to rule the environment with the help of these improvements, a gap among humankind and the nature has emerged in the meantime. In other words, in the era of modern times, the relation of the humankind with the nature has highly deteriorated. As we finally acknowledged crucial kinds of ecological problems caused by this deterioration, sustainability has become a key concept worldwide, starting from the late 1970s. It can be suggested that environmental education is an efficient tool to raise the awareness of the individuals, the younger ones in particular with regards to environmental issues and increase the level of knowledge about the consequences of global warming and climate change and the concept of sustainability. Further, environmental education is also crucial within architecture and planning as this field has the potential to directly shape the physical environments including the cities where we are living. Within this framework, this study elaborates the significance and dimensions of environmental education with the help of a theoretical evaluation. As a concluding remark, it can be suggested that besides basic technical topics like green buildings, sustainable urbanism etc., innovative alternatives like ecological lifestyles, green economy etc. must be involved in the curriculum of schools of architecture.

Keywords: Environmental Education, Architecture And Planning, Theoretical Evaluation

1. INTRODUCTION

Global warming and climate change, species loss and deforestation are among the hazardous results of the acceleration in environmental destruction around the world (Beyaz & Asilsoy, 2019). As massive urbanization is one of the main reasons for this process, sustainable urbanism has emerged as a new discourse within the framework of sustainability, with its roots in the late 1950s (Oktay, 2012). Sustainable urbanism can be fulfilled starting from the building level up to the city scale. Therefore, we need professional architects, interior architects, urban planners, and designers who acquire sufficient knowledge about sustainability, and ecological design in particular. Hence, they are the ones shaping the built environments. Actually, apart from the aspects relating to the architecture, planning, and design field, individuals who can act environmentally responsive are enormously significant for the discourse of sustainable urbanism (Asilsoy and Oktay, 2018). When we evaluate cities that can be characterized as green, ecologically based on different dimensions, it can easily be grasped that the ecologically concerned inhabitants as citizens are one of the primary dynamics of their sustainability efforts (Asilsoy and Oktay, 2016).

At this point, it can be argued that before being environmentally responsive as professionals, firstly we must be ecologically oriented to be ecological citizens as ordinary individuals living in the 21st century. Six behavioural categories (Asilsoy & Oktay, 2016) construct ecological citizenship: energy saving, water conservation, waste management, public participation, sustainable transportation, and green consumption.

Environmental knowledge can be one of the variables to generate environmental action leading to ecological lifestyles. In other words, the influence of knowledge on behavior is complex and indirect, but it is still arguably important (Robelia and Murphy, 2012). Environmental education is a methodology to increase awareness and knowledge among individuals about environmental issues with a focus of relationships and interactions between natural and human systems. Therefore environmental education matters for all individuals living in the 21st century including a particular concern for the ones who will be the future professionals with a direct impact on the environment via architectural planning and design applications. It is often delivered through an educational program and seeks to change the learner's cognitive, affective, and participatory knowledge, skills, and behavior (Carleton-Hug & Hug, 2010).

Within this scope, this theoretical study aims to evaluate the definition and dimensions of environmental education with a particular focus on the field of architecture and planning. Next section deals with the evaluation of environmental education including its definition and scope within architecture and planning disciplines.

2. EVALUATION OF ENVIRONMENTAL EDUCATION

2.1 Definition of Environmental Education

Environmental education (EE) is the education that makes the citizens concerned about environmental issues, encourages them to participate in the decision-making process, and enables them to acknowledge their responsibilities and duties (Skanavis & Sarri, 2002). According to another definition, environmental education refers to organized efforts to teach about how natural environments function and, particularly, how human beings can manage their behaviour and ecosystems in order to live sustainably **(**Van Den Toorn, 2007). According to another study**,** environment education is defined as "a constant state of learning in which provides insight, capability, values and experience to solve environmental issues and ensuring that the individuals are aware of their immediate environment" (Vaughan et al. 2003).

Environmental education has started in developed societies in the 1960s. It became popular in 1970s (Özden, 2008). These years were the ones which environmentalism gained significant momentum. Books like Rachel Carson's Silent Spring were also triggering this phenomenon. In fact, after the Industrial Revolution in 1750s, there was a process of powerful industrial activity such as mining, land drainage and forest clearance. Great factories ruled the economic development and the rest -including the environment- was not valued. During those days, a few individuals began to react to this ignorance. And it was the beginning of 150 years of continuous effort to create a new era with its own unique philosophy and science enlightening 21 century's ecological worldview. By 1850s, there were several writers and visionaries opening discussions about the respect for nature in relation to the ongoing construction boom undermining the nature. Such attempts helped to achieve the foundation for a concrete environmental education program, known as nature study, which took place in the late 19th and early 20th century in the western world.

However, until the end of 1950s, the attention was about wildernesses of the countries and the endangered species (such as buffalo, etc.) within these natural lands affected negatively by the pressures of human existence. However, after the best-seller book Silent Spring by Rachel Carson in 1962, the focus of concern began to be also the human activities damaging the environment. Within the book, which is accepted to be the most influential book for the emergence of modern environmentalism, the concern was mainly the harmful effect of pesticides and insecticides. Carson was a nature lover and former marine biologist. She discussed how chemicals used on farms, forests, and gardens were polluting the environment. She suggested that nature was being poisoned; the insect life was dying which meant a silent spring with no food for the birds; no birds, no bird song. She also described in detail how pesticides and insecticides cause higher risks cancer. Chemicals, like the insecticide DDT, enter the food chain and affect the fatty tissues of animals and humans either. Actually, it can be argued that the modern environmental education movement, which gained significant momentum in the late 1960s, roots from education based on conservation of nature study.

The 1970s were also the years which not only the ecology as a science and environmental philosophy as a new branch of ethics but also the environmental politics began to gain importance and power in USA and Europe. Such that the leftists, green parties, ecology and peace movements became more influential within the political and ideological debate in western world, for exactly the same goal of defending the environmentalism. And some libertarians also joined to the struggle for defending the nature and its values. Another notable improvement in 1970s was the establishment of environmental pressure groups like Greenpeace and Friends of the Earth. Non-governmental organizations focusing on environmental education also emerged to form and grow in these years.

Within this framework of those years, a significant landmark attempt to define the term 'environmental education' containing the current modern meaning was accomplished by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and the

International Union for the Conservation of Nature and Natural Resources (IUCN). IUCN and UNESCO had held a meeting titled 'International Working Meeting on Environmental Education in the School Curriculum' in 1970 in USA (Palmer, 2002). In 1972, United Nations Environment Programme (UNEP) was founded by the UNESCO in the UN International Conference on the Human Environment in Stockholm. The programme was created to promote environmental practices across the globe. Accordingly, in the year 1975, the International Environmental Education Programme (IEEP) was launched under the auspices of UNESCO producing the first set of EE objectives in a global perspective. The list of these objectives includes awareness, skills, attitude, and participation (Fauville et al., 2014). Starting from 1970s, international charters, congresses, meetings, and declarations about environmental education are ongoing. For instance, the seventh World Environmental Education Congress was held in Marrakesh, Morocco in the year 2013. Incorporating 11 different areas of concern, the theme of the conference was "Environmental education and issues in cities and rural areas: seeking greater harmony". And recently, from 17 to 19 May 2021, the UNESCO World Conference on Education for Sustainable Development (ESD) was held online in Berlin. In that conference, Berlin Declaration on Education for Sustainable Development was adopted. Therefore, it can also be suggested that, a shift toward sustainable development in education has occurred in the meantime (Kopnina, 2020).

Figure 1. Visualisation of the Berlin Declaration (www.unesco.org/esd)

In the meantime, there are more and more attempts in disparate countries of the world to develop and consolidate the EE as its significance is well understood. Such that EE, as an issue clearly presented and specified in many education standards, is now compulsory in primary and lower secondary schools in the European Union.

Environmental education can be applied in different forms; it can be direct or indirect, formal, informal or non-formal either. Environmental education must not restricted to in-class lesson plans. In addition, beside public schools, non-governmental organizations and agencies can be effective collaborators. Even, disparate alternative ways regarding the content and form can be more effective for the learning process of environmental literacy. For instance, eco schools can be an option. In addition, the alternatives include Indigenous learning, ecopedagogy, ecocentric education, and education for steady-state and circular economy, empowerment, and liberation (Kopnina, 2020).

2.2 Environmental Education within Architecture and Planning Disciplines

Environmental education needs to be addressed significantly within architectural pedagogy. As future defenders of public health, safety, and welfare, it is worthwhile to question whether architecture students feel prepared by their education to tackle issues of environmental sustainability (Grant, 2020). No matter what the form of the environmental education is, the content within architecture and planning must embrace knowledge regarding several main aspects.

Global Warming and Climate Change

Climate change is one of the most divisive and controversial issues of our time affecting communities and environments across the world (Preston-Jones, 2020). Mostly as a result of urbanization, industrialization, and human population increase, a significant global threat has emerged. On earth the increasing quantity of atmospheric carbon dioxide (CO_2) from the burning of fossil fuels, together with the release of other several gases, is causing an increased greenhouse effect and leading to 'global warming and climate change'.

In other words, the exponential increase in surface temperature of the earth and the global sea level in the last few decades is a major aspect of climate change that has attracted both researchers and policy makers in recent times (Aizebeokhai, 2009). So we need to develop a new approach for the planning and design of our built environments starting from the building scale up to the global level.

Sustainability

Beginning from the second half of the 20th century, especially after the 1960s, a new way of thinking that is called sustainability as a key concept has emerged. It is crucial for the architects and planners to understand sustainability as a concept to generate a holistic acknowledgement. In order to contemplate a sustainable built environment, the architecture curriculum has to cover the basic understanding of the link among sustainability and architecture and urban design. However, it is well understood that this requires a significant paradigm shift in the underlying pedagogies involved in educating for sustainability (Altomonte et al., 2014).

Sustainability is a broad concept. World Commission on Environment and Development (WCED) Brundtland Report elaborates the sustainable development term as a commonly known definition: *"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs*.

Figure 2. Illustrating the Concept Sustainability

Sustainability is a prominent statement in vocalizing our concerns about the future of the world, even the subject matter diverges from economics to urban studies, energy policies to politics, healthcare to transportation (Gucyeter, 2016). As a vast term, it can be evaluated in four dimensions as cultural, economic, social, and environmental.

Environmental sustainability deals with the protection of biodiversity, ecological balance, and natural environments within the city. Additionally it targets to improve human health, and air, water and soil quality. It also aims to find solutions about the issues such as global warming and environmental pollution. Economic sustainability aims to obtain economic development and growth while maintaining the existing built environments and social, cultural, and natural values. Social sustainability has a goal to provide equal access to basic needs such as health care, housing, and employment for all citizens, as a must of social justice. It also fights with the issues like poverty, immigration, wars, etc. Cultural sustainability deals with the characteristics of the society in relation to physical, cultural, socio-psychological aspects such as cultural heritage, lifestyles, creativity etc.

As an outcome of becoming a globally accepted key concept, the United Nations in 2015 adopted the Sustainable Development Goals (SDGs), also known as the Global Goals as the UN 2030 agenda. The SDGs involve 17 headlines. One of these goals focuses on education. The UN 2030 agenda of SDGs, as a universal call to action, envisions a future of inclusive equity, justice and prosperity within environmental limits, and places an important emphasis on education as stated in fourth goal as ‘Quality Education’ (Kioupi & Voulvoulis, 2019).

Furthermore, under the umbrella of sustainability, there is a growing requirement for the current urbanization patterns to shift to more sustainable urban futures (Bramley & Power, 2009; Lehmann, 2016). Thus, sustainable urbanism can be particularly focused as a subject within the architectural pedagogy. Sustainable urbanism has been a key concept to tackle the challenges emerging because of the global climate change concerns and a rapidly urbanizing world population (Joss, S. (2015). This concept is very diverse; it involves various physical and non-physical subjects in relation to the four dimensions of sustainability.

Green Building, Zero-Carbon Building

One of the key drivers of the policy to tackle global warming and climate change is to transform buildings into more intelligent and energy-efficient entities. For instance, currently buildings consume 40% of the European Union's (EU) final energy (Kourgiozou et al., 2021). In addition, buildings are responsible for nearly 30% of global energy-related greenhouse gas emissions. Thus, terms like green, ecological, sustainable, zero-carbon, and smart building have been widespread as the concern on the environmental challenges in relation to the built environment is rising day by day. Such that it is fundamental that architecture is informed by an overarching approach supporting the combination of energy efficient measures together with the need to secure people's comfort and quality of life, consistently integrating environmental awareness, knowledge and technical skills within a creative design discourse (Graham, 2009).

One of the prominent terms within this discourse is zero-carbon buildings. Nowadays the significance of zero-carbon building science is increasing as we are facing severe consequences of global warming and climate change. The World Green Building Council is also catalyzing the construction and property industry to lead the transition to a net zero carbon built environment (Twinn et al., 2019). Zero-carbon building is the one that is highly energy efficient and fully powered from renewable energy sources. The concept of 'net zero energy' inspired the definition. A building must be 100 percent self-sufficient, relying solely on on-site energy supply, to be considered "net zero energy". Carbon neutrality states that net carbon emissions are zero because the amount of carbon released is countered by an equal amount of carbon released.

Further, green building as a term which is highly linked to the concept of zero-carbon building, can be argued to be one another main subject for the environmental education within architectural pedagogy. At the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, the concept of "green building" was formally proposed, indicating that buildings should meet occupants' needs in terms of a comfortable living environment without compromising the ability to save energy and reduce environmental impacts (Liu and Lin, 2016). In the meantime, a variety of assessment methods and tools have been developed to analyze the building sector's performance in terms of environmental impact. More than 60 countries have created their own ranking systems to assess and promote green construction (Kibert, 2016).

2.3 Global Perspectives for EE within Architecture and Planning Disciplines

When we look at the European countries in terms of environmental education, in general it can be argued that the entire architectural community in European countries has a decisive focus to learn more about and to dramatically increase the environmental performance of its projects on a regular basis. Therefore, the majority of architectural schools has recently updated its curriculum according to the new directives or is currently doing so (Wyckmans, 2013).

In addition, regarding the EE in Europe, the EU-funded Project EDUCATE Action (Environmental Design in University Curricula and Architectural Training in Europe) has been built on a consortium of seven European academic partners starting in the year 2009. It was funded by the European Commission and also supported by Chambers of Architects, building professionals and associations of educators in participating countries. EDUCATE is built on a consortium of seven European partners: University of Nottingham (UK, Coordinator); Architectural Association School of Architecture (UK); Catholic University of Louvain (Belgium); Technical University of Munich (Germany); Department DATA, University of Rome

La Sapienza (Italy); Seminar of Architecture and Environment (Spain) and Budapest University of Technology and Economics (Hungary)

For instance, both in Sweden and Norway, there are faculties of architecture restructuring their curriculums to integrate sustainability aspects within research, education, and campus development and work environment etc.

UK is another country seeking to find innovative solutions to promote environmental aspects in the design of built environments. Such that in 2008, the 'Designs on the Planet' workshop series was set up as a forum by Oxford Brookes University, the University of Nottingham and Cardiff University, with the primary aim of contributing to the development of environmental responsibility as a creative factor in the practice and pedagogy of architecture (Stevenson, et al., 2009 cited in Altomonte, 2009). Table 1 displays initiatives relating to education for sustainability literacy in the UK, pointing to an ongoing commitment from UK governments to promoting education for sustainability (Murray and Cotgrave, 2007).

Table 1. Initiatives relating to education for sustainability literacy in the UK

Organisation	Initiative	Year
Department for Environment, Food and Rural Affairs (DEFRA)	Establishment of the Council for Environmental Education, to place sustainable development at the heart of education policy and practice (CEE, 2002), CEE closed in 2005	1968-2005
Committee on Environmental Education in Further and Higher Education	"Environmental responsibility: an agenda for further and higher education" published in 1993 (Toyne, 1993)	1992, reviewed 1996
UK Government (ODPM/DfES)	Sustainable Development Education Panel established	1998
Higher Education Partnership for Sustainability (HEPS)	Three-year project with 18 universities and sustainable development charity Forum for the Future, to promote sustainability performance in universities (Parkin *et al.*, 2004)	2000-2003
Forum for the Future	Launch of sustainability in the curriculum toolkit (Forum for the Future, 2002)	2002
Department for Education and Skills (DfES)	Launch of "Sustainable Development Action Plan for Sustainability and Skills" (DfES, 2003)	2003
Higher Education Funding Council for England (HEFCE)	Launch of consultation document on Sustainable Development in Higher Education (HEFCE, 2005)	2005
Office of the Deputy Prime Minister (ODPM)	Launch of the Academy for Sustainable Communities to promote the development of knowledge and skills needed to create sustainable communities	2005
Higher Education Academy	Monitoring research in education for sustainability. Launch of initial report on ESD in Higher Education (HEA, 2006)	2006

When we check the USA, since 2004 sustainability has been added to the 'Conditions for Accreditation for Professional Degree Programs in Architecture', with a particular emphasis on the "understanding of the principles of sustainability in making architecture and urban design decisions and in the creation of healthful buildings" (NAAB, 2004). In addition, disparate architectural pedagogy circles like The US Educators Practitioners Network, the Society of

Building Science Educators, the AIA Committee on the Environment, and the AIA Sustainability Discussion Group are working on generating the environmentally responsive design for educators and professionals.

Although mostly not as persistent as European countries, there is a growing interest worldwide regarding the significance of environmental knowledge in general and within architecture and design field either. For instance, there is also a growing concern for environmental issues in the architecture and design programs in North Cyprus. But this process mostly relies on the instructors' self-decision to involve a related environmental content. It is expected that such a motive can be more permanent via the acknowledgement of SDGs within the circles of higher education.

There is also remarkable effort regarding the EE in developed countries like Japan, Canada, Australia, and New Zealand. Further environmental education is rising in the Global South. In fact, it can be suggested that mostly as non-industrialized countries Global South countries have several advantages to boost environmentalism in the education circles. But it can be argued that the attempts are yet to be sufficient. Although they have a knowledge laying hidden in their local traditions and philosophy regarding the ecologically responsive building construction systems and ecological lifestyles. For instance in Nigeria, the National Universities Commission, National Board for Technical Education, Architects Registration Council of Nigeria and the Nigerian Institute of Architects are yet to approve sustainability as part of the knowledge to be acquired throughout the architecture education and it has not been coordinated in the curriculum in a systematic way (Adegbile, 2012).

In sum the implementations regarding the responsibilities and duties of the environmental issues is as yet poorly reflected within general circles and in construction sector either. So we need a deeper understanding of environmental perspectives for the individual and professional action.

3. CONCLUSION

The significance of environmental education is much more apparent as the climate crisis unfolds. Schools of architecture carry a huge responsibility within this discourse. It can be argued that universities and schools of architecture need to take a more active and more determined role in environmental learning. However, besides learning process itself, environmental issues are multi-dimensional either. In addition, construction industry has its own dynamics with disparate social, professional, legislative, and administrative challenges.

Further, it can be suggested that a particular concern in schools of architecture is crucial but will not sufficient as the emerging problems involve multi facets. In other words, both individual, corporate and public action is required for achieving a holistic framework to the existing ecological problems. Therefore, it will be more efficient to expand the environmental knowledge starting from individual level with an aim of ecological lifestyles. Such an individual base can bring a deeper understanding of the individual role in developing environmental attitudes and behaviors to relating issues for the architecture students. In other words, such a background can also be an advantage for higher education circles including architecture and planning field. Thus, besides basic technical topics like green buildings, sustainable urbanism etc., innovative alternatives must be involved in the curriculum of schools of architecture.

REFERENCES

Adegbile, M. (2012). Nigerian architectural education in a sustainable age. *Sustainable Futures: Architecture and Urbanism in the Global South Kampala*, 27-30. Uganda.

Aizebeokhai, A. P. (2009). Global warming and climate change: Realities, uncertainties and measures. *International journal of physical sciences, 4*(13), 868-879.

Altomonte, S. (2009). Environmental education for sustainable architecture. *Rev. Eur. Stud., 1*(12).

Altomonte, S., Rutherford, P., & Wilson, R. (2014). Mapping the way forward: Education for sustainability in architecture and urban design. *Corporate Social Responsibility and Environmental Management, 21*(3), 143-154.

Asilsoy, B., & Oktay, D. (2016). Measuring the potential for ecological citizenship among residents in Famagusta, North Cyprus. *Open House International*.

Asilsoy, B., & Oktay, D. (2018). Exploring environmental behaviour as the major determinant of ecological citizenship. *Sustainable Cities and Society*, *39*, 765-771.

Beyaz, C., & Asilsoy, B. (2019). Knowledge of green buildings and environmental worldview among interior design students. *International Journal of Advanced and Applied Sciences*, *6*(1), 29-36.

Carleton-Hug, A., & Hug, J. W. (2010). Challenges and opportunities for evaluating environmental education programs. *Evaluation and Program Planning, 33*(2), 159-164.

Fauville, G., Lantz-Andersson, A., & Säljö, R. (2014). ICT tools in environmental education: reviewing two newcomers to schools. *Environmental Education Research, 20*(2), 248-283.

Graham, P. (2009). *Building ecology: First principles for a sustainable built environment*. John Wiley & Sons.

Grant, E. J. (2020). *Mainstreaming environmental education for architects: the need for basic literacies*.

Gucyeter, B. (2016). The place of sustainability in architectural education: discussion and suggestions. *Athens Journal of Architecture, 2*(3), 237-256.

Kioupi, V., & Voulvoulis, N. (2019). Education for sustainable development: A systemic framework for connecting the SDGs to educational outcomes. *Sustainability, 11*(21), 6104.

Kopnina, H. (2020). Education for the future? Critical evaluation of education for sustainable development goals. *The Journal of Environmental Education, 51*(4), 280-291.

Kourgiozou, V., Commin, A., Dowson, M., Rovas, D., & Mumovic, D. (2021). Scalable pathways to net zero carbon in the UK higher education sector: A systematic review of smart energy systems in university campuses. *Renewable and Sustainable Energy Reviews, 147*, 111234.

Murray, P. E., & Cotgrave, A. J. (2007). Sustainability literacy: the future paradigm for construction education? *Structural Survey*.

NAAB National Architectural Accrediting Board. (2004) *NAAB Conditions for Accreditation for Professional Degree Programs in Architecture*. American Institute of Architects.

Oktay, D. (2012). Human sustainable urbanism: In pursuit of ecological and social-cultural sustainability. *Procedia-Social and Behavioral Sciences, 36*, 16-27.

Özden, M. (2008). Environmental awareness and attitudes of student teachers: An empirical research. *International Research in Geographical and Environmental Education, 17*(1), 40-55.

Palmer, J. (2002). *Environmental education in the 21st century: Theory, practice, progress and promise*. Routledge.

Preston-Jones, A. (2020). The Importance of Climate Change Education in Urban Planning: A Review of Planning Courses at UK Universities*. Climate Change, Hazards and Adaptation Options*, 1045-1067.

Robelia, B., & Murphy, T. (2012). What do people know about key environmental issues? A review of environmental knowledge surveys. *Environmental Education Research, 18*(3), 299-321.

Skanavis, C., & Sarri, E. (2002). The role of environmental education as a tool for environmental management in Cyprus: Strategies and activities. *Environmental Management and Health*.

Stevenson, F., Roberts, A., & Altomonte, S. (2009). Designs on the Planet. A workshop series on architectural education and the challenges of climate change. In *PLEA Passive Low Energy Architecture Conference 2009*, 22-24 June 2009, Quebec, Canada.

Twinn, R., Desai, K., & Box, P. (2019). *Net zero carbon buildings: a framework definition*.

Van Den Toorn, M. (2007). Environmental Education and Design: The role of landscape architecture. In *Proceedings of 5th WSEAS Int. Conf. on Environment, Ecosystems and Development*, 451-462.

Vaughan, C., Gack, J., Solorazano, H., & Ray, R. (2003). The effect on environmental education on school children, their parents and community members: A study of intergenerational and intercommunity learning. *The Journal of Environmental Education, 34*(3), 12-21.

Wyckmans, A. (2013). Environmental learning in architecture. From individual choice to collective responsibility. *NA, 20*(3).

An Evaluation of the Cultural Heritage Course for Architecture Students: Effectiveness of ICT in Heritage Education

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ABSTRACT

Education is a key factor in improving heritage conservation and preservation. The subject of cultural heritage as school lessons in Turkey has been included in the curriculum since 1974. It is rather remarkable that, as early as 1974, textbooks informed fourth graders of their responsibility to protect cultural properties. Especially after the 2004 education reform, heritage preservation is now mentioned at a standard level in every grade of the Social Studies curriculum, from the fourth to the seventh grade. Impressive architectural monuments and artifacts introduced in school lessons with the message that they are of high value are the main tools used for students to appreciate their past. In the 6th article of the "ICOMOS Turkey Architectural Heritage Conservation Charter" (2013), it is emphasized that students should gain knowledge and perspective that can evaluate monuments in terms of their context, their physical characteristics, and the qualities of the society they belong to. This article presents an example of a cultural heritage course being conducted at the Department of Architecture at Eskişehir Technical University. The aim of this course is to create a comprehensive and unified approach to teaching cultural heritage by encouraging students of architecture to use ICT tools. The use of ICT in Heritage Education has led to the rediscovery of historical and archaeological monuments that connect spatial thinking to cultural recognition in urban settings. Thus, ICT helps students build their own knowledge and develop awareness of cultural heritage.

Key Words: Cultural Heritage, Integration of Information, Communication, and Technology (ICT)

1. INTRODUCTION

Education is a key factor in improving heritage protection and preservation. The protection of cultural heritage has been a topic in the Turkish primary education system since the late 1960s and early 1970s (Bıyıklı & Aslan: 2013: 266). Especially after the 2004 education reform, heritage preservation has been mentioned at a standard level in every grade of the Social Studies curriculum, from the fourth to the seventh grade. A theme that can be seen in the textbooks is an emphasis on the progress and achievements of civilizations through time. In this context, impressive monuments and works of art that convey the message of high value are essential tools for students to appreciate their past (Kocaoluk & Kocaoluk, 1998: 2542–43). In any case, Cultural Heritage studies have generally focused on important archaeological sites and cultural heritage artefacts from the Seljuk and Ottoman periods (Bıyıklı & Aslan: 2013: 255).

In the "ICOMOS Turkey Architectural Heritage Conservation Charter" (VI) 2013, the basic definitions regarding cultural heritage education for formal education are as below:

- To know the concepts of international and national protection,
- To know the legal, administrative and economic conditions prevailing in the country,
- To have the knowledge and perspective that can evaluate the relationship of each building with its context, in terms of the characteristics of the society to which it belongs, as well as its physical characteristics,
- Creating information and documents regarding the definition and analysis of the building and its immediate surroundings, and having the knowledge to define the values to be protected.

Apart from textbooks and curriculum guidelines, taking into account the variations such as teacher presentation and other components such as on-site visits or what students in fact learned, a complementary course is envisaged for architecture students who are expected to pursue further cultural heritage education in line with the 3rd article of the Charter listed above.

The joint area elective course MİM 429 Anatolian Capitals, which I am conducting at the Department of Architecture at Eskişehir Technical University and open to 3rd and 4th grade students, has been integrated into the curriculum for his purpose. At the same time, this course is related to and complementary to other cultural heritage courses in the architectural education curriculum.

The class for 30 participants which was divided in four groups, a total of 90 students attended within three academic semesters. Active learning approach and digital technologies issues are raised in the area of heritage education researches. Both of them have implications for the construction of knowledge and are particularly relevant to our use of ICT. The activities applied in the study were designed according to the "active learning" approach, with the help of ICT tools. Learning outcomes were evaluated comparatively in two stages, one being the pre-test, and the post-test at the end of the term. According to the test results, it was observed that there was a significant difference in the existing knowledge of the students. In this framework, the study consists of four parts; active learning approach in the first part; in the second part, ICT and cultural heritage; design of learning activities in the third part: analysis results, evaluation; In the last part, there are suggestions for the development of the methods applied in the courses to be carried out in the following semesters.

2. ACTIVE LEARNING APPROACHES

In the global information society, it is emphasized that it is not necessary to transfer information directly to the individual, but it is necessary to teach how and in what ways an individual can reach the information that they need. In recent years, international organizations have been interested in improving the content and form of arts and cultural heritage education in formal and nonformal education systems. In 1998 EU Recommendation No. R (98) 5, it is recommended that incorporating active educational methods and an interdisciplinary approaches should be developed in Cultural Heritage Education.

Active learning is generally defined as any instructional method that engages students in the learning process. In active learning, learners take responsibility not only for acquiring knowledge, but also for using and applying it. (Dufresne, Gerace, Leonard, Mestre, ve Wenk, 1996).

The concept of cultural heritage is well suited to active learning practice as a resource for gaining experiences and also for different learning styles. Links to active learning approaches and cultural heritage education are:

1. Individual Learning: Cultural heritage actively encourages participants to seek their own meaningful context behind the facts, to question them and to interpret their experiences[1].

2. Experiential Learning: Students directly experience, examine, analyse, and evaluate cultural heritage such as buildings, monuments, workplaces, natural landscapes, historical artefacts, rituals and traditions. Thus, they gain knowledge, intellectual skills, and a wide range of competencies that increase their capacity to understand different cultures and lifestyles.

3. Interdisciplinary Learning: Facts about cultural heritage -tangible forms such as sites, buildings, landscapes, or as intangible entities such as memories, feelings, values, and traditions- are associated with many different theoretical views and disciplines. Therefore, cultural heritage education has many resources about values, themes, and events that cover people's cultural heritage.

4. Collaborative Learning: Interpretation of cultural heritage, discussion and reflection processes are very suitable for group work. Students can communicate and share ideas, learn from each other by interacting and working together, and build knowledge based on their individual skills and expressions to shape our shared future.

3. INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT)

In fact, no specific reference was directly made in the aforementioned EU Recommendation for use of ICT to support and enhance Cultural Heritage Education. However, ICT is, by its very nature, open to "discovery" rather than "taught" and it supports the development of active experiential learning approaches by providing access to a large amount of knowledge. ICT play an increasingly important role in fostering the promotion of arts and cultural heritage educational activities (Sylaiou, Papaionnau: 2019:363). The development of geographical media (Google Maps, Google Earth, etc.) and ICT offer new possibilities to create learning tools and facilities. Beyond traditional-typical presentations, ICT can help students to review the basic concepts of cultural heritage and conservation, to recognize many aspects of cultural heritage and architectural elements, to make sense of the common and distinctive features between cultures and societies. In other words, it can help students to construct or built their own knowledge. Architectural heritage can be revisited and interpreted from different

[1] Example: Erasmus+ project HIMIS (Heritage Interpretation for Migrant Inclusion in Schools): http://himisproject. eu/en/home-page/

perspectives. ICT helps to develop active learning activities in cultural heritage education by provide enriched and versatile resources. According to the results of the researches, the potential of ICT in the field of cultural heritage education can be exemplified in the following:

- *Individual Learning Approach:* Last few years, almost all developed countries have created free electronic archives and made relevant attempts to digitize their Cultural Heritage, especially during the Covid-19 pandemic period (UNESCO, 2005). Just to provide a couple of examples in Turkey, 32 museums are implementing virtual tours, at the same time archives, libraries and other non-formal education institutions are increasingly transforming their accessibility by digitizing their existing resources. Particularly, ICT may provide the opportunity to further explore matters that had been previously addressed in formal contexts, thereby promoting self-regulated learning approaches (Al-Mubaid, 2008).

Experiential Learning Approach: With the help of ICT, Cultural Heritage artefacts can be examined both as a whole and in detail. ICT applications that make the representation of artefacts *dynamic and interactive* offer opportunities for experiential learning approaches. For example, in Figure 1, viewing the temple of Athena at Sardis with Google Earth 360^0 can be shown as an example of how digital technologies allow a vision from both different perspectives and different levels of detail (Figure 1).

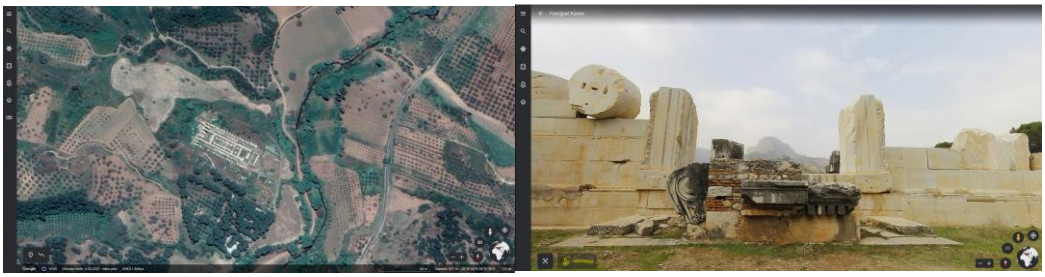

Figure 1. Athena Temple in Sardes: different perspectives and details.

- *Interdisciplinary Learning Approach:* ICT offers a new interdisciplinary dimension to Cultural Heritage Education by providing a broader perspective on each work with images, drawings, integrated maps and timelines, 3D building models, reviews, bibliographies, web links about buildings and architects. For example, the study of Hagia Sophia can be enriched by examining the city's history in the Byzantine Period. Byzantium 1200[2] is a virtual project aimed at creating computer reconstructions of the Byzantine Monuments located in Istanbul, as of year 1200 AD and shows three-dimensional modelling of about 50 buildings from that era (Figure 2). Inspired by Allan Sorell's famous painting of Istanbul, field experts realized a three-dimensional reconstruction of the Hippodrome, the squares in various parts of the city, the monumental gates, and the big columns.

  Two big palace complexes, that are now almost completely in ruins and all the buildings except dwelling places (i.e. churches, the aqueduct etc.), are recreated by using the hypothetic street plans of that era. Byzantium style houses with different sizes will be added to the city model.

[2] <https://www.byzantium1200.com/introduction.html> (accessed January 2022).

Figure 2. The Hagia Sophia in the content of Byzantium 1200.

- *Collaborative Learning Approach:* Thanks to ICT, students can access to distant places (museums, archaeological sites, etc.) from the classroom, lab, home, etc. They can get information about points of interest in “virtual” environments, detail and interpret them (Johnson, Johnson & Smith, 1991; Gullette, 1992). In addition, communication and collaboration facilities offered by mobile technologies, online Web 2.0 applications such as Miro, My History, Thinglink, Quizizz, LearningApps may allow data sharing and knowledge co-construction by students, thus paving the way to collaborative approaches to learning (Domínguez-Lloria, Fernández-Aguayo, Marín-Marín, & Alvariñas-Villaverde, 2021).

However, there are evidences from researches in almost all fields of education that ICT does not make a difference alone in students' academic achievement (Moseley et al., 1999). Designing pilot experiences that effectively use technological tools in the field of Cultural Heritage education and sharing the results will contribute to the development of good practices in the future.

In the rest of the article, the course practice is shared and the benefits of ICT in cultural heritage education is interpreted based on the experience gained from the executed course.

4. STRUCTURE OF THE COURSE

The Council of Europe Framework Convention on the Value of Cultural Heritage for Society, better known as the Faro Convention is an important reference document on cultural heritage education in terms of its main principles and core aspects (CE, 2005).

The Faro Convention, having an innovative concept of the “common heritage of Europe” and its relationship to human rights and fundamental freedoms are described cultural heritage as a group of resources inherited from the past which people identify, independently of ownership, as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. It includes all aspects of the environment resulting from the interaction between people and places through time (Article 2nd).

This definition, which is important in terms of cultural heritage education, has been decisive in the teaching style and content of the course. The aim of the course developed within this framework is to enable students to explore historical environments, the changing factors through time and the values of the cultural environment by using scientific research methods. The conceptual framework is based on "capital city" keyword. Thus, it has been possible to understand and interpretation of cultural heritage within a much wider network of historical, socio-cultural, economic, and geographical connections.

By involving students in an active learning process in accordance with the determined purpose, they discover the cities of past civilizations on their living geography by themselves**;**

learn about the urban organization, construction techniques, and architectural features by the instructor's presentations and re-interpret what a certain cultural heritage means in a multi-perspective view. The activities applied in the study were designed according to the "active learning" approach, with the help of ICT technologies.

4.1 The Sample of the Research

It consists of 90 students enrolled in the MİM 429 Anatolian Capitals course, which is carried out in the 2017-2019 Education Term Fall in the Architecture and Interior Architecture Departments of the Faculty of Architecture of Eskişehir Technical University. The age range of the course, which is open to the participation of 3rd and 4th grade students, is 19-24.

4.2 The Presentation and Evaluation of the Course

On the first day of the 15-weeks formal education period, 2 hours a week, after preliminary information is given about the content of the course and its applications, an A4 paper that is divided into two sections is shared with the students. Students are asked to draw a World map and mark their country into the first section and to mark the locations of Anatolian civilizations (Hittites, Phrygians, etc.) on a schematic country map into the second section. 20 minutes of the course is devoted to class working collaboratively. The drawing technique, the pencil used in the creation of maps is completely freed. Architecture students who are familiar with creative mapping techniques can, if they wish, transfer their knowledge to paper using a free technique, including writing and coding. After submission of the forms, important civilizations, showing how architecture has evolved over a long period of time, are introduced with a short Power Point Presentation, and class-wide discussion about cultural values and World Heritage concepts is made. In the following weeks, interactive activities applied of the course and resources are given in Table 1.

Table 1. Structure of course.

Name of activity	Procedure
Creative Mapping-I	1. Students are asked to mark their country locations using the drawing tools of Coggle application on a schematic world map shared on the screen. 2. Students are asked to show the locations of ancient Anatolian civilizations on a schematic map. In introductory course, the application is to be run after a short lecture, without need of any supporting material.
How was urbanization in the capital of the Hittites?	The students watch mp4 video of Hittite. After getting general visual information about Hattusa with PPT presentation, students are asked to write short notes about the functions of the buildings marked with numbers on the 1/1000 scale city map of Hattusa, the capital of the Great Hittite Empire. Students learn the facts about the Hattuşa/Hittite: *Hattuşa/Hittite: BBC Video: https://www.dailymotion.com/video/xxtfhn* *Kadesh Treaty: (Egyptian–Hittite peace treaty) :* *https://artsandculture.google.com/entity/egyptian%E2%80%93hittite-peace-treaty/m0drys94*

Name of activity	Procedure
How are ICT technologies used in the presentation of archaeological cities?	A two-hour course was designed to introduce to the function of the ArcGIS application. Teachers instruct students to make use of online ArcGIS to present preferred places in their town linking local environment and geomedia. Local environment is also investigated in the project "Seyitgazi Rural Area" where MA Students, collected data during a field trip with the use of GPS devices and created digital maps of an historical places. In the second part, The students follow a PPT presentation that explains the characteristics of Phrygian civilization, myths and legends, structures, evidence of civil life, ethno archaeological studies which investigate their reflections to the present day and Gordion excavations. Through the "Digital Gordion Mapping" website, we look at the city settlement of Gordion together. Students also search for other web pages about the city of Gordion and discuss them in the next course how an archaeological city is presented with ICT technologies. Students learn the facts about the Gordion/ Phrygia **DIGITAL GORDION MAPPING PROJECT:* *https://www.penn.museum/sites/gordion/mapping/* *https://scholar.harvard.edu/pizzorno/dgmp* In the second part, The students follow a PPT presentation that explains the characteristics of Phrygian civilization, myths and legends, structures, evidence of civil life, ethno archaeological studies which investigate their reflections to the present day and Gordion excavations. Through the "Digital Gordion Mapping" website, we look at the city settlement of Gordion together. Students also search for other web pages about the city of Gordion and discuss them in the next course how an archaeological city is presented with ICT technologies. Students watched relevant documentaries, selected monuments of interest and created short texts. Students learn the facts about the Gordion/ Phrygia **DIGITAL GORDION MAPPING PROJECT:* *https://www.penn.museum/sites/gordion/mapping/* *https://scholar.harvard.edu/pizzorno/dgmp*
Timeline work and visual installation.	After the PPT presentation about the development of the ancient city of Sardis from the prehistoric period to the Roman time, a timeline study, which tells the evolution of the city, is tried with the students on web sites myHistro and TimelineJS. After the first sign into myHistro there is shown a screen for creating your first event. To create a timeline clicked on an account dashboard then select "stories" to create a story. The story named Anadolu Capitals was our myHistro's name for timelines. After create the story then students were invited to join the story. To work with collaborators students will need to register on myHistro. Students worked with together on story and add events. Each event included videos, images,

Name of activity	Procedure
	text and be geolocated on a map. TimelineJS is an open-source tool that enables anyone to build visually rich, interactive timelines. Beginners can create a timeline using nothing more than a Google spreadsheet. During the project students relates time to space by constructing timelines of mythical journeys and virtual tours. After that, from the 1925 excavation publication, 8 selected photographs of the Temple of Artemis and the temple plan are shared with the students as the next week assignment. They are asked to find out what angle the photos were taken using the Google Maps 360-degree application. Students learn the facts about the Sardis/Lydia: **SARDES Excavation: https://sardisexpedition.org/* *Pdf book:* *Butler, Howard Crosby. 1925. Sardis Publications of the American Society for the Excavation of Sardis, Volume II Architecture Part I Temple of Artemis Atlas of Plates Late E.J. Brill Ltd Publishers and Printers Leyden.* *Google Maps/Street View 360: https://www.google.com/maps/place/Sart,+Ancient+Sardis*
Virtual Tour Experience	After watching an animated video about the city of Pergamon and its development, the students join the virtual tour and do research on the web about the building they are most impressed with. In the following session, each student makes a presentation about the structure she/he has researched. Students learn the facts about the Pergamon: **A Helenistic Capital in Anatolia: PERGAMON* *Virtual Tour: https://mekan360.com/sanaltur_bergama-acropol-dionysos-tapinagi_489.html* *Archive Source: https://archives.saltresearch.org/handle/123456789/71352* *Animation-Video: 3D Pergamon (Clemens Poblotzki) https://www.youtube.com/watch?v=xiv9dJmJOTc*
The History of Ancient Civilization	In this section, students are acquainted with the Byzantine, Seljuk, and Ottoman capitals. Before starting the application, students are introduced to qualitative research methods and digital archives that they can use within the scope of course content. In this context, the teacher opens the Europeana page and tells to the students what this platform is for and how it is used. Students are asked to take a look at the information on the archaeological heritage/ancient cities by forming a team of 5 each. Students collect information about past civilizations by doing research on these topics on the Europeana platform. Collected information and images are combined by the students at the final step with a curatorial act on the Coggle to create a digital poster. In the following lessons, each group presents their study topics with slides and an in-class discussion environment is created.

Name of activity	Procedure
Mental Mapping-II	1. Students are asked to mark their country locations using the drawing tools of the Coggle application on a schematic world map shared on the screen. 2. Students are asked to show the locations of ancient Anatolian civilizations on a schematic map. This study, which is not subject to any grading, is actually a repetition application that allows students to self-evaluate the stage they have reached at the end of the training.

The students submit what they learn in the activities given every week in the form of posters/ reports. After the application given in the last week, each student makes his own self-assessment and discuss in the classroom.

5. ASSESSMENT AND CONCLUSION

Academic achievement of the education is possible when the information reaches to the students accurately and adequately. Spatial mapping of knowledge about the historic environment is viewed to be result of an architecture student's attempts to use her/his existing knowledge to make sense of new experiences. At the end of the semester, the blank mapping form given to the students on the first day of education was shared again. In addition, students were asked to evaluate the applications made in the course, limited to an A4 size paper. All of the students determined the Anatolian Civilizations with a “suitable” of accuracy and marked the Capitals on the map with, in such a way that created by their own style. Students stated that teaching styles, which include the explanation of the subjects, activities, assignments and evaluations in the education process, caused an increase in their misconceptions and academic interest.

The notion of heritage interpretation involves an understanding of a past beyond the reach of one’s personal horizon of experience (Sciacchitano, 2018:10). Meaningful heritage can help young people reshape their own value system and identities (Sciacchitano, 2018:11). This is a prerequisite for any interpretation of cultural heritage that explores how meaningful the past is. Geography and history are intimately linked. Architecture students' learning of human settlements through chronological history and spatial experiences helps them understanding the evolution of architecture and urban planning and reshape their perspectives. In addition, class-wide discussions -explanatory, interactive and self-reflection comments- help revealing what the particular heritage means for various historic stakeholders (e.g. with different socio-cultural backgrounds).

The part of this program was already implemented at Eskisehir Technical University ESTU, Department of Architecture. I believe program can be implemented online, which means it can be used in a cultural heritage education, with certain adjustments to suit the requirements of various educational settings. Since ICT is a way to organize training sessions online, I believe this solution could easily be implemented in many different contexts. By this way, students may create links between the past and the present, which integrate, in a geographical dimension. They explore locations, conditions, changes, movement and demonstrate spatio-temporal thinking. A variety of digital tools (ArcGIS on-line, Google Maps, Coggle, TimelineJS)

enable the development of spatial thinking, in accordance with Liben (2006) who supports that spatial performance can be facilitated through educational interventions (Apostolopoulou, Carvoeiras ve Klonari, 2014). Through organized learning activities students will become actively engaged with the local and world cultural heritage, create a closer relationship between monuments and education. This will not only benefit the monuments, but also the cultural heritage educational process. The educational gain of the approach is the development of high-level cognitive skills while students become more independent and confident of their own learning development processes.

REFERENCES

European Union. (1998). *EU Recommendation No. R (98).* https://rm.coe.int/16804f1ca1 accessed January 2022.

Al-Mubaid, H. (2008). Designing and managing intervention methods to promote self-regulated learning. *International Journal of Teaching and Case Studies, 1*(3), 224-233.

Apostolopoulou A. P., Carvoeiras L. M., & Klonari A. (2014). Cultural Heritage and Education. Integrating Tour Maps in a Bilateral Project. *European Journal of Geography, 5*(4), 66-77.

Bıyıklı S. G., & Aslan C. C. (2013). A Review of Cultural Heritage Education in Turkish Schools (1962-2011). *Public Archaeology, 12*(4), 255-270.

Byzantium 1200, https://www.byzantium1200.com/introduction.html accessed January 2022.

Council of Europe (CE). (2005). *The Framework Convention on the Value of Cultural Heritage for Society.*

Council of Europe. (n.d.) *Faro Convention: CETS 199*. Council of Europe Framework Convention on the Value of Cultural Heritage for Society. https://coe.int accessed January 2022.

Domínguez-Lloria, S., Fernández-Aguayo, S., Marín-Marín, J. A., & Alvariñas Villaverde, M. (2021). Effectiveness of a collaborative platform for the mastery of competencies in the distance learning modality during covıd-19. *Sustainability, 13*(11), 5854.

Dufresne, J. R., Gerace, W. J., Leonard, W. J., Mestre, J. P. & ve Wenk. L. (1996). Classtalk: A Classroom Communication System for Active Learning. *Journal of Computing in Higher Education, 7*, 3-47.

Gullette, M. M. (1992). Leading discussion in a lecture course: Some maxims and an exhortation. *Change, 24*(2), 32–39.

ICOMOS. (2013). *Turkey Architectural Heritage Conservation Charter*. http://www.icomos.org.tr/Dosyalar/ICOMOSTR_tr0784192001542192602.pdf accessed January 2022.

Johnson, D. W., Johnson, R. T. & Smith, K. (1991). Cooperative learning: Increasing college faculty instructional productivity. *ASHE-ERIC Higher Education Report No. 4.* ERIC Clearinghouse on Higher Education, George Washington University.

Kocaoluk, F. & Kocaoluk, M. F. (1998). *İlköğretim okulu programı ve 0–1–8 sınıfların yıllık planı*. Kocaoluk Publication.

Liben, L. S. (2006). Education for Spatial Thinking. In *Handbook of Child Psychology*, eds. W. Damon, R. M. Lerner, K. A. Renninger, & I. E. Siege, Vol. 4, 197-247. Willey.

Moseley, D., Higgins, S., Bramald, R., Hardman, F., Miller, J., Mroz, M., et al. (1999). *Ways forward with ICT: Effective pedagogy using information and communications technology for literacy and numeracy in primary schools.* http://www.leeds.ac.uk/educol/documents/00001369.htm accessed January 2010.

Sciacchitano, E. (2018). The European Year of Cultural Heritage, an opportunity to foster heritage education. In *Learning from the past, designing our future: Europe's cultural heritage through eTwinning*, Central Support Service for eTwinning, Eds. I. Pateraki & S. Scimeca, 8-12.

Sylaiou, S. & Papaioannou, G. (2019). ICT in the Promotion of Arts and Cultural Heritage Education in Museums. In A. Kavoura, E. Kefallonitis, & A. Giovanis (eds.) *Strategic Innovative Marketing and Tourism*, 363-37. Springer Proceedings in Business and Economics.

UNESCO. (2005). *Information and communication technologies in schools – A handbook for teachers*. http://unesdoc.unesco.org/images/0013/001390/139028e.pdf accessed January 2022.

A Study on International Mobility in Architectural Education and Profession in Turkey

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ABSTRACT

Lifelong learning has been established as a norm in the field of architecture by contemporary education theorists. Practice, education, and architecture culture are always bonded historically because the historical paths of the profession go back to master-apprentice training. Integrity between education and practice has to be discussed in terms of the employability of the graduates. In this instance, mobility of the professionals especially becomes an important factor that expands employment opportunities of the professionals in our age when uncertainties of the politics and economies shape the profession. The discussions regarding the integrity between education and profession in the field of architecture in Turkey are inevitably related to the European Union perspective. Turkey as a member state completed the transformation of architectural education in order to provide credit transfer and compatibility of the minimum set of qualifications based on the EU upper legislative system. Despite the sufficient number of Turkish students involved in the Erasmus learning mobility programs, the mobility of the professionals is still relatively low according to the sector study reports conducted by the Architects' Council of Europe. Based on this fact, this paper focuses on the mobility of architects by introducing the key legislative actors and educational targets at the intersection of national and EU-wide frameworks. In addition to this, it presents the results of a deeper analysis about the reasons for the low mobility in the profession related to education, based on a questionnaire conducted among the graduates of architecture schools in Turkey.

Keywords: Mobility of Professionals, EU Regulated Professions, Education and Practice in Architecture, Turkey

1. INTRODUCTION AND THE KEY TERMS

High rates of unemployment emerged as a risk for the future of the discipline of architecture, especially for younger generations worldwide in the last decade. In addition to this, a nationwide economic crisis hit the economic sector and narrowed down the employment rates in Turkey. Under these circumstances, the mobility capacity of the architects in Turkey became more crucial than it was in the past (ACE, 2016.a). Along with its contribution in obtaining high-quality professional standards and helping to exchange knowledge and skills, the mobility of the professionals makes a positive impact on the birth of intercultural dialogue in general. Mobility takes place at the intersection of internationalization and employability in the Higher Education (HE) agenda.

Internationalization in education generally occurs in two ways; the first is providing a minimum set of standards in higher education, which each school can adapt to their curriculum and pedagogical paths to ensure the quality and recognition of their graduates worldwide. This type of internationalization is generally described as internationalization at home in the current literature and describes setting the standards and minimums of education in a particular discipline in singular institutions (Beleen, 2011). Internationalization at home does not necessarily involve the mobilization of students or staff and provides an opportunity for the completion of the degree in the home institution. Since this became an important trend in the HE, it is also called as mainstreaming of internationalization in the current literature (Mihut, Albacht, & de Wit, 2017).

The second type of internationalization can be understood as providing the students to complete their studies in several institutions with the help of credit transfer and/or joint programs. So, internationalization, in this way, is generally described as transnational education, which is realized with either ‘offshore campuses’ or ‘educational consortiums’ (Mihut, et al).

In both ways, it is accepted that the employability of a professional is a combination of his/her technical and soft skills and transversal competences, which can be described as a set of competences While professionals need to obtain these skills in order to increase their mobility during their education; it is also true that transnational education increases the mobility capacity of individuals (KIM, 2019). For this reason, mobility can be understood as a desire and an outcome, synonymously.

There are three important key terms that are closely associated with internationalization trends in architecture and are also crucial for the employability of professionals. Current literature indicates that the internationalization of the HE programs is concerned with aligning the technical skills of the students in different countries and elevating them to the minimum level of competences in the target profession. This is generally identified as the internationalization of hard skills. On the other hand, internationalization in HE also helps to develop a set of competences related to attitudes and values (knowing how to be) and procedures (know-how). These skills are called transversal competences and can be transferred from one specific professional field to another, which increases the job opportunities for the individuals, especially in times of economic crisis when certain sectors face with sharp declines in employment openings. While this type of competence describes the capacity of professionals to find employment opportunities for multiple job definitions, in a more globalized world, functioning properly despite the cultural differences and working in a multi-cultural

community at home or abroad becomes crucial for increasing employability. In this instance, internationalization in the HE is believed to reinforce the intercultural skills of the students and make them more eligible for employment. Intercultural competences are described as a combination of skills, attitudes, culture, and communication which all channel individuals to be more tolerant to cultural differences.

Internationalization of education in the HE played an important role in the mobility of professionals, but it is not solely capable of providing mobility of professionals. Other factors such as continuous education and supranational labor policies also make great contributions to make the professionals more mobilized in the job market.

2. MOBILITY OF ARCHITECTS IN THE EUROPEAN UNION AND EUROPEAN ECONOMIC AREA CONTEXT

Internationalization is crucial for employment-based mobility and has been an issue for the European Union (EU). Equalizing the learning outcomes in terms of skills, knowledge, and notions is not limited within the EU boundaries, but rather a global trend in HE. In the field of architecture, Union of International Architects (UIA) played the role of an accelerator integrating internationalization into architectural education worldwide. In other words, internationalization in the field of architecture became a norm, not an option in this instance.

The latest developments in the realm of education have led to a new, continuous, and holistic approach aiming at both production of scientific knowledge and its effective dissemination by educating qualified professionals. Closing the gap between qualifications and competences in education and practice was the target of the European Union, which established a legal framework in higher education and professional practice to ensure the compatibility of the levels, skills, and knowledge required for both areas. European Union Recognition of Professional Qualifications Directive (2005/36/EC) obliges seven categories of professionals including architecture to have certain qualifications listed in the EU database of regulated professions. Despite the long-term applications of the directory in EU countries, it is still questionable whether the legal framework guarantees the close integration of architectural practice and education. Starting from 2005 onwards all member and candidate countries internalized the upper legislations of EU into their own education and professional practice systems.

The profession of architect is regulated in the vast majority of the EU Member States, which means that the pursuit of the profession is subject, directly or indirectly, to laws, regulations, or administrative provisions, and to the possession of evidence of education and training (or an attestation of competence). If and how these Member States regulate the profession falls within the competence of the Member States, either by the introduction of state regulation or by the creation of self-regulation by professional associations. A combination of both is also possible (Schoenmaekers, 2010: 45).

Europass is an important but underestimated initiative of the EU to provide transparency of qualifications and support the capacity of mobility for the professionals from the EU, the European Economic Area (EAA), and the member countries. In every country, a national Europass database service is provided in the home language of the country. The system aims to provide recognition of the qualifications by the job seekers and employers in the target area with the help of standard documents like the Europass CV, Mobility Document, certificate supplement, and diploma supplement. The Europass database does not only support free

mobility in the job market within the EU but also aids those individuals who would like to involve lifelong learning activities abroad (Souto-Otero M. 2011) .

While the Europass provides a web-based medium among continuous education, the HE, and the job markets, the Erasmus+ program also supports the mobility of students, educators, and organizations from member and partner countries. EU-funded short-term mobility of students in the HE, either in terms of formal education or training/internship programs in their related sectors, provides maximum benefit by making long-term mobility of professionals realized in the following years.

The EU Single Market is also an important database where statistical data about the mobility of professions are recorded. In this database, recognition of qualifications are kept for regulated professions, statistics on migrating professionals, contact points, and competent authorities, as provided by the EU Member States, EEA countries, the UK, and Switzerland. Although the EU Single Market does not keep data about the member states, these statistics give us an idea of the mobility in the profession of architecture in all other regulated professions. Working abroad according to the EU Single Market database is defined as establishment, whereas short-term stays are described as temporary mobility. The statistics on temporary mobility show the number of declarations provided to host countries by professionals wishing to provide services on a temporary and occasional basis (The EU Single Market Regulated Profession Database).

Between1997-2022 the profession of architecture took the 11th rank among 407 professions in the establishment statistics. Temporary mobility statistics cannot go back to earlier than 2007. Between 2007-2022 the generic name of ‘architect’ is found in the 11th rank among all other 235 regulated professions. Although the generic title architect does not take place among the first five professions, it is still evident that the mobility of architects within the EU and EEA is prevailing and comes after the titles recognized under the health sector.

3. PROFESSIONAL COMPETENCES AND PROFESSIONAL MOBILITY IN THE FIELD OF ARCHITECTURE IN TURKEY

In order to increase the mobility of professionals, Turkey has been making modifications in the higher education sector as well as at some other governmental bodies established for compatibility of the EU Framework since 2006. Turkey established the Republic of Turkey Vocational Qualifications Authority (MYK- Mesleki Yeterlilikler Kurumu) in 2006 in order to activate the Turkish Qualifications Framework Department (TYÇ-Türkiye Yeterlilikler Çerçevesi). TYÇ is responsible for determining professional standards and competences in the country and forming education and training programs and assessment-evaluation systems.

The key factor to the mobility of the professionals in Europe is the recognition of the professional qualifications directory, which has been realized in the Turkish education system including the field of architecture as stated above. Since the legal regulations seem not to be helping the resolution of the problem, a deeper qualitative analysis emerges. Despite the complexity of the nature of architecture as a profession that needs a combination of numerous intellectual creative representational and artistic competences and technical knowledge the EU definitions and criteria of professional education include only the basics and minimum skills, notions, and set of knowledge (Spiridonidis, 2007).

Despite its interdependency to EU Higher Education directives and regulations, architectural education and practice in Turkey has still a status peculiar to itself by means of duration of architectural education, recognition of diploma, and professional registration and licensing. Unlike the European Union model of 3+2, Turkey offers 4 years of graduate education, which is the only requirement in order to be a licensed architect (Bhattacharjee, Bose, 2015; Nalçakan, Polatoğlu, 2008). Despite the incompatibility of the duration of programs, the European Credit Transfer and Accumulation System (ECTS) was applied to all undergraduate and graduate programs in Turkey in a very short time with the directive of YOK. This helped Turkey to achieve a rapid transition period in the application of EU education policies in terms of the Bologna process and Erasmus programs, which assure the mobility of students in Europe. Unfortunately, it is widely put forward that the same impetus could not be caught in the mobility of professionals. Despite the existence of legal arrangements, it is still impossible to talk about consistency in the integration of education and practice in Turkish architecture. This is an indicator of the problems in education policies in Turkey in general, yet speaking of architecture the problem remains the same. In order to identify the problem and substantiate it with scientific data, the paper analyzes YOK statistics and architecture sector surveys to see the correlations indicating the disconnection between education and the practice of architecture in Turkey.

4. ANALYSIS OF MOBILITY OF ARCHITECTS BETWEEN THE EU AND TURKEY

Architect's Council of Europe (ACE) conducts a biennial survey that collects and analyzes statistical, sociological, and economic data on the European Architects, the architectural market, and the architectural practices. Unfortunately, ACE sector profile studies stopped indexing Turkey after 2016. Based on this fact, the statistical data can be retrieved only until 2016, since the Turkish Chamber of Architects does not conduct a similar nationwide survey. According to an ACE 2016 report, Turkey has the fourth biggest population of architects after Italy, Germany, and Spain with the number of 50.000. Additionally, the highest expansion is in Turkey among the first four countries by 12 percent. The same survey also reveals that Turkey has one of the highest ratios of young professionals due to the boom in the number of architecture programs (ACE 2016 b., 1-16).

ACE Sector Surveys also look at the percentage of mobility among architects and compare them based on the country that the architects were established. According to a 2016 survey, 51% of the respondents from Turkey stated that they seriously considered working abroad, while only 2%had an experience outside of Turkey. Most of the respondents had their degrees in home universities (84%) and only 16% of them had completed their degree completely or partially in another country. Based on these figures, architects in Turkey can be described as a population whose mobility capacity for working abroad is low within Europe. According to ACE Statistics, being unable to find work seems the biggest concern among all respondents from Turkey whereas language seems the second concern after all. The below figure demonstrates the overall results which reveal that Turkey has the highest figures among all other countries about experiencing not finding employment. Other concerns seem less important, like insufficient knowledge of building codes and regulations, practical relocation issues, knowledge of the local market, or knowledge of local fees (Figure 1).

MAIN CONCERNS ABOUT WORKING IN ANOTHER COUNTRY CITED BY RESPONDING ARCHITECTS

per cent	unable to find work	insufficient language skills	insufficient knowledge of planning / building regulations	architectural qualification issues	practical, relocation or personal issues	knowledge of local market	knowledge of local fee scales / tariffs	PII cover for work in other European countries
Austria	11	21	46	7	41	36	13	12
Belgium	9	22	50	8	45	43	14	13
Bulgaria	33	28	46	14	39	37	18	14
Croatia	12	26	43	12	56	29	11	8
Cyprus *	29	22	33	9	48	38	17	12
Czech Republic *	5	43	61	16	45	16	14	14
Denmark	13	27	52	15	72	35	22	7
Estonia *	15	23	39	5	53	22	12	9
Finland	17	39	45	10	47	48	20	15
France	17	39	45	10	47	48	20	15
Germany ***	40	30	42	25	34	30	17	22
Hungary	8	37	36	12	36	24	7	1
Ireland	20	40	45	8	46	30	15	14
Italy	12	41	30	8	68	24	6	6
Lithuania	17	23	27	11	18	27	11	9
Luxembourg	13	6	21	7	28	28	9	8
Malta *	18	16	51	13	60	40	18	16
Netherlands	11	16	37	11	33	32	6	11
Poland	23	44	63	17	33	29	14	15
Portugal	23	23	25	8	54	19	8	5
Romania *	24	21	32	32	53	29	5	8
Slovakia	19	37	41	14	28	43	20	11
Slovenia	37	20	57	15	39	32	13	19
Spain	38	47	48	19	25	34	13	12
Sweden	7	9	16	6	36	12	4	3
Turkey	46	42	32	33	27	26	12	6
United Kingdom	22	45	43	10	42	30	14	13
2016 EUROPE-27	25	36	38	16	46	29	12	11
2014 EUROPE-26	*18*	*38*	*37*	*11*	*47*	*26*	*11*	*10*
2012 EUROPE-25	*19*	*39*	*35*	*11*	*66*	*n/a*	*n/a*	*n/a*
2010 EUROPE-23	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
2008 EUROPE-17	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*

* caution - small sample *** Germany figures are for Partners/Directors/Sole Principals only
2012/10/08 n/a = question was not asked

Figure 1. Main concerns about the mobility of professionals. Source: ACE 2016 Sector Study.

5. ANALYSIS OF MOBILITY BY MEANS OF ERASMUS EXCHANGE PROGRAMS

In addition to the professional mobility by means of recognition of the diploma or temporary mobility, Erasmus Exchange program mobility statistics can also be a source to understand the mobility of the professionals in Turkey. According to the Erasmus statistics described by the Turkish National Agency, the overall mobility for the generic term architect from all levels between 2014 and 2020 is 7327. This cumulative figure also contains teaching mobility professionals, administrative staff, and students who applied for learning programs and internships from all levels. When the total number of Erasmus Mobility from all disciplines and all levels are examined, it is seen that 128.501 students and teaching or administrative staff from Turkey have contributed to learning, teaching, or internship programs in the same period. When comparing the figures nationwide, the percentage of the generic term architects who contributed to the Erasmus Mobility Program between 2014-2020 makes 5,69% among the total number of people from all disciplines. This figure clearly indicates an intensive contribution from the discipline of architecture.

When comparing the figures EU-wide, it is seen that 130392 people from the generic discipline architecture from all levels contributed to the mobility programs between 2014 and 2020. Turkey gets 5.61% of the total figure, which again shows a high amount of mobility. All figures and numbers given here are provided by Turkey Turkish National Agency Statistical division upon the request of knowledge of acquisition raised by the research group, Turkey draws a high mobility profile for the short-term mobility within the EU (The Erasmus + Statistical Data, 2022).

5.1 Design of the Questionnaire

This paper closely looks at the employment issue of the fresh graduates of architecture schools in Turkey from the point of their mobility capacity. The reason for focusing on fresh graduates whose work experiences are shorter than 10 years is due to the high increase in the number of first-time members to the Chamber of Architects in Turkey. According to the statistics, between 2000 and 2020 the first-time members increased from 1159 to 3391, which makes 65.8% expansion whereas the population growth is around 24% in the same period. Most of the unemployment problems influence young architects who were supposed to be capable of practicing not only in Turkey but also all over the world, specifically within the EU. The study was organized around an online questionnaire with the fresh graduates whose experience was not more than 5 years. 117 respondents who graduated from the schools of architecture in Turkey and North Cyprus replied to the questionnaire. The entire questionnaire was very comprehensive and covered a few subheadings each of which aimed to assess a different quality regarding architectural education in Turkey. The section regarding mobility capacity was made of 3 sets of questions in total, one of which was about language skills, the second one was about technical skills and the third one was about mindsets and cultural barriers. While the questions, in general, were designed in 5-scale Likert questions, one last question was designed as an open-ended question.

5.2 Findings and Results

The demographic profile of the respondents is made of 81 females. 35 of them were born between 1974 and 1998 and mostly fit the Y generation, by definition, who were severely influenced by the 2008-2012 global economic crisis. This generation is also known for growing up during the liberal economic policies in general. Although they completed their first cycle of education after the internationalization of universities was successfully completed in Turkey, the unemployment rate is very high among the members of this generation.66 out of 117 of the respondents are graduated from State Universities whereas 51 were graduated from Foundation Universities. The graduation period of them varies between the years of 2008-2019; 68% of which is between 2016 and 2019; 21% is in between 2012 and 2015 and 11% is 2011-2008 period (Figure 2).

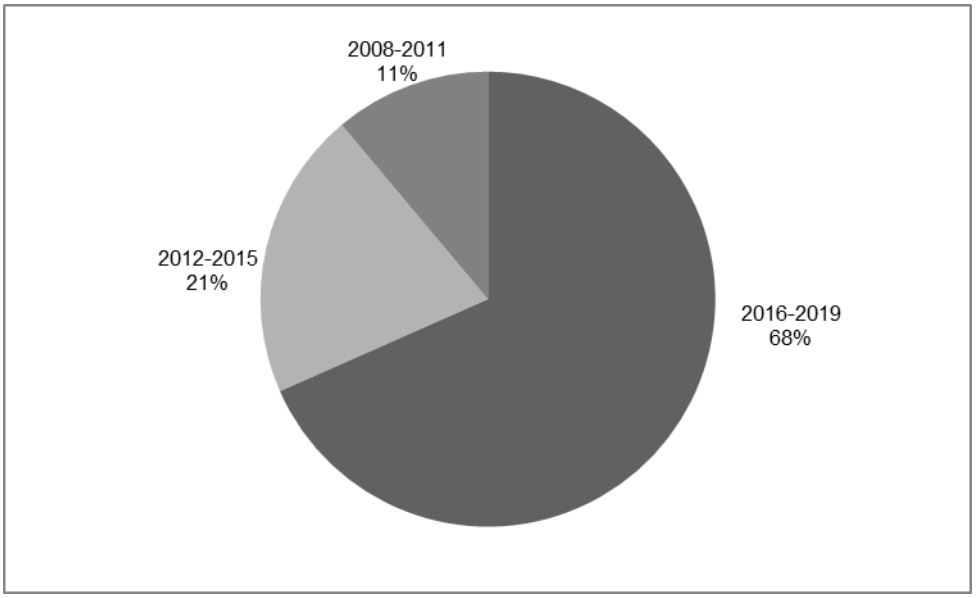

Figure 2. Graduation years of the respondents

In order to understand the academic success of the respondents, they were asked to define their graduation CGPA. 37% of the respondents had scores between 3.00-3.49 score; 35% of them had scores between 2.51-2.99; 11% of them had scores between 3.50-4.00. According to the above profile, it is necessary to mention that %48 of the population were successful students in their Bachelor's Degree education who were supposed to have good employment past when thought out of the external conditions like declining economic circumstances (Figure 03).

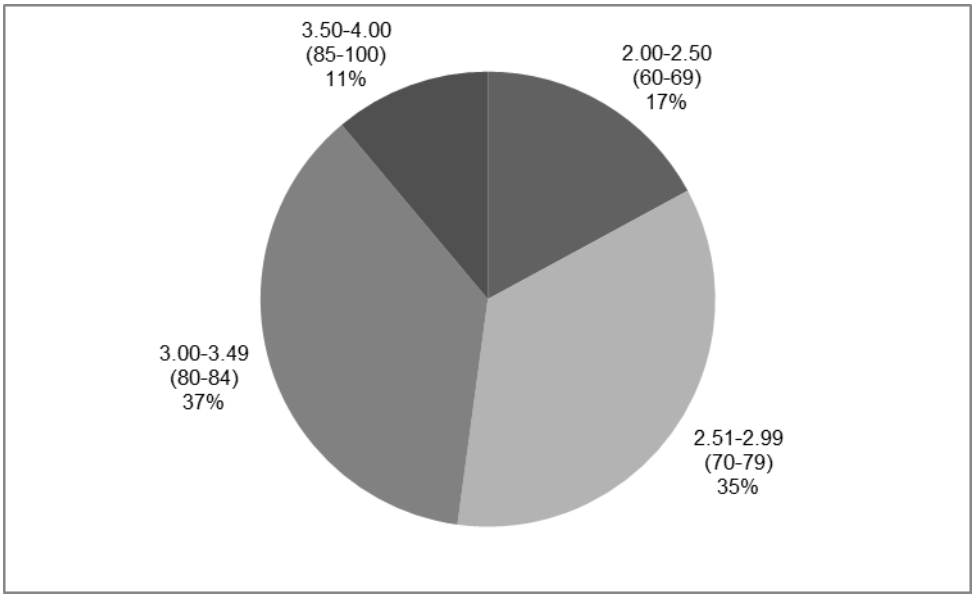

Figure 3. Distribution of the graduation cumulative grade of the respondents.

Only 7% of the entire population indicated that they had paid or intern positions abroad longer than 1 month. This figure is one of the most remarkable findings of the study, which is evident that the mobility of Turkish architects is less than most of the architects in Europe and

this finding is also compatible with the previous ACE surveys and verified the fragility of the professionals in Turkey.

Those who declared the experience of practicing abroad according to their destination are listed below:

- Italy-internship-5 months
- Algeria- construction manager- 5 years
- Iraq-Finishing construction manager- 3 months
- United Kingdom- 3 months
- France-position not specified- 1 year
- Germany- Internship- 1 month

Geographical mapping seems almost irrelevant based on the findings since the number of people who had expatriate employment is not sufficient enough to find a geographical distribution.

Apart from these eight people who practiced abroad, a total of 76 participants (65%) declared that they either applied for jobs outside of Turkey, but were not employed; or they planned to apply for jobs abroad, but could not finalize the application.

The answers given for Likert type of questions are listed below:

1. Language Skills (Soft Skills) Analysis: The respondents asked if they believe that they are not qualified in one foreign language. Those who believe that they are not qualified at least in one foreign language is 30% still is evidence of a consistent problem and displays a language barrier in front of the younger generation of architects in Turkey. On the other hand, totally 50% of the respondents stated that they are qualified in at least one foreign language (Figure 4). When thought that the instruction language in 46.66% of the programs in Turkey is in English, this figure shows a reasonable correlation with the educational programs and the outcomes of language skills.

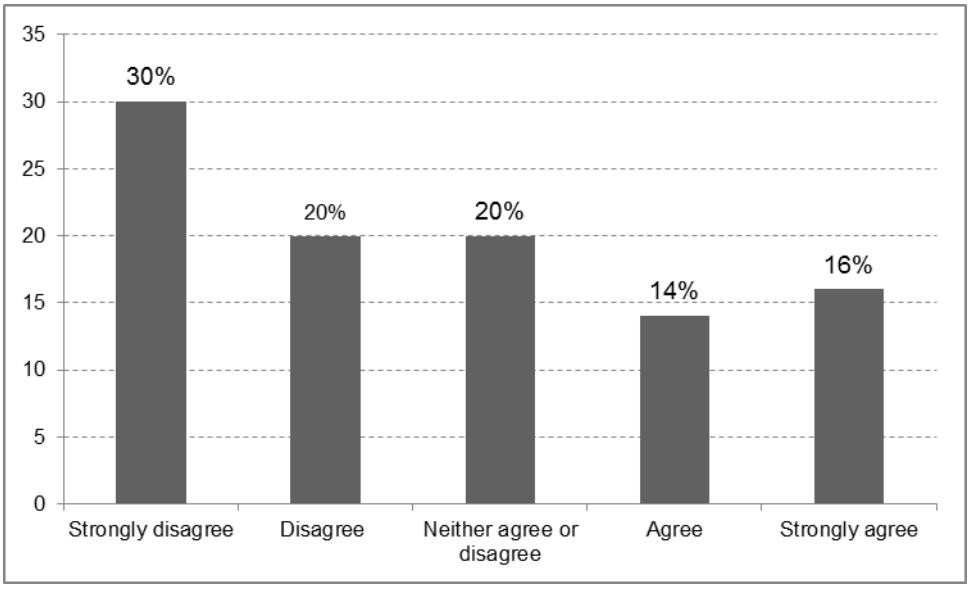

Figure 4. I am qualified at least in one foreign language

2. The second question, in regard to language skills, was whether the respondents think that they would have been more qualified if they had a second foreign language other than English. 59% of the respondents believed that having a second language would not make a big difference for being more employable for jobs outside of the Turkish market. Only 16% have

stated that they could have been more qualified for the jobs abroad if they had another language other than English (Figure 5).

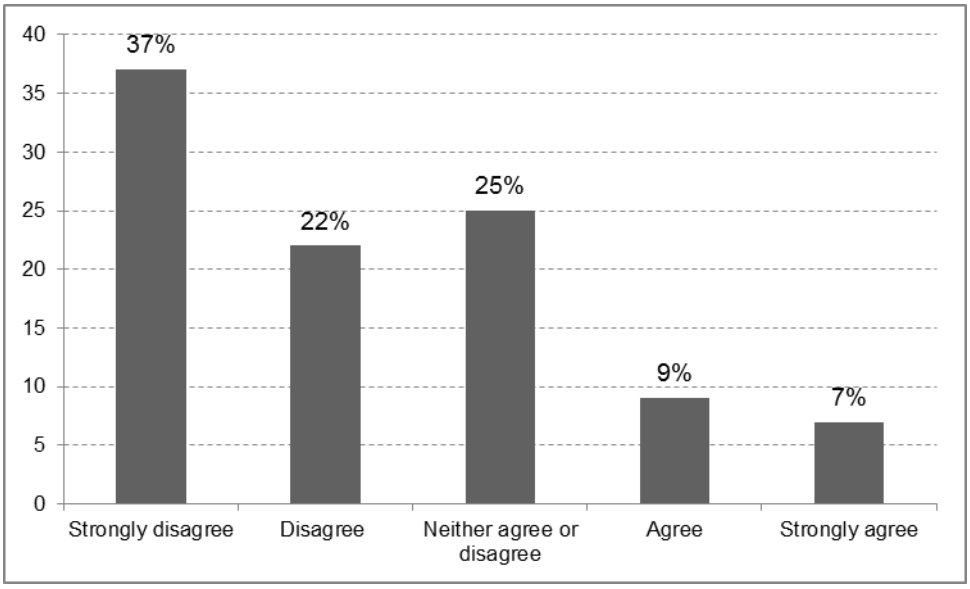

Figure 5. I could have been more eligible for the jobs outside of Turkey if I had competency in another language other than English

3. Job Skills (Hard Skills) Analysis: In this part, the respondents were asked to reply to two questions about how they evaluate their technical competency to be employable abroad. 42% of the respondents expressed that they had enough experience in their home country as described in the positions that they would like to apply for, whereas 35% of them stated that their professional experience was not enough for the positions that prevented them from applying (Figure 6).

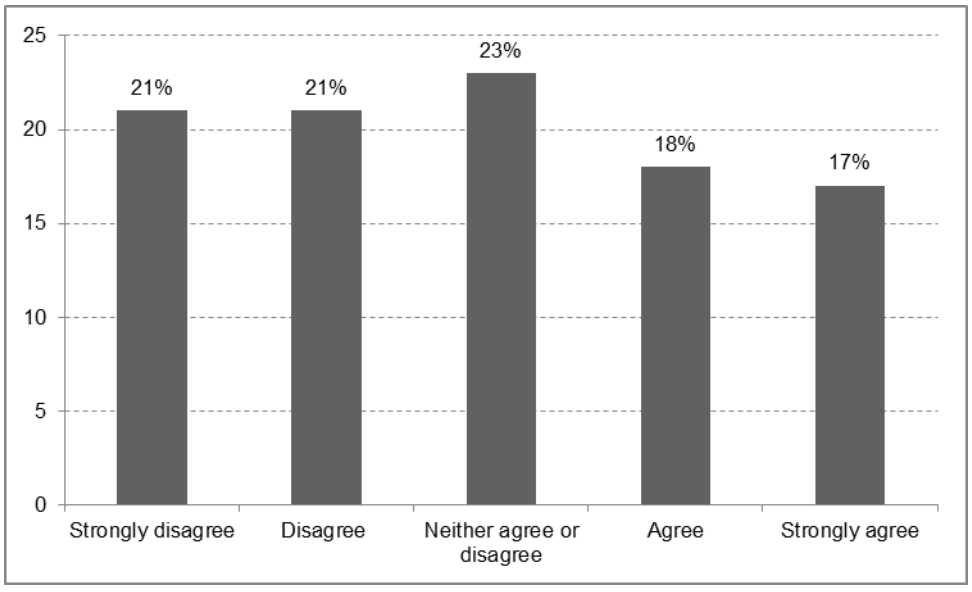

Figure 6. I am not experienced enough for the jobs abroad that I would like to apply for

The second question regarding the hard skills of the respondents proved that 47% of the respondents see their technical knowledge, and skills were competent for the jobs abroad that they might apply. 32% of the population has declared that their technical skills were insufficient for the job market outside of Turkey (Figure 7).

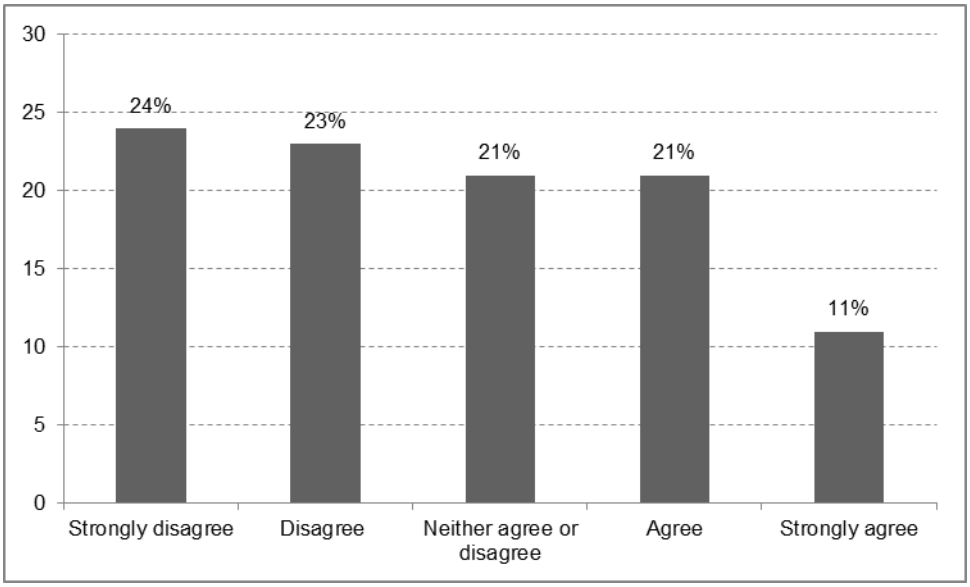

Figure 7. My technical knowledge and skills are incompetent for the jobs abroad that I would like to apply for

4. Mind-Sets and Intercultural Competence Analysis: In this part, the survey aimed to identify whether the respondents experienced any cultural barriers related to their home culture or the potential host culture. The responses in this part identified that 44% of the respondents believed that the architectural offices abroad had a prejudice against Turkish people/architects whereas 28% of them did not feel any prejudice against Turkish origin people at all (Figure 8).

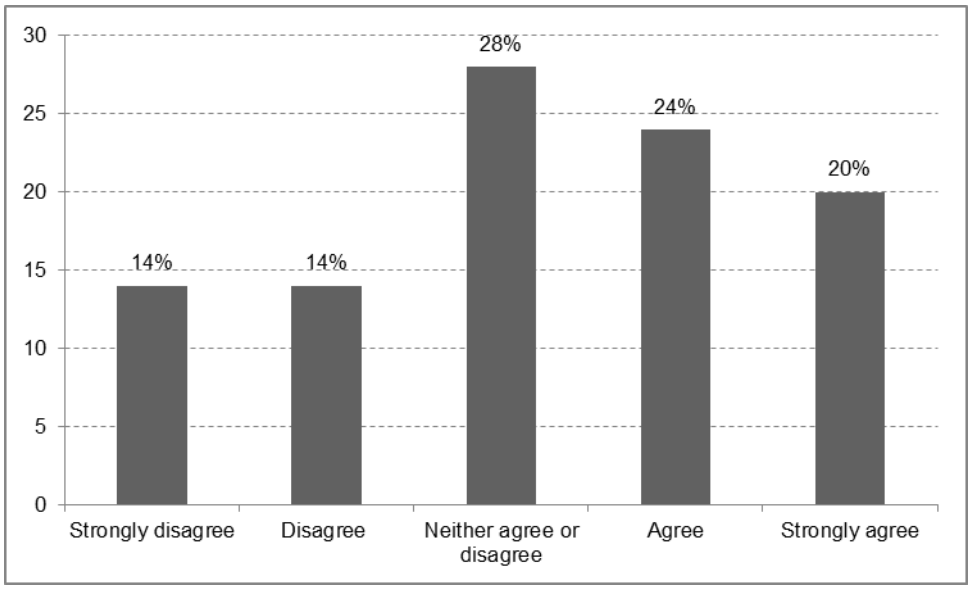

Figure 8. I believe that architectural offices abroad do not prefer to hire Turkish architects

The second question in this part was designed to understand if the respondents believed that the work visa or immigration procedures were difficult and intimidating for potential applicants. 33% of the respondents saw these processes as problematic, but 44% of them did not describe the bureaucracy for expatriate positions as difficult or troublesome (Figure 9).

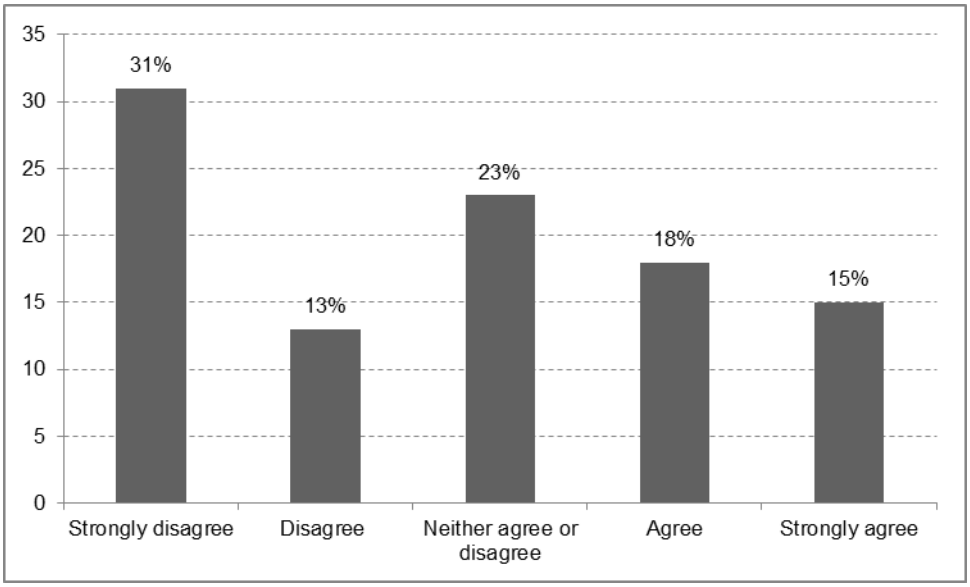

Figure 9. I avoided applying for jobs abroad because the bureaucratic procedures of work visas and immigration are too complicated

37% of the respondents replied to the question related to the tolerance to intercultural working that they could not bear the cultural differences. However, 52% of the respondents stated that cultural difference was not an essential issue for not applying for jobs abroad (Figure 10). The third question of this sub-section was about potential personal or family issues, which constitute a barrier for mobility of professionals. 40% of the respondents stated that they have no personal or family issues preventing them working abroad. 12% of them disagreed about personal issues as barriers of working abroad. The answers revealed that 36% of the respondents avoided applying for jobs outside of Turkey because of personal reasons (Figure 11).

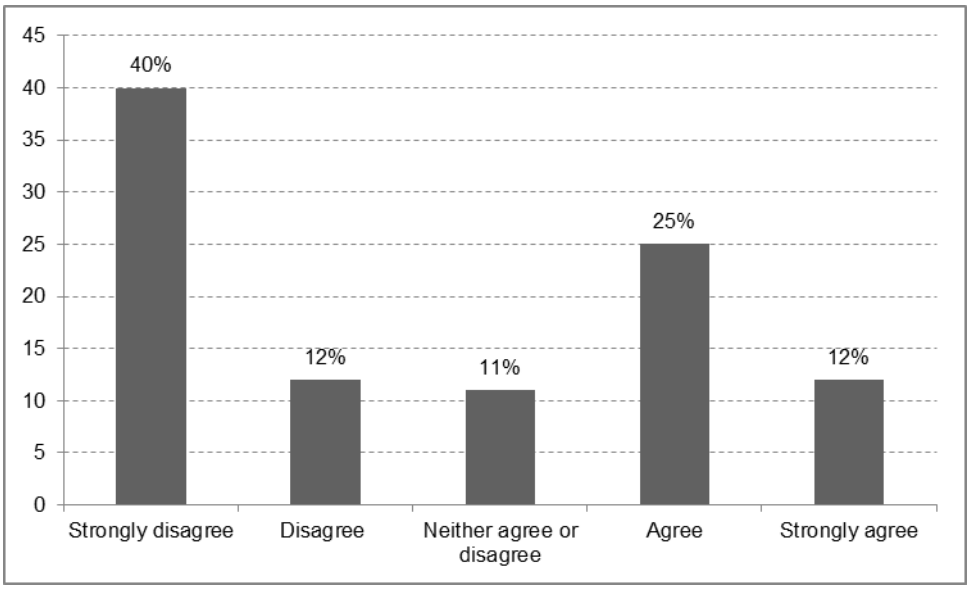

Figure10. I avoided applying for jobs abroad because I cannot bear the cultural differences

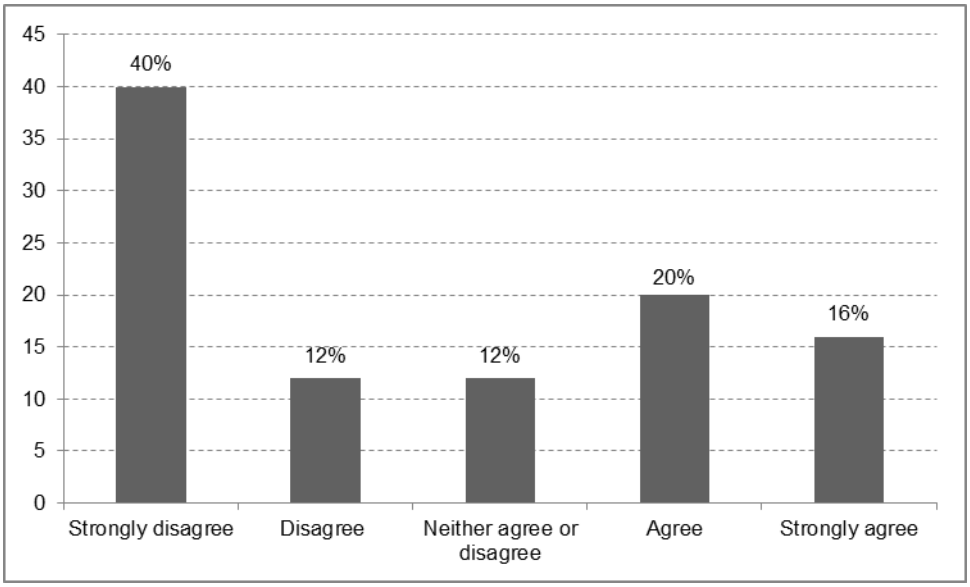

Figure11. I have family and personal issues preventing me working abroad.

The last question in this section was designed as an open-ended question where the respondents could write about what they thought about the importance of professional mobility in general and for their personal career as well as any other comments. The outstanding responses are given below:

- It is challenging to find employment and to be stable in jobs in the EU, UK, or USA. However, this process becomes relatively easier following studying abroad. ’
- The unstable economy and weakness of Turkish currency against other currencies make everything more difficult even for affording the initial first basic expenses like travel expenses or visa application fees.
- Lack of mobility causes Turkish architects to be more introverted within their national job market without having awareness about the global tendencies.
- The most essential concerns for the lack of mobility among Turkish architects are economic poverty, lack of creative thinking, and interdisciplinary working.
- Architectural education in Turkey only targets the job market nationwide.
- Following Erasmus student mobility, it is possible to discern that the technical skills of architectural students in Turkey are close to the students in Europe.
- Employment outside of the national job market requires comprehensive language skills. The language abilities of Turkish graduates are limited to technical English, which is not at the satisfactory level for working abroad.
- Architecture schools in Turkey do not provide an active learning environment, learning-by-doing pedagogies, and advanced technological educational infrastructure.
- Job seeking is a difficult process and career support should be provided as a free service by the Chamber of Architects.
- The mobility of professionals does not only make a positive impact on their careers but helps to upgrade the architecture culture in general by the help of the exchange of technical knowledge.
- Architecture is a discipline of which mobility capacity is relatively low, especially during times of economic crisis. The majority of the industry is made of small and medium-sized offices, which can only employ a limited number of architects. The job market is tight and the offices prefer to work with domestic architects in order to avoid extra direct or indirect costs of employing expatriate staff.

- Architecture schools in Europe are dependent on the (3+2) system, which is not valid in Turkey. The incompatibility between two systems makes an establishment in a new country extremely difficult.
- Integrity between practice and education is a key issue that provides an easy transition to the job market. When this issue becomes the vision of the educational institutions, graduates can find employment both in the home or host countries easily.

6. CONCLUSIONS

- Both former ACE surveys and our survey verify that Turkish architects have low capacity of mobility in terms of employment.

- Despite the low percentage of Turkish architects who have previously worked or are currently employed outside of Turkey, Erasmus statistical data shows high mobility of internship, teaching mobility and staff training. Since Turkey is one of the countries who has the highest rank of young architects due to the increasing number of architecture schools, the ratio of the architecture students in Turkey who benefited from Erasmus mobility among the total architecture students is still low. The architecture schools in Turkey provide very limited options of mobility during the education apart from Erasmus + program of which capacity is limited. The joint programs and mutual agreements are only a few and generally do not cover the exchange opportunities for the architecture programs. It is also crucial for Erasmus Turkish National Agency that the financial support for mobility is distributed among all programs nationwide regardless of the number of students in individual programs. In short, a great majority of architecture students in Turkey has no opportunity of mobility since Erasmus+ program can only support a small ratio.

- Despite the success of the short-term mobility, the middle or long-term employment of Turkish architects outside of Turkey shows a low figure.

- The results of the survey conducted by the authors presented a polarized profile, which could not be interpreted as agreement or disagreement almost in every question. However, the survey verified the former ACE survey, which revealed that the biggest concerns of Turkish architects were being unable to find jobs abroad. The majority of the respondents had expressed that they were confident about their technical skills, language abilities as well as their trans-cultural skills. Architecture schools in Turkey are domestic job-market oriented and provide limited consulting for the job-market outside of national borders. The importance of employment and career support services was also expressed by the respondents when they were answering the open-ended question. They complained about lack of support service of which was supposed to be one of the primary duties of the Chamber of Architects.

- Another important result of the survey is that the majority of the respondents had a belief that the employers outside of Turkey had little interest in hiring Turkish professionals. This shows a clear prejudice that needs to be deeply analyzed in the potential forthcoming studies. Similar statements were also made by the respondents in the open-ended question.

- Although EU Single Market Regulated Professions Database statistics draws a profile of the profession of architecture as a highly desired and mobilized profession, Turkish architects are constrained with the domestic job market, which needs to be a governance target as well as an issue for the HE institutions nationwide.

REFERENCES

Architect's Council of Europe (ACE). (2016a). *Optimizing Professional Mobility ACE Policy Position. Retrieved at* https://www.acecae.eu/fileadmin/New_Upload/7._Publications/Manifesto/EN/ACE_MANIFESTO_6_OPTIMISING_2016_EN.pdf

Architect's Council of Europe (ACE). (2016b). *Sector Survey*. Retrieved at https://www.acecae.eu/fileadmin/New_Upload/7._Publications/Sector_Study/2016/2016_EN_FN_070217_new.pdf

Bhattacharjee, S., & Bose, S. (2015). Comparative analysis of architectural education standards across the world. *Architectural Research*, 579.

Beelen, J. (2011). Internationalisation at Home in a Global Perspective: A Critical Survey of the 3rd Global Survey Report of IAU. In *Globalisation and Internationalisation of Higher Education* [online monograph]. Revista de Universidad y Sociedad del Conocimiento, 8(2). http://rusc.uoc.edu/ojs/index.php/rusc/article/view/v8n2-beelen/v8n2-beelen-eng

European Commission. (2022). *The EU Single Market Regulated Profession Database.* https://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=homepage

Kim, T. (2009). Transnational academic mobility, internationalization and interculturality in higher education. *Intercultural education*, *20*(5), 395-405.

Souto-Otero, M. (2011). Discretional policies and transparency of qualifications: changing Europe without money and without states? *Oxford Review of Education*, *37*(3), 347-366, https://doi.org/10.1080/03054985.2010.547315

Mihut, G., Altbach, P. G., & de Wit, H. (Eds.). (2017). *Understanding higher education internationalization: Insights from key global publications*. Springer.

Nalçakan, H., & Polatoğlu, Ç. (2008). Türkiye'deki ve dünyadaki mimarlık eğitiminin karşılaştırmalı analizi ile küreselleşmenin mimarlık eğitimine etkisinin irdelenmesi. *Megaron*, *3*(2).

Schoenmaekers, S. L. T. (2010). *The regulation of architects in Belgium and the Netherlands: a comparative analysis.* Datawyse, Universitaire Pers Maastricht. https://doi.org/10.26481/dis.20101014ss

Spiridonidis, C. (2007). *Towards a Competency Based Architectural Education in Europe. Report on the Validation panel on Tuning in Architecture.* Retrieved 12 November 2014 from www.unideusto.org/tuningeu/images/stories/Summary_of_outcomes_TN/Toward_a_competencies_Based_Architectural_Education_in_Europe.doc

The Erasmus + Data Statistical. (2022). *Statistics Unit.* Directorate of EU Affairs, Turkish National Agency*.* Retrieved from Information Acquisition Republic of Turkey Ministry of Foreign Affairs.

Interior Design Syllabus: Comparative Studies Applied in OAU Syllabus, Sudan

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ABSTRACT

The research aims to develop the existing interior design curriculum – a pioneer curriculum that teaches interior design – at Omdurman Ahlia University, OAU, Design Faculty, and Interior Design Department. Unfortunately, it has not improved from where it started, more than thirty-one years ago. The researcher presents the curriculum development methods through previous observation, practice trends, and comparison with another interior design curriculum in the local aspect. As for the practical part, the research presents conclusions and recommendations for the mentioned curriculum. The research examines current curriculum ratios of the main courses, essential and supportive courses, and shows them in UpToDate systematical method to describe and present each course in terms of theoretical, practical, laboratory, credit, and connection hours. Also offered in this paper are separated suggestions for the required physical and spatial requirements needed to teach such a discipline, externally and internally. Furthermore, the proposed curriculum explained the methods of providing courses' detail plan, the assessment, and valuation methodology with what are compared with their encounter's courses regionally and internationally.

The approved University Council curriculum, which Professor Seif El-Din Sadiq prepared, has a comparative study with the local universities; the comparison is considered the secondary data. Whereas the observation and conclusions, which are presented in the practical part, are considered the primary data of the research, the research followed the analytic and applicable methods in the OAU case study to extract and apply the research results. Therefore, the research is classified under a pragmatic approach using the comparative descriptive approach to elaborate the existing curriculums' problems and suggest a proposal part to extract, refine, and apply the research findings. The researcher's findings aim to support and develop the existing department of Interior Design and be a foundation stone in the local future interior design disciplines. In addition, the findings will act like a model for the future development of different syllabi regionally and globally.

Keywords: Interior Design Curriculum, Courses' Detail Plan, Assessment and Evaluation Methodology, Problems, Proposal Part

1. INTRODUCTION & BACKGROUND

1.1 Interior Design Curriculum in the Regional Area and Sudan General Historical Background

In a personal interview with Associate Professor Muhammad Al-Hassan (Al-Hassan, 2016, interview), the researcher asked him about the historical background of initiating interior design in Sudan. Dr. Muhammad Al-Hassan stated that interior design began at the end of the last century, specifically, the beginning was in the nineties of the previous century, specifically, when he began teaching it at Omdurman Ahlia University as a department Known as “Engineering Design." This department which started as a design department for engineering and transformed into interior architecture and then finally into interior design. Coincided with the Department of Interior Design at Khartoum Applied College, the field was recent for Arab countries in general and Sudan in particular. However, in the Arab countries, Interior design was known at the end of the eighties of the last century and began to be taught in Libya, Jordan, Cairo, and other regional Middle East countries. At the beginning of 2000, in the local area, a committee was formed under the leadership of Dr. Muhammad Al-Hassan. He designed and legalized this specialization for seven colleges and opened a master's degree in interior design at Sudan University of Science and Technology. In cooperation with Al-Azhar University, CETES Center for Studies Engineering was the latter center in which postgraduate studies, and afterward are suspended, and its activities ended, marking the beginning of teaching interior design in Sudan. However, the field is still ambiguous in limits, concepts, concerns for the majority of the Sudanese people, and this supports the encroachment and violation of the rights and the conflict that exists toward the discipline now a day in Sudan (Hassan, 2016).

1.2 Main Acquainted Required For the Discipline

The interior design syllabus is comprised of five subtopics: Design Courses (History & Theory of design), Practical (relevant courses studios projects and design with CAD courses), User courses (Psychological courses, Religious & ideologies studies, Sudanese Societies, and culture studies), Spatial building formation studies (Structure, Building construction,) Technical courses (environmental science, Technical and services science), and Profession courses (Management courses, Research methodology course, and lingos courses).

1.3 Omdurman Ahlia University as the pioneer college to impose interior design in Sudan as a Case study

The interior design department's applied art faculty was established in 1988 by a diploma program and upgraded to a bachelor's degree (OAU, 1987). A diploma program firstly launches according to the limited space in the Mujahideen neighborhood. However, when the college arrived in its new place, the program started providing a bachelor's degree. In 1990, a recommendation was addressed to the Head manager of studies to add the fourth year to the original syllabus, which was done by Professor Seif El-Din Sadiq and approved by the OAU board. Afterward, the syllabus was revised and accredited by a board headed by Professor Dafalah Al Turabi, who recommended reducing the engineering subjects' weight from the syllabus and inserting new courses like furniture and finishing material courses. Onward, the syllabus applied to prepare a caliber who owned a bachelor's degree in interior design.

Unfortunately, nothing happened from that early time in developing the curriculum. In 2006, a workshop was held, and recommendations were raised for syllabus development, but nothing occurred or applied to the syllabus at that time. However, over the past thirty-one

years, most of the encounter's colleges began to appear. Their syllabuses were based and taken from the ground zero foundation of this entire program, including new courses required by today's technology: new materials, with the concept of new courses that the discipline includes. The researcher is one of the college's students and is honored to build upon this pioneering work, especially at this critical time when the latest higher education decided to disclose the general required courses. The developed proposed syllabus will include more courses that upgrade the bachelor's degree to the bachelor with an honors degree in the case study of this research.

1.4 Previous and Existing Syllabus

The syllabus legislator based his best brilliant ideas of designing the syllabus by studying the user, the component of the space – (psychologically, sociology, culturally) – and the physical composition, and noted the integration relationship between the outside and the inside of the building in a Form composition manner, Dimensional aspect manner, Superficial material manner, and Operational system, plus the constructive technical ways of creating the interior spaces. At his first planning, the instructor categorized the courses into functional studies, user studies, and technical studies, professional and practical studies. He decided that the four academic years will comprise 3600 hours; each academic year will include 900 academic hours.

The functional category includes many courses like the history of design, project studios, and design theory; the technical studies contain courses like building construction, structure, environmental science, and building technology studies; the user studies included the psychological study courses, cultural study, and religious studies course. Finally, the professional practice courses include project management, specification, quantities, and practical courses that include project studio work.

Table 1. Shows the courses with their total credit hours per year. (University, Design, college, Interior Design Department, 1988)

	Subjects	1st		2nd		3rd		4th	
	Semesters	Sem 1	Sem 2	Sem 3	Sem 5	Sem 5	Sem 6	Sem 7	Sem 8
1	2D Basic Design	60							
2	Free Hand Drawing	60							
3	Introduction to Computer	30							
4	Computer Applications			30		30			
5	Studio Work Projects		120	60	60	60	60	270	330
6	Studio Work Presentation			30	30	30	30		
7	History of Architecture and Design		30		30		30		
8	History of Furniture				30				
9	Furniture Design					30			
0	Theory of Design		30	30		30			
1	Psychology	30		30			30		
1	Environmental Science		30		30	30			
2	Structures		30	30					
3	Building Construction		30		30		30		
4	Workshop Technology			30	30		30		
1	Management						30		
1	English Language	30			30	30			
2	Arabic Language	30		30					
3	Sudanese Studies		30						
4	Mathematics	30							
5	Islamic Culture	30			30				

2. REPORT

Omdurman Ahlia Interior Design College is the pioneer and the oldest interior design college in Sudan. We can even say that it is one of the pioneer colleges in the entire Arab world, but what we have today and proven by facts mentioned below, reveal that the department

deteriorated as it appears in the existed curriculum, the considerable lack of application, and the loss of competition courses among local, regional and global colleges. The recent syllabus warns of a severe disaster that should be fixed before it is revealed sooner by authorized firms.

2.1 Comparison Studies on the Local Departments

The currently approved curriculum at OAU, which applied in the college, has been read and compared by other curricula in the local encountered interior design colleges, for example, but not limited.

- The interior design at Khartoum Applied College, (College, 1991)
- The interior design of the Future University (Faculty of art and design, 2015)
- The interior design Sudan University Science and Technology, (University, 2012)
- The interior design Neilan university, (Neilein, 2018)
- The Faculty of Interior Design, Bahri National University, (Bahri Ahlia College, 2016)
- The College of Interior Design, Technical Diploma, and Bachelor Sudan Technical University, Algerief East Technical College, (University, 2012)

The Sudan University for Girls, College of Interior Design. (Sudan University for Girls)
In addition to the comparative study conducted by Dr. Ahmed Mostafa Mohamed, in which the syllabus of OAU is compared with the encounter ones of American University of San Diego, and the University of Arizona, College of Architecture and Environment, Department of Interior Architectural Design, and the FIDEO; Foundation for Interior Design Education & Research (Mohammed, 1991).

2.2 Observation and Notes

The interior design syllabus had five main subtopics as mentioned above;

Design Courses,

Practical courses,

User courses,

Spatial building studies

Technical courses

Profession courses

As Table 2 indicates, the light gray color describes the weakness in the courses taught, the middle gray color defines the moderated standard weight, and the darkest gray color demonstrates the highest portions and the strongest syllabus within the college's curriculum. Compared with other encountered colleges, the table is made by observation and notes taken by the researcher**.**

Table 2. Comparison table between the colleges that teach interior design in Sudan

	Khartoum Applied College	Future University	Sudan University Science and Technology	Neilan university	Bahri National University	Algerief East Technical College	Sudan University for Girls, College of Interior Design.
Design Courses							
Practical courses							
User courses							
Spatial building studies							
Technical courses							
Profession courses							

Table 3. Portion in percentage ratio of courses credit hours in comparative terms of total hours ratio to the whole syllabus

	Khartoum Applied College	Future University	Sudan University Science and Technology	Neilan university	Bahri National University	Algerief East Technical College	Sudan University for Girls, College of Interior Design.
Design Courses	10	05	10	10	05	03	10
Practical courses	45	60	45	45	45	30	45
User courses	05	05	15	10	05	05	05
Spatial building studies	20	15	10	10	10	15	10
Technical courses	05	05	05	05	05	15	05
Profession courses	05	15	15	20	30	32	25

2.3 OAU Interior Design Problems

After carefully reading and studying these syllabuses and comparing them with the other local and regional syllabi in their form and contents, the existed syllabus, which Professor Seif El-Din prepared in 1988, regarding the needs of nowadays, we conclude the following:

First: The current applied curriculum does not match the accredited curriculum obtained from higher education, neither on the number of hours nor in the course's names!

Second: The curriculum has been changed several times during the previous period; a concrete example, the courses that are taught in 1995 – (before twenty-five years ago) - is two hundred and forty credit hours, and the applied curriculum is only one hundred and fifty credit hours, which is less than the agreed credit hours upon similar bachelor's programs and the required credit hours in the higher education. The bachelor's degree in interior design varies between one hundred sixty credit hours to one hundred eighty credits hours in the case of a Bachelor with honors!

Third: There is an apparent mismatch between the courses' titles and contents. Even more surprising are the differences between the approved courses contents and the applicant courses details taught for the students, which definitively reveals the absence of a thorough follow-up.

Fourth: The absence of the curriculum details; unfortunately, the courses' attributes do not match the scientific methods of the course planning. The contents of each curriculum should have several theoretical, practical, laboratory, credit, and connecting hours. The system should distribute course details 15 weeks' synopsis; the course does not have a description and targeted outputs in terms of knowledge, skills, and character improvement, which are the international method of writing the courses' details. The assessment method and the evaluation methods are also missed, and references and essential citations are lost. This mess is the main reason for the lecturer's diligence, who teaches these courses based on their interpretation of the topics not in the targeted curriculum!

Fifth: The lack of scientific research courses and design methodology courses; this deficiency hinders students' ~~college to~~ progress into postgraduate studies of master's and doctoral degrees in similar specialized local colleges.

Sixth: Not UpToDate. Many contemporary sciences and courses for interior design disciplines are required for UpToDate improvement, which does not show in the current curriculum. There are also basic sciences that are not included – for example, surficial drainage, CTV systems, Fir fighting and safety, Internet & sound supply, alternative energy, mechanical circulation, and building construction. Those introductory courses were not taught because they are merely not included in the existing syllabus's outputs!

Seventh: The staff teachers who teach most of those subjects are competent professors of architecture, structural engineers, management, psychology, or industrial designers- (and with profound respect to the beautiful group of lecturers) - but not from the profession! As mentioned, those who guide the course contents are from the nearest discipline. Those professors have a similar relationship in knowledge with interior design and architecture. Still, the required professors should have specific extra expertise and details that might be direct and relate to the internal design discipline, so interior designer professors are those who suggested teaching those sensitive, detailed courses.

Table 4. Portion of courses in comparative terms of hours to the whole syllabus in Omdurman Ahlia Universities

	OAU University | Design Department |Interior Design
Design Courses	15% Moderated accepted ratios, need revisions in the course details
Practical courses	55% high ratios concentrate on the manual abilities and neglect the CAD abilities
User courses	10 Moderated ratios but needs to be increased and revised the course details
Spatial building studies	12 Very weak portion and not compatible with the latest material and technique in the worldwide university, improvement required
Technical courses	05 Very weak portion and not compatible with the latest material and technique in the latest university and UpToDate sciences, improvement required
Profession courses	03 Very weak portion, include big portion of lingos studies and neglect the management and scientific research topics.

3. RECOMMENDATION & CONCLUSIONS

3.1 Problem Solution, Conclusions

- **Add a portion of credit hours to services and technical courses** that help students expand their working drawing and workshop skills and understand how design work will be executed. The proposed syllabus should apply building construction courses, structure, environmental sciences, building services, and technology courses in the ~~studio~~ work studios. Proposing to add a separate studio hour to the working drawing and the shop drawings, this new studio in which the student can apply and implement the mentioned studies in his design work will be addressed as a working drawings studio.
- **Minimizing all general university requirements courses** from the Arabic language, English language, Islamic studies, and Sudanese studies instantly, and replace them with practices that promote sustenance of the profession, including basic courses required of the discipline, which include the working drawings, services and technical study, Basic 3D composition, unique detailed systems for designing theatres and cinemas, scientific research and methodology of design, specifications and quantification, marketing, and projects management (time control, critical path analysis, and types of buildings' contracts). Moreover, it is reformulating the course contents of the Lingos courses, Sudanese studies, and Islamic studies and transforming them into a specialized way, which should relate and support the design studios.

- **Rewriting and revising the content of the building construction course** outputs to include extra up-to-date topics, mechanical circulation, the finishing materials, the internal and external cladding methods and techniques, and the sound, thermal, and water insulation materials.

- **Adding extra credit hours portion to the service's technical courses**, such as cameras installing, Internet & voice control, intelligent devices and sustainability, sewage and surface drainage, design by lighting, alignment of power supply installation of sockets and basic switches of electricity supply to the furniture layout, foundations and laws of acoustics calculation, foundations and rules for interior lighting calculation, foundations and regulations of Air conditioning calculation and **Adding extra credit hours portion to building services**. The researcher recommends completely detaching those courses from the environmental sciences courses.

- **Directing environmental science courses** into courses concerned with climate control, climatology studies, and their effect on internal space, spatial position and direction, alternative power supply, spatial location and orientation, industrial ventilation, lighting, and water supply with modern requirements in achieving sustainability and preserving the environment.

- **The researcher recommends revising the credit hours in the structures courses** to be 90 credit hours instead of the applied classes, which were 60 credit hours. In addition, returning the structure classes to their mutual plan and accredited hours. Changes are recommended in the structure courses to provide knowledge for the student on the types of structural systems and mechanical systems that transfer the loads in buildings from the building top to the soil. Construction by concrete system members and styles and steel system members and types should support the students with the necessary skills to prepare technical drawings and blueprints for those courses in the design studios.

3.2 Curriculum Objectives

- **Provide moderated ratio of spatial building construction courses and technical courses** in a compatible balance way with the design courses in each semester to acquaint the students with the skills needed to develop the practical design.

- **Relate the spatial design with the psychological and socio-culture studies** to the design courses.

- **Provide moderated ratio of professional courses** that enable the student to compensate with the market and additional future scientific research.

4. APPLICATION PART

4.1 Syllabus Credit Hours Division

Two categories categorized organized the courses in the syllabus.

The first category distributes the courses into three subtopics: **The Main Courses** (which include courses like History of design, theory of design, studio works and CAD courses), **Essential Courses** (which comprise courses like Psychological courses, Religious & Ideologies studies, Sudanese & cultural studies, Structure, Building construction, environmental science, Technical and services science, Furniture design courses, cinemas and theatre interior design, and conserving buildings), and **Supportive Courses** (which consist of Management courses, Research methodology courses, quantities and surveying, design and marketing, and lingos courses).

Other categories arrange the same courses into five subtopics, which are **Functional Courses** (History & Theory of design), **Practical courses** (studio works and CAD courses), **User courses** (Psychological courses, religious studies, Sudanese studies), **Spatial building construction studies** (Structure, Building construction,) **Technical courses** (environmental science, Technical and services science,), **and Profession courses** (Management courses, Research methodology course, and lingos courses).

The table shows the main categories distributed in credit hours weight and their percentage ratios to the whole syllabus. The main courses occupy 72% of the syllabus, whereas the essential course took 17.3% compared to the supportive course 6.5%. The functional applicant part has the most considerable portion, which is 59%, CAD simulations and presentation took 6.5%, Spatial building construction studies occupy 6.5%, users' studies took 5.4%, Functional study had 10.8%, Professional practice study had 4.32, and the general studies took a minimum of 2.2% from the whole credit hours, which is 2775 | 183 credit hours.

4.2 Course’s Planning Details CPD

The course plan shall include **general information about each course**, allocated to the whole syllabus, and its detailed hours distributed through (theoretical, practical, laboratory, communicated hours). The CPD should comprise a simple, brief, and straightforward output in terms of knowledge, skills, and attitude, the course's outline vs. the way of assessment, and a load of those topics in a credit hours' time. The CPD should comprise student's activities and the way of assessing those activities, course's outputs and the way of evaluation (it is recommended to have a rubric for every activity lesson), the references, and the way of evaluation that would involve the students themselves. At the end of each course, students'

feedback and involving the teachers in advanced years will help the continuous improvement, thus including the department board and the faculty board.

Table 5. Categories percentages on the proposed curriculum

Code	Course name	T. Hrs.	Credit Hrs	Th Hrs.	P Hrs.	Lab Hrs.	C Hrs.
		2775	183	110	143	15	249

		Total Hours		Percentage
1	**Main Courses**	1995		71.89 %
2	**Essentials Course**	480		17.30 %
3	**Supportive course**	180		6.49 %
			2775	
1	**SD Applied studio work**	1635		58.92 %
2	**CAD presentation**	180		6.49 %
3	**US user studies**	150		5.41 %
4	**SBS Spatial building studies**	180		6.49 %
5	**FS Functional studies**	300		10.81 %
6	**TS Technical Studies**	150		5.41 %
7	**PP Professional Practice**	120		4.32 %
8	**GS General studies**	60		2.16 %
				100.00

Total of Hours over four years	**2775 Hrs.**
Credit Hours	**183 Hrs.**
Theoretical	**110**
Practical	**143**
Laboratory	**15**
Contact	**249**

Assessments and evaluation criteria – the researcher suggests that the assessment methods should be through the students themselves at the end of each lesson through **a rubric**; students' feedback and the opinion of the teachers in the advanced years sustain the courses' enhancement. The measurement and evaluation of the student's level through the department's boards firstly, reviewing the students' standards with the courses' outputs and with the formal manner and the syllabus's objectives, afterward, and in the last stage of comparing CPD achievements vs. the department's goals explain the different meaning between assessment and evaluation.

Replacement of the traditional method of design work assessment with the modern method; the researcher highly recommends the rubricate methods to assess and evaluate the student activity, in which the student and the teacher participate in the assessment process. This assessment method builds the student designer's personality and enhances knowledge communication.

A rubric for each (seminars, workshops, design projects, assignments) is done by listing the expected outcomes and providing four ranking scales, differentiating each of those scales in descriptive requirements and degrees.

4.3 Students' Expenditure | Year In $

In estimating the budget for the student through the four years Bachelor's degree with Honor, we found that each student will cost $487 in academic learning wages, $281 overheads, $118 for supporting material and equipment, &70 for the running cost for each student in each year (That study is based on the local professor wage in the country).

Table 6. Students estimated expenditure per year

		Theoretical	Practical	Laboratory	
		2.5	1.25	1	
		275	178.75	15	468.75
Over Heads \$	60%				281.25
Material & Equipment \$	25%				117.1875
Running Coast \$	15%				70.3125
Total | four year \$					**937.5**
Student Coast / Year |$					234.375
Student Coast / Year |SDG	**Rate**	**420**			**98,438**

4.4 Proposed Semesters timetable

The proposed syllabus is built on the existing syllabus based on the strong points of the current one and the recommendation we got from the encountered syllabi and merged it with the current local, regional, and international syllabus. Therefore, include the up-to-date and the latest courses found, and distribute them into semesters forms to get an optimum model suit to the need of Sudan; model of the suggestion amendment are presented as below Tables 7 to 14:

Table 7. First year proposal for semester one

Code	Course name	T. Hrs.	Credit Hrs	Th Hrs.	P Hrs.	Lab Hrs.	C Hrs.
1st year semester one							
Studio work		**150**					
111 STW1	**Studio work; Projection Drawing & Architecture drawing**		3	1	4	0	5
112 STW2	**Studio work; Model making**		2	1	2	0	3
113 STW3	**Studio work; Free hand & interior sketches**		2	1	2	0	3
114 STW4	**Studio work; Basic design 2D & 3D**		1	1	4	0	5
Introduction to Computer		**30**					
115 ICS	**Introduction to Computer, Microsoft program + AutoCAD 1 + Sketchup**		2	1	2	0	3
English		**30**					
116 ESP	**English; Sentences and Vocab**		2	2	0	0	2
Religious culture		**30**					
117 IDEL	**Religious culture; Ideologies & Design**		2	2	0	0	2
Arabic		**30**					
118 ASP	**Arabic; Paragraph and Vocab**		2	2	0	0	2
Sudanese studies		**30**					
119 SDS	**Sudanese studies; Culture and design**		2	2	0	0	2
Total		300	18	13	14	0	27

Table 8. First year proposal for semester 2

Code	Course name	T. Hrs.	Credit Hrs	Th Hrs.	P Hrs.	Lab Hrs.	C Hrs.
1st year semester two							
Theory of design 1		**30**					
121 TD 1	**Theory of design; Spatial formation theories in application to one cell project**		2	2	0	0	2
Psychology 1		**30**					
122 Psycho 1	**Psychology; Psychological interruption and Spatial effect**		2	2	0	0	2
History of architecture & Art		**30**					
123 HD 1	**History of Design ; Pre-history & early Classical era**		2	2	0	0	2
Studio work		**165**					
124 STW 1	**Studio work, Model studio**		2	1	2	0	3
125 STW 2	**Studio work, Project studio**		3	2	2	0	4
126 STW 3	**Studio work, Workshop Carpentry**		2	1	0	3	4
127 STW 4	**Studio work, Working drawing studio**		2	1	2	0	3
128 STW 5	**Studio work, Presentation**		2	1	2	0	3
Computer Aided Design 1		**30**					
129 CAD 1	**Computer Aided Design; AutoCAD 2 + Sketchup**		2	1	2	0	3
Environmental Science 1		**30**					
1210 ESC 1	**Environmental Science, Micro Climatology & Building**		2	2	0	0	2
Building construction 1		**30**					
1211 BC 1	**Building construction, Doors, windows, balustrades simple roofing, barbette & mastabas structure**		2	2	0	0	2
Structure 1		**30**					
1212 Str 1	**Structure, Types of Structure, and load bearing wall, arches and simple roofing**		2	2	0	0	2
Total		375	25	19	10	3	32

Table 9. Second year proposal for semester three

Code	Course name	T. Hrs.	Credit Hrs	Th Hrs.	P Hrs.	Lab Hrs.	C Hrs.
2nd year semester Three							
Theory of design 2		**30**					
231 TD 2	**Theory of design; Application of theories, in multi cell project in applying to accommodation building, community and services planning building.**		2	2	0	0	2
Studio work		**165**					
232 STW 1	**Studio work, Model Design**		1	0	2	0	2
233 STW 2	**Studio work; Projects design**		3	2	2	0	4
234 STW 3	**Studio work, Working drawing studio**		3	1	4	0	5
235 STW 4	**Studio work, workshop metal**		2	1	0	3	4
236 STW 5	**Studio work; Presentation**		2	1	2	0	3
Environmental Science 2		**30**					
237 ESC 2	**Environmental Science, window shades, sun breaker and building services and their impact in environmental sustainability**		2	2	0	0	2
Computer Aided Design 2		**30**					
238 CAD 2	**Computer Aided Design, AutoCAD 3D**		2	1	2	0	3
Structure 2		**30**					
2310 Str 2	**Structure, Concrete structure and Shearing forces buildings,**		2	2	0	0	2
Psychology 2		**30**					
2311 Psycho 3	**Psychology; Spatial and community , Social psychology and design**		2	2	0	0	2
Total		315	21	14	12	3	29

Table 10. Second year proposal for semester four

2nd year semester Four							
Psychology 3		**30**					
241 Psycho 3	**Psychology, Spatial effect that Induce user's attitude**		2	2	0	0	2
History of Design		**30**					
242 HD 2	**History of Design; Islamic era in different countries, Rococo, Proco and resilience era**		2	2	0	0	2
Studio work		**165**					
243 STW 1	**Studio work; Model Studio**		1	0	2	0	2
244 STW 2	**Studio work; Project studio**		3	2	2	0	4
245 STW 3	**Studio work; Working drawing**		3	1	4	0	5
246 STW 5	**Studio work; workshop Painting**		2	1	0	3	4
247 STW 6	**Studio work; Presentation**		2	1	2	0	3
Computer Aided Design		**30**					
248 CAD 3	**Computer Aided Design; ArchiCAD**		2	1	2	0	3
Furniture design 1		**30**					
249 FD 1	**History of furniture, Concept of forming furniture and Furniture styles**		2	2	0	0	2
Building construction 2		**30**					
2410 BC 2	**Building construction, Finishing material**		2	2	0	0	2
Structure 3		**30**					
2411 Str 3	**Structure; Structure for steel, spaceframe and High-rise building**		2	2	0	0	2
Technical and Services science 1		**30**					
2412 Tech 1	**Technical and Services science; Technical and Services science; Plumbing, water supply, water surficial and interior lights and sockets**		2	2	0	0	2
Total		375	25	18	12	3	33

Table 11. Third year proposal for semester five

Code	Course name	T. Hrs.	Credit Hrs	Th Hrs.	P Hrs.	Lab Hrs.	C Hrs.
3rd year semester Five							
Theory of design 3		**30**					
351 TD 3	**Theory of design, Problem, design**		2	2	0	0	2
Studio work		**195**					
352 STW 1	**Studio work, Model Studio**		1	0	2	0	2
353 STW 2	**Studio work, Project studio**		4	2	4	0	6
354 STW 3	**Studio work, Working drawing**		4	2	4	0	6
355 STW 4	**Studio work, workshop Cladding &**		2	1	0	3	4
356 STW 5	**Studio work, Presentation**		2	1	2	0	3
Computer Aided Design 4		**30**					
357 CAD 4	**Computer Aided Design, Revit**		2	1	2	0	3
Technical and services science 2		**30**					
358 Tech 2	**Technical and services science; HAVAC system and acoustic in considering environmental**		2	2	0	0	2
Furniture design 2		**30**					
359 FD 2	**Furniture design; Technical, material and operation of Furniture design**		2	2	0	0	2
Management Ethics and Project managemen		**30**					
3510 PMP	**Management Ethics and Roles, Project management; Roles of Discipline and project management**		2	2	0	0	2
Contracting and Tendering		**30**					
3511 QSM 1	**Contracting and Tendering; Quantity , specification and management**		2	2	0	0	2
Total		375	25	17	14	3	34

Table 12. Third year proposal for semester six

3rd year semester Six

History of Design		**30**					
361 HD 3	**History of Design; Modern, Post Modern & Contemporary era**		2	2	0	0	2
Studio Work		**195**					
362 STW 1	**Studio Work; Model Studio**		1	0	2	0	2
363 STW 2	**Studio Work; Project studio**		4	2	4	0	6
364 STW 3	**Studio Work; Working drawing**		4	2	4	0	6
365 STW 4	**Studio Work; workshop Cladding & Finishing material**		2	1	0	3	4
366 STW 5	**Studio Work; Presentation**		2	1	2	0	3
Computer Aided Design 5		**30**					
367 CAD 5	**Computer Aided Design; Max & Vray**		2	1	2	0	3
Building construction 3		**30**					
368 BC 3	**Building construction; Isolation Material &**		2	2	0	0	2
Marketing		**30**					
369 DM	**Marketing; Design & Marketing**		2	2	0	0	2
Research Methodology		**30**					
3610 RM	**Research Methodology, Design**		2	2	0	0	2
Technical and services science 3		**30**					
3611 Tech 3	**Technical and services science; Fire fighting, CTV, Light fixtures cameras and security and smartness electrical supply and fixtures**		2	2	0	0	2
Total		375	25	17	14	3	34

Table 13. Fourth year proposal for semester seven

Code	Course name	T. Hrs.	Credit Hrs	Th Hrs.	P Hrs.	Lab Hrs.	C Hrs.
4th year semester Seven							
Studio work		**300**					
471 STW 1	**Studio work, Model Studio**		1	0	2	0	1
472 STW 2	**Studio work, Project studio**		4	1	12	0	13
473 STW 3	**Studio work; Working drawing**		4	2	4	0	6
474 STW 4	**Studio work; Presentation**		5	2	6	0	8
475 STW 5	**Studio work; Site Visit, Studies**		6	0	6	0	0
Drama, Cinema & Theater		**30**					
476 DCT	**Drama, Cinema & Theater; Design**		2	2	0	0	2
Conservatizing Building		**30**					
477 Tech 7	**Conservatizing Building; Design for**		2	2	0	0	2
Total		360	24	9	30	0	32

Table 14. Fourth year proposal for semester eight the graduated project

Code	Course name	T. Hrs.	Credit Hrs	Th Hrs.	P Hrs.	Lab Hrs.	C Hrs.
4th year semester Eight							
Graduation Project		**300**					
481 STW 1	**Graduation Project, Model Studio**		3	1	3	0	4
482 TW 2	**Graduation Project, Project studio**		4	1	10	0	11
483 STW 3	**Graduation Project, Working**		4	0	8	0	8
484 STW 4	**Graduation Project, Presentation**		3	1	4	0	5
485 STW 5	**Graduation Project, Site Visit,**		6	0	12	0	0
Total		300	20	3	37	0	28

4.5 Training and Scientific Trips

The researcher suggests that the interior design student should efficiently go through local trips in the first studied years, then go through regional and global trips in the advanced years, be acquainted with different civilizations, and acknowledge the role of human behavior in design. The relationship between design project and climate, and the study of the cultural and social factors and their impact on the design work, should be noticed. The researcher also suggests the importance and the necessity of training periods through consulting firms in the second year and executive construction firms in the third year to complete intended working hours in the site field training in the fourth year. The training and the scientific trips are essential to narrate the student's theoretical knowledge with the practical experience in the local market.

4.6 Physical Environment

The physical environment contains both external spaces and internal. The external spaces include the services spaces and the shaded spatial places.

A. **Services Spaces**

The external spaces must contain the primary services such as the small stationary library, restaurants, cafeterias, playgrounds.

B. **Shaded spatial places**

The external spatial places must also contain student seating areas equipped with essential services such as outdoor ventilation, water coolers, landscape elements such as trees, shrubs, roses, fences, green loans, fountains.

C. **Interior spaces,**

Interior college spaces comprise specific libraries, laboratories, studios rooms, and lecture rooms.

D. **Libraries**

The design college libraries should contain a text library containing fundamental references and books covering curriculum's courses, nevertheless Images library, a Virtual E-library connected with other similar collages libraries abroad, research and a materials sampling library.

E. **Laboratories and workshops**

Basic laboratories include the sound and light lab and the computer-rendering lab. Furthermore, workshops labs cover all the levels from the carpentry workshop, metal workshops, gypsum workshops and a workshop specialized in painting works, concrete and pre-casing lab, masonry and services labs, and Services workshops specialized in implementation materials building construction and services which a base requirement in training zero.

F. **Studios rooms**

The practical applied courses are done through studio work; studios are Projects studios specializing in architectural and interior projects, Presentation studios are dedicated to rendering and graphic communication. In addition to a 3D basic design studio room, which specializes in the physical models, and a studio devoted to executive working drawing, structure & service details, construction drawings, and workshop drawings.

G. **Lecture rooms**

The lecture classes should contain the essential components that provide an interacting environment with various means, create the interacting environment in the form of digital or manual interactive, and teach design courses by types of equipment and tools that contain a large extent on the multi-use of the media.

5. CONCLUSION

The paper emphasized the missing parts in the Interior design curriculum in Sudan colleges vs. the regional and international ones; comparison studies were carried out to extract the problems and find solutions. Observation of the writer as a lecturer with +24 years of experience and the fundamental requirements of the local market advanced those solutions, which are the conclusions that might help establish future interior design colleges and was categorized in:

1) Proposed Syllabus credit hours division
2) Proposed Course's planning details CPD

3) Proposed Semesters timetable
4) Proposed Training and scientific trips
5) Proposed Physical environment

REFERENCES

Al Neilein University. (2018). *Faculty of Fine Art – Interior Design Department.* Retrieved at https://neelain.edu.sd/index.php/college/FineArt/CollegeDept/2000Bahri Ahlia College. (2016). *Department of interior design.* Retrieved at https://www.manyuniversities.com/khartoum-north-sudan/bahri-ahlia-college

Faculty of Art and Design. (2015). *Design and art department syllabus*. The Future University. Retrieved at https://art.fu.edu.sd/

Hassan, A. P. (2016, February 21). *Establishing the Interior Design Discipline in Sudan*. Interviewer: A. P. Farag.

Khartoum College. (1991). Interior design college boards: *Interior design syllabus*. *Retrieved at https://www.tatbigia.edu.sd/index.php/en/home/pages/20*

Mohammed, A. M. (1991). *Interior design syllabus for OAU comparative study* [unpublished research]. Khartoum University.

Omdurman Ahlia University. (1987). *Applied Art College: Interior design syllabus*.

Omdurman Ahlia University. (1988). *Design College: Interior Design Department*.

Sudan University for Girls. (n.d.). *Interior design syllabus.* Retrieved at https://www.123university.net/edu/7987/Sudan-University-for-Girls

Sudan University for Science and Technology. (1998). *College of Fine and Applied Art.* Retrieved at https://www.sustech.edu/#

Sudan Technical University. (2012). *Development of the interior design program.* Retrieved at *http://stu.edu.sd/*

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