TOBB UNIVERSITY OF ECONOMICS & TECHNOLOGY
GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES

THINKING AND PRODUCING THE FUTURE IN THE PRACTICAL AND EDUCATIONAL FIELDS OF ARCHITECTURE DURING AND AFTER THE COVID 19 PANDEMIC

MASTER OF ARCHITECTURE

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Department of Architecture

Supervisor: Assist. Prof. Dr. Murat SÖNMEZ

JANUARY 2022

DECLARATION OF THE THESIS

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Derya ŞAHİN KARAASLAN

ABSTRACT

Master of Architecture

THINKING AND PRODUCING THE FUTURE IN THE PRACTICAL AND EDUCATIONAL FIELDS OF ARCHITECTURE DURING AND AFTER THE COVID-19 PANDEMIC

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When the changes and transformations that architecture has experienced in the historical process are examined in a cause-effect relationship, it has been observed that these changes and transformations emerge as the adaptation or integration of architecture in the fields of thought and practice in the face of certain effects. The Covid-19 pandemic experienced nowadays has caused some effects in the field of architecture as well as in numerous areas of life. This study considers the pandemic as a situation and aims to examine the adaptations and integrations in the discipline of architecture against the effects of this situation, in other words, the reactions of architecture in the field of education and practice.

In this context, the scope of the study is current education and practical environments. Considering the profound effects of Covid-19 on every aspect of daily life, it can be claimed that there has been a major break in educational and structural practices related to architectural thoughts and practices.

In the context of this purpose, scope, and claims, a two-phased method was followed as a research methodology in this study. The first of these is in-depth interviews which were conducted with a total of 20 people, including 10 academic educators and 10 architect educators, who are experts in their fields. Throughout the interviews, 8 main questions were asked in various fields regarding the present and future of architecture. An online thinking platform called “arch. futures” has been established to conduct interviews and thus collect information and data on the current state of the education

and practical environment. The videos containing the in-depth interviews were transcribed and decoded using the MaxQda-18 program. During deciphering, the texts were matched with the concepts in the context of the subjects they included with the coding method. The connections of the concepts with the research questions and their frequency of use were examined by the mapping method. In the concept map obtained, distinctive concept relationships were identified, and concepts were analyzed in the context of these relationships.

The survey, which is the second stage of the study, was applied to the participants who completed the first stage. The survey was supported by new insights and questions that emerged from the in-depth interviews. Through the questionnaire, an opportunity was created for the participants to re-evaluate some areas that were out of the scope of the discussion or overlooked during the interview process.

The pandemic has had a significant impact on a clearer perception of the different problems that are known to exist in both the educational and practical fields of architecture. It can be said that this effect generates rethinking and questioning the educational and practical fields of architecture.

In-depth interviews and findings from the survey indicate that the originality, content, and actuality of the education system should be rearranged according to the age of technology and should be integrated with technology. It has also been shown that it is necessary to be more inquisitive and critical in the face of events and situation, and to be sensitive to social and environmental problems within the framework of ethical rules. As a result, it can be said that the pandemic, which played a triggering role in the emergence of all these inquiries, constituted an important breaking point in the field of architecture.

Keywords: Architectural education, Architectural practices, Covid-19 pandemic, Arch.futures, The future of architecture.

ÖZET

Yüksek Lisans Tezi

KOVİD-19 SALGINI SÜRECİ VE SONRASINDA MİMARLIĞIN EĞİTİM VE PRATİK ALANLARINDA GELECEĞİ DÜŞÜNMEK VE ÜRETMEK

Derya Şahin Karaaslan

TOBB Ekonomi ve Teknoloji Üniversitesi
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Tarih: Ocak 2022

Mimarlığın tarihsel süreçte yaşadığı değişim ve dönüşümler neden-sonuç ilişkisi içerisinde incelendiğinde, bu değişim ve dönüşümlerin belirli etkiler karşısında mimarlığın düşünce ve pratik alanlardaki adaptasyonu veya entegrasyonu olarak ortaya çıktığı gözlemlenmiştir. Bugün içerisinde bulunduğumuz Covid-19 salgını hayatımızın birçok alanında olduğu gibi mimarlık alanında da bir takım etkilere/sonuçlara neden olmuştur. Bu çalışma salgını bir durum olarak ele almakta ve bu durumun etkilerine karşı mimarlık disiplininde oluşan adaptasyonları ve entegrasyonları; diğer bir ifade ile mimarlığın eğitim ve pratik alandaki tepkilerini incelemeyi amaçlamaktadır.

Bu bağlamda çalışmanın kapsamı güncel eğitim ve pratik ortamlardır. Covid-19'un gündelik yaşantının her alanına yaptığı derinlemesine etkiler düşünüldüğünde, mimari düşünce ve pratikler ile ilişkili eğitim ve yapısal uygulamalarda büyük bir kırılmanın yaşandığı iddia edilebilir.

Bu amaç, kapsam ve iddialar bağlamında bu çalışma, araştırma metodolojisi olarak iki aşamalı bir yöntem izlenmiştir. Bunlardan birincisi derinlemesine görüşmelerdir. Alanında uzman 10 akademisyen-eğitimci ve 10 mimar-eğitimci olmak üzere toplamda 20 kişi ile derinlemesine görüşmeler yapılmıştır. Görüşmeler sırasında mimarlığının bugünü ve geleceğine yönelik olarak birçok farklı alanda 8 temel soru sorulmuştur.

Görüşmeleri yapmak ve bu sayede eğitim ve pratik ortamın güncel durumuna yönelik bilgi ve veriler toplamak için "arch.futures" adı altında online bir düşünce platformu

kurulmuştur. Derinlemesine görüşmeleri kapsayan videolar, metne dönüştürülmüş ve MaxQda-18 programı aracılığıyla deşifre edilmiştir. Deşifreler sırasında metinler kodlama yöntemi ile içerdikleri konular bağlamında kavramlar ile eşleştirilmiştir. Kavramların araştırma soruları ile bağlantıları ve kullanım sıklıkları haritalama yöntemi ile incelenmiştir. Elde edilen kavram haritasında belirgin kavram ilişkileri tespit edilmiş ve bu ilişkiler bağlamında kavramlar analiz edilmiştir.

Çalışmanın ikinci aşaması olan anket, birinci aşamayı tamamlayan katılımcılara uygulanmıştır. Anket, derinlemesine görüşmelerde ortaya çıkan yeni açılımlar ve sorularla desteklenmiştir. Anket aracılığıyla katılımcıların görüşme sürecinde tartışma kapsamı dışında kalan veya gözden kaçan bazı alanları yeniden değerlendirmelerine fırsat yaratılmıştır.

Pandemi mimarlığın hem eğitim hem pratik alanlarında var olduğu bilinen farklı problemlerin daha net bir biçimde algınlanmasına yönelik önemli bir etki yaratmıştır. Bu etkinin mimarlığın eğitim ve pratik alanlarının yeniden düşünülmesi ve sorgulanmasında tetikleyici bir rol oynadığı/oynayacağı söylenebilir.

Yapılan derinlemesine görüşmeler ve anketten elde edilen bulgular, eğitim sisteminin; özgünlüğünün, içeriğinin ve güncelliğinin günümüz teknoloji çağına göre yeniden düzenlenmesi gerektiği ve teknoloji ile entegre bir yapıda olması gerektiği sonucunu göstermektedir. Olay ve durumlar karşısında daha sorgulayıcı daha eleştirel, etik kurallar çerçevesinde toplumsal ve çevresel problemlere karşı duyarlı olunması gerektiği sonucu ortaya çıkmıştır. Sonuç olarak, bütün bu sorgulamaların açığa çıkmasında tetikleyici rol üstelenen pandeminin, mimarlık alanında önemli bir kırılma noktası oluşturduğu söylenebilir.

Keywords: Mimarlık eğitimi, Mimari pratikler, Covid-19 salgını, Arch.futures, Mimarlığın geleceği.

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I am forever grateful to my dear mother Zekiye Şahin and my father Mustafa Şahin, who has not spared any material or moral effort to help me to reach where I am today, who taught me to only follow the path to happiness and supported me in all circumstances. I would like to thank my dear sisters Merve Ünlü, Şeyma Şahin and Elif Şahin, who have always been by my side. I would like to express my gratitude to dear Demet Karaaslan and Hasan Karaaslan for their love and encouragement throughout this process. And I am extremely grateful to my dear husband Serkan Karaaslan, who has always been by my side during this difficult process and has always supported me.

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ABBREVIATIONS

COVID-19 **:** Coronavirus Disease
UIA **:** International Union of Architects
ACE : Architects' Council of Europe
NAAB **:** The National Architectural Accrediting Board-USA
MİAK **:** Architecture Accreditation Board-Turkiye
EAAE **:** European Association for Architectural Education
YÖK **:** Higher Education Council
UNESCO **:** United Nations Educational, Scientific and Cultural Organization
ARB **:** Architectural Registration Board-England
MOBBİG **:** Head of Departments of Architecture Schools Communication Group
ÖSYS **:** Student Selection and Registration System
DE **:** Distance Education
ODE **:** Online Distance Education
F2FE **:** Face-to-Face Education
CAD **:** Computer-Aided Design
VR **:** Virtual Reality
AR **:** Augmented Reality
BIM **:** Building Information Modeling
IT **:** Informatics Based
OLAP **:** Online Analytical Processing
WMW **:** Wilcoxon Mann Whitney

1. INTRODUCTION

Architecture is a discipline that has a multidisciplinary structure and therefore its boundaries are not clear, it adapts to the time it occurs in (D'Souza, 2007). The diversity and ambiguity that it contains cause many different definitions of architecture to emerge today. In his book "De Architectura[1]", Vitruvius, who revealed the first written work of architecture, stated that the definition of architecture corresponds to the concepts of "Utilitas, Firmitas, Venustas" (commodity, firmness, delight) (Vitruvius, 2005). Plato, on the other hand, argued that architecture is a discipline based on the act of making and said that the definition of architecture as related to the act of making (Plato, 2000). When Minai's definition of architecture is examined over the recent period, architecture is defined as the form of communication which exists between the individual, society, and the environment (Minai, 1989). When these definitions are examined, it is possible to see that there are diversities in the focal points of architecture in different historical periods (25 BC-1989 AC).

When looking at today's architecture, it can be observed that with the increase in air pollution and the consumption of natural resources, an architect considers environmental, social, and climate changes challenges as a problem area and strives to produce solutions. Additionally, in this period, which is called the age of technology, architecture is intertwined with technology. Technology has many domains in construction techniques, design, representation, education, and architectural communication environments. Architecture is experiencing changes and transformations within this domain. With the effects of the COVID-19 pandemic, these changes, and transformations in the field of architecture have accelerated. The pandemic, which has rapidly changed and at some points stopped our daily lives, social communications, and professional habits, has also caused significant effects in the architectural environment.

[1] De Architectura, it was written by the Roman Architect Marcus Vitruvius Pollio in 25 BC. It is the first work on architecture that has survived to the present day.

In this section, the problem area, purpose, content, and methodology of the study will be discussed. This section is important in terms of comprehending the main structure of the study.

1.1 Reassessment of The Problematic

The virus, which originated in Wuhan Province of China and was identified on January 13, 2020, has caused a global outbreak as the New Coronavirus Disease (COVID-19). This virus, which is transmitted through the respiratory tract, has played a role in taking a variety of measures that will change the living standards around the world, and the concept of social distance has been introduced with this pandemic (Republic of Turkiye Ministry of Health, URL-1).

Distancing and social isolation, which are the most effective methods of preventing disease, have caused fundamental changes in daily habits. Along with the pandemic, a process has been entered in which a various number of offices have closed and have adopted online working platforms that were suitable for certain professions, however, this restricted social interactions.

In this process, important changes and restrictions were experienced in the field of education, as well. Due to the limitations of being in the same environment physically, the traditional education model of face-to-face education, has been switched to the distance education model to ensure the continuity of education. The content of the courses conducted with the traditional education model has been tried to be adapted to the distance education model. Inadequate infrastructure and limited access to technological tools in certain parts of the society have brought along inequalities with this new system.

Despite the negativities mentioned, the pandemic initiated the widespread use of remote access methods and allowed the social, work and education dynamics to be questioned once more. Architecture, as many different fields, was affected by the pandemic in numerous areas, whether it be positively or negatively, and entered into a process that re-question itself in this context.

Due to physical access restrictions during the pandemic, face-to-face architectural education and practice has been replaced by remote access methods in an “urgent”

manner. The effects of this urgent transformation process on architectural education and practice define the problem area of the study.

1.2 Scope and Aim of the Study

This study focuses on the changes and transformations experienced in the fields of education and practice in architecture with the Covid-19 Pandemic. In this context, experts who have experienced the process of change and transformation closely were interviewed and the effects of the pandemic on the educational and practical field of architecture were examined. This research includes questioning how a reaction (change and transformation) will occur in the discipline of architecture against the effects of the pandemic and what kind of architectural environment will be in the future.

Will the compulsory distance education model, remote business management and remotely participated conferences also be included in the future of architecture? Will the experiences and habits we have gained in this process lead to better structuring in the architectural environment? Will technology have a more integrated structure with the architectural environment, as it did in this process? Along with all these inquiries, this study aims to investigate how architecture reacts and will respond to the effects of the pandemic on architecture.

1.3 Methodology

In this study, two different research methods, qualitative and quantitative, were used.

Qualitative research, which constitutes the first phase of the study, includes in-depth examination of variables rather than measurement (Neuman and Wiegand, 2000). With this method, it is tried to be understood why and how the relationship between the variables is established. Qualitative research is a method that includes non-numerical results, person's in-depth description of the topic and interpretations of this narrative (Maxfield and Babbie, 2005).

Quantitative research, which is the second phase of the study, focuses on the existence of the relationship between the variables and how strong the relationship is, based on measurement. In this method, the results are based on numerical data and statistical

analysis. Thus, the factors considered and the interaction rates between these factors are revealed and interpreted (Böke,2017).

In this section, these two research methods will be shared (Figure 1.1).

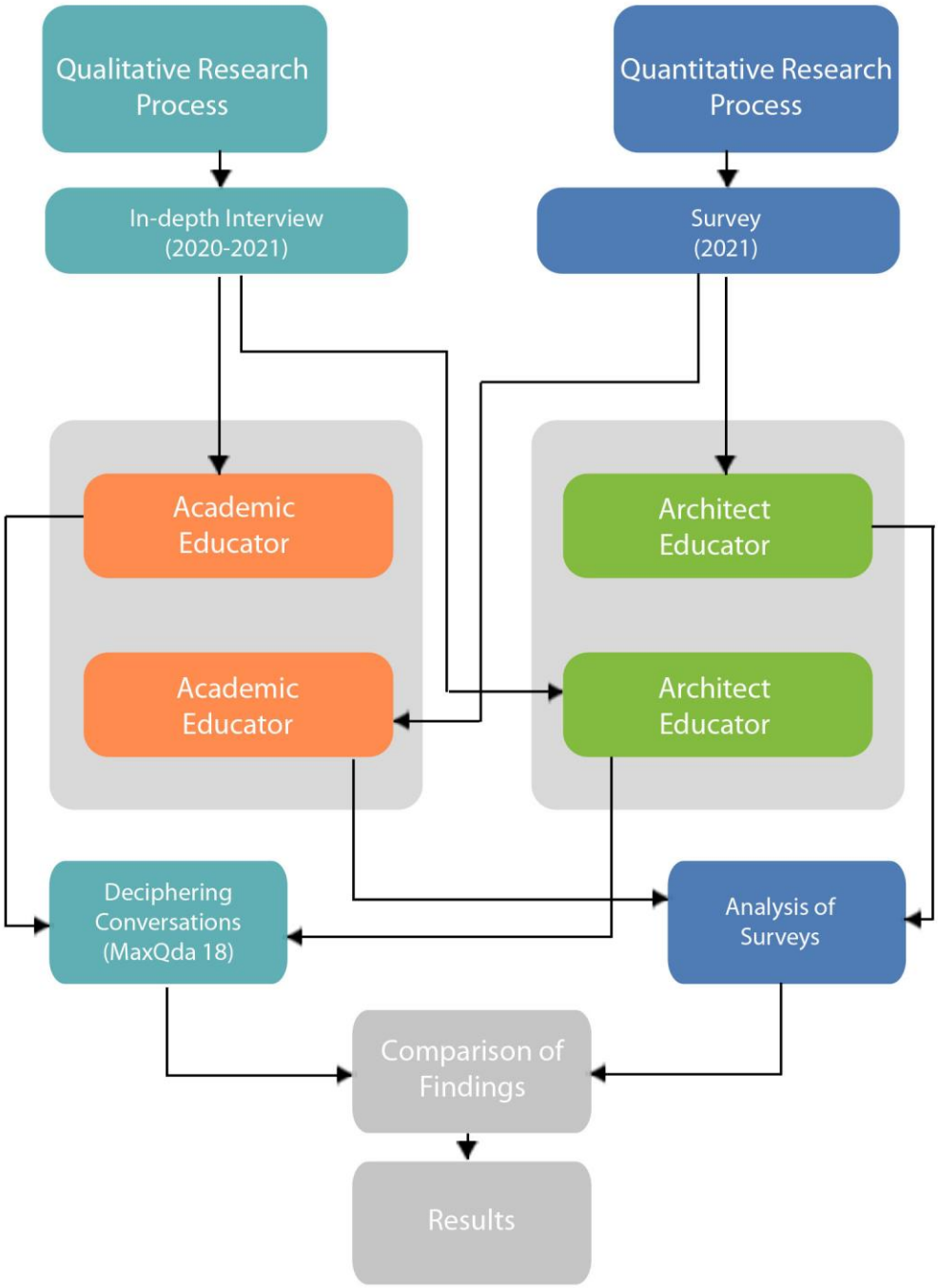

Figure 1.1: Methodology (Karaaslan, Sönmez & Özer, 2021)

1.3.1 The first phase (Qualitative research/in-depth interiew)

At this phase of the study, in-depth interview method, which is a qualitative research method, was chosen. An in-depth interview is a mutual interaction or, in other words, a mental struggle between the interviewer and the participant, in which both share and participate (Kahn, 1983). The in-depth interview technique, which is a frequently preferred technique in qualitative research, has been chosen due to its powerful features such as providing the opportunity to obtain information about what cannot be seen from a different perspective and to make alternative explanations about what is seen (Glesne, 2013). This method aspires to understand how the participants perceive the events they are in and how they approach the events. It is aimed to measure the reflexes of the participant in the face of events (Firestone, 1987). The development of events and the understanding of the process are significant for this research. The subject is investigated in an integrated manner with all contact points and examined in a cause-effect relationship (Maxwell, 2005).

P1-(Academic) Educator	P2-(Architect) Educator
P1-1 Abdi Güzer	P2-1 Begüm Yazgan-Kerem Yazgan
P1-2 Murat Uluğ	P2-2 Kutlu Bal-Hakan Evkaya
P1-3 Sema Alaçam	P2-3 Oral Göktaş
P1-4 Hakan Sağlam	P2-4 Semra Uygur
P1-5 Murat Gül	P2-5 Burçin Gürbüz
P1-6 Nur Çağlar	P2-6 Kenan Güvenç
P1-7 Murat Günaydın	P2-7 Fatih Yavuz-Emre Şavural
P1-8 Atilla Dikbaş	P2-8 Nevzat Sayın
P1-9 Ayhan Usta	P2-9 Aslı Özbay-Hasan Özbay
P1-10 Adnan Aksu	P2-10 Melike Altınışık

Figure 1.2: List of participants of the first and second phase (Karaaslan, Sönmez & Özer, 2021)

At this phase, a total of 20 people were interviewed, including 10 architect educators and 10 academic educators who are experts in their fields (Figure 1.2). Interviews was moderated by the thesis advisor's Assist. Prof. Dr. Murat Sönmez and Assoc. Prof. Dr. Derya Güleç Özer. during the interview, 8 research questions that can be found in the

4th chapter of the thesis (4. Research Questions) was asked to the participants. These 8 main questions were asked flexibly during the interview and created the basis for the discussion of new expansions in different fields. With 8 flexible questions, it is aimed to deepen and diversify the subject with different questions during the conversation (Merriam, 2015).

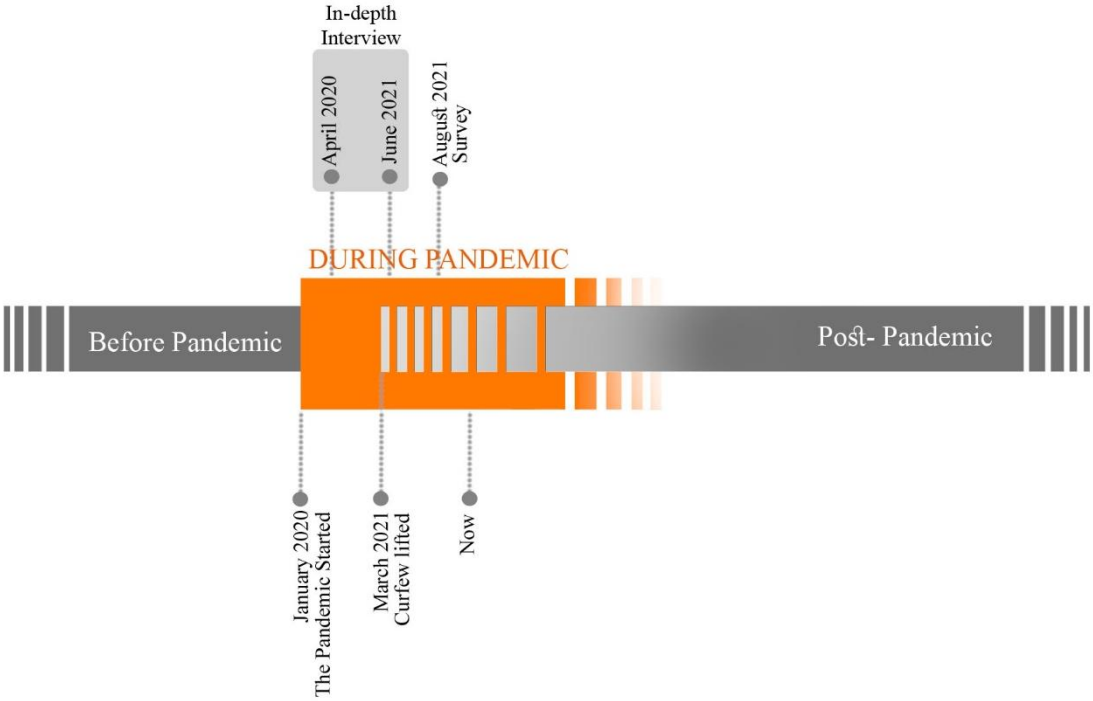

Figure 1.3: Timeline of in-depth interview and survey phases

The interviews were conducted between April 2020 and June 2021 and were recorded on video (Figure 1.3). The video recordings have been presented to the architectural environment through a "digital thought platform" created within the scope of this research (URL-2).

Interviews were converted into text from video recordings and deciphered via MaxQda-18 software. During deciphering, the coding system was used, and these codes were matched with related concepts in the context of the discussion topic. The concepts obtained with the coding system were grouped by considering their relation to the subjects and a comparative analysis of these groups was made. The analysis and deciphering process of this phase are included in the "5.1 Analysis of The First Phase (In-depth Interview)" section of the thesis.

1.3.2. The second phase (Quantitative research/survey)

In the second phase of the study, the survey (descriptive survey) method, which is a quantitative research method, was chosen. The survey study is an effective tool for personal characteristics, level of knowledge, event evaluation and measurement of facts and has basic features such as versatility, effectiveness, and generalizability. In this study, the attained survey type is multiple choice and the survey type is Likert. The content of the survey consists of three parts. The first part includes pre-pandemic, the second part includes the pandemic process and the third part includes possible post-pandemic situation assessments (Figure 1.4) (Annex-1).

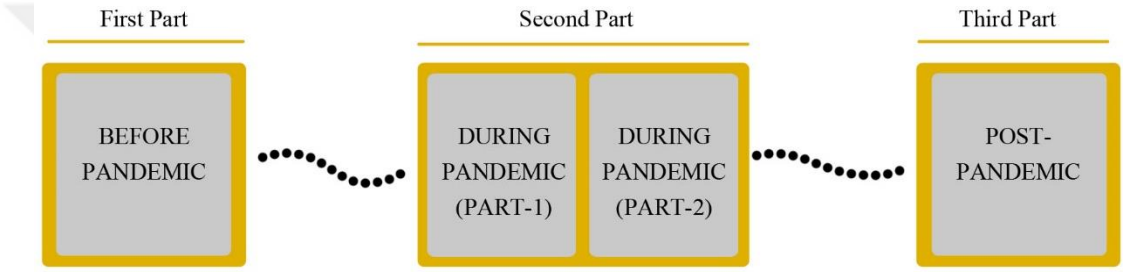

Figure 1.4: Parts of the survey

The survey was conducted in August 2021 after the in-depth interviews ended. The survey was fueled by new issues and inquiries that emerged from the in-depth interviews. Thus, a wider and more detailed set of questions was created. With the survey, an opportunity was created for the participants to re-evaluate some areas that were out of the scope of the discussion or overlooked during the interview process. (Figure 1.3).

Survey content and method: The survey study aims to detail the focus discussion topics identified in the in-depth interviews (Phase 1) regarding both the education and practice of architecture. The different periods of the pandemic and the stages of the study conducted on them are expressed as follows:

When the periods of the pandemic are examined through Figure 5, the period between 2020-2021 includes a rapid change and adaptation to the pandemic. At first, restrictions were imposed on certain age groups, and later, curfews were imposed on

all age groups with the increase in the effects of the pandemic. This has affected physical and social access. In this context, many workplaces including architectural offices have stopped their physical office activities, and the working environment has been carried out to online platforms within the scope of technological possibilities. As of 2021, normalizations have started and daily life has been returned to, provided that certain rules are followed under the conditions of the pandemic (Karaaslan, Sönmez & Özer, 2021).

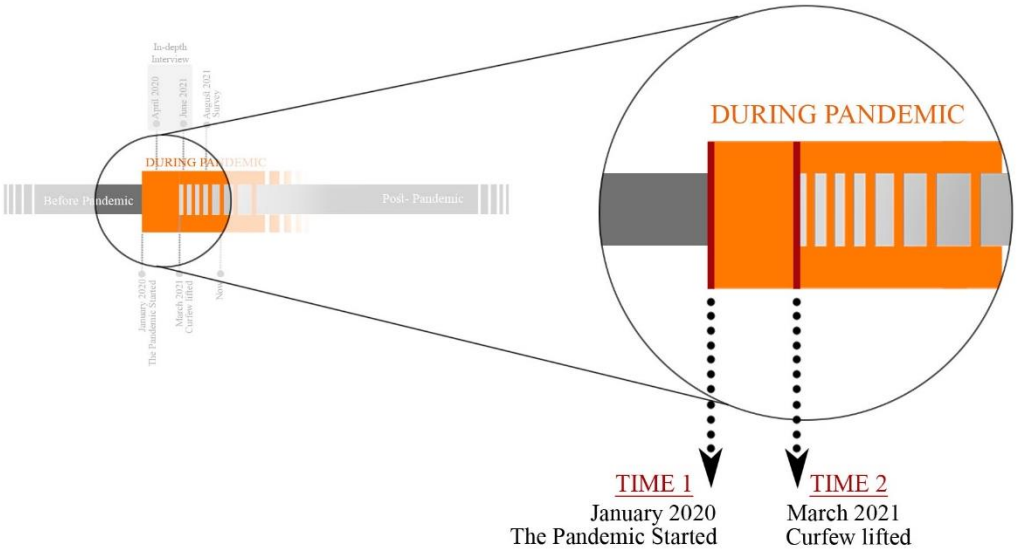

Figure 1.5: Time-1 and Time-2 (Stillness Time)

The dates of the beginning of the pandemic (TIME 1) and the beginning of the normalizations in the pandemic process (TIME 2) are considered as critical periods of the study (Figure 1.5). These two critical periods are significant for the integrity of the assessment and for time to be considered in the context of cause and effect.

In the document P2-10, Melike Altınışık defines this period as “the moment of thought between the existent and the non-existent”. Again, in the same document, Ertuğrul Rufayi Turan (he is a permanent participant in in-depth interviews) defines that moment between existence and non-existence as ‘stillness’ and states that stillness is the moment of silence, birth and occurrence of thought.

These time periods are important points of productivity and turning the situation into an opportunity in the face of a new event. These points are important for the process-oriented research. These periods are the key points covering the transition from face-

to-face to distance education (TIME 1) and from distance education to blended education (TIME 2) (Figure 1.5). This study examines the possible situations of "pre-pandemic, pandemic process and post-pandemic" in the context of these two key points, and examines the changes and transformations in the educational and practical fields of architecture during this period.

The analysis of this phase is included in the "6.2 Analysis of The Second Phase (Survey)" section of the thesis.

2. ARCHITECTURAL EDUCATION

Architectural education has experienced various transformations in the historical process. Architecture, which was seen as a craft in the past, was later associated with art and began to be defined through different fields at the beginning of the 20th century. During this period, the rapid development of technology and the post-war destructions caused several changes in the fields of art and thought. With the School of Applied Arts, which Henry van der Velde founded in 1902, he aimed to stimulate the economy in the fields of arts and crafts. Hermann Muthesius aimed to bring art, craft, and industry together with the Deutscher Werkbund (German Business Association), which he founded in 1907. This association is an advocate of a modern idea that enables the development of German industry. In 1914, differences of opinion were raised between these two structures. The architecture was aimed to be directed towards standardization with the power of mechanization in Deutscher Werkbund. As an opposing view, Henry van der Velde argued that the concepts of artist and creativity are not compatible with the concept of standardization and has advocated individualization against this view (Döğerlioğlu, 2020); (Bulat, Bulat & Aydın, 2014).

Due to the severe conditions of the First World War during 1914-1918, Henry van der Velde transferred the School of Applied Arts to Walter Gropius and moved to Switzerland. The fact that Germany lost the war in 1918 caused a revolutionary orientation. The Arbeitstrat für Kunts (Art Workers' Council) supported revolutionary

trends in the fields of art and architecture. Gropius, a member of the Board, published the Bauhaus Manifesto in 1919 (Gropius, 1967) (Figure 2.1).

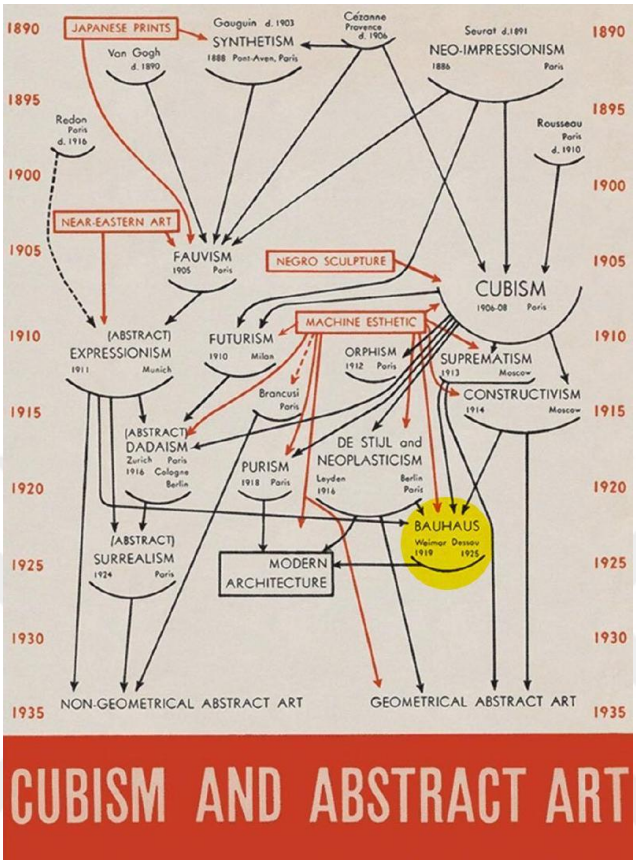

Figure 2.1: Bauhaus and its relation with modern movements (Güner&Göktürk, 2021).

> "Architects, sculptors, painters, we must all return to crafts! Art is not a 'profession'. There is no fundamental difference between craftsmen and artists. The artist is an enthusiastic craftsman"
>
> (Gropius, Bauhaus Manifestosu)

This manifesto has aroused great interest. In the light of this thought, the Bauhaus School, which adopted the understanding of modern art, was established. This school has offered an education model that is intertwined with many modern art movements and adopted the master-apprentice relationship (Çınar and Çınar, 2020). The education process in Bauhaus consists of three parts.

- Preparatory Education (Basic Art Education)
- Technical Education (Vocational Art Education)
- Structural Education (Professional Project Studies)

As included in the education and training plan at the Bauhaus, applied teaching studies were important. Although the Bauhaus was closed by the Nazis in the following periods, the original education program was adopted and implemented all over the world (Güner and Göktürk, 2021).

2.1 Different mediums of architectural education

Architectural education includes design studios, where theory, practice and architectural knowledge are experienced through the act of making and converted into production, which constitute a significant part of the design making process. Design studios are seen as an important keystone of architectural education in terms of the development of problem-solving skills and communicative abilities, along with the student's learning how to design. Within the scope of the design studio, it is aimed that the students experience the theoretical and technical knowledge practically (Swiesciak-Elzbieta, Adams and Thomas, 2021).

Architecture is a discipline in which the face-to-face education model is widely used in the context of the purpose and scope of practice and studio courses. Looking at the educational environments of other disciplines, it is possible to see that different education models such as distance education and blended education are frequently tried for the rapid development of technology and the increasing demands in globalization (Hanover, Research, 2014). Although there are schools that have also adopted blended and distance education models in architectural education, these education models have not reached the prevalence of face-to-face education.

The Covid-19 pandemic, which affected the whole World at the beginning of 2020, has caused many effects in the field of education as well as in many areas of life. The social distancing rule, which is a fundamental way of protection against the pandemic, has caused a great change in the educational environment. To ensure the continuity of

education, all educational institutions had to switch to the distance education model. As in every field of education, distance education model has been adopted in Architectural Education, but this rapid change has brought numerous problems. Architecture schools, where face-to-face education predominates, have experienced several problems in adapting to the process of conducting practical classes and design studios in a distance learning environment. Design studios have been trying to be executed in virtual studio environments. This fast and challenging process has caused great changes and transformations in the educational environment.

This study is related to discussing the production and results of architectural education through different channels such as face-to-face, distance and blended education models, and explaining the changes and transformations that emerged with the pandemic. In this context, face-to-face, distance and blended education are discussed in the context of their meanings in the literature in terms of forming the theoretical framework of the study, and the transformations in these education models with the pandemic are revealed in this section.

2.1.1 Face-to-face education

Since architecture has a structure based on the master-apprentice relationship in the past, it offers a form of learning in which the same environment is physically shared, and knowledge and experience are transferred through this environment. Looking at present, it is possible to see that this system continues effectively and widely in architectural education. The inclusion of the link between architectural knowledge and practice, theory, and reality in education as a whole and placing these two fields on a foundation that supports each other clearly emphasizes the importance of practical courses in the field of education (Tzonis, 2014). In addition, Bernard Tschumi stated that the practical and theory areas of architecture are inseparable parts of each other with the words “if you kill the theory, practice dies” (Tschumi, 2017).

Practical courses constitute a critical part of education as the student develops a practice, be acquainted with the material and its possibilities through experimental acquisitions and provides environments of informal information exchange in this process. Students make subjective inferences by bringing together the knowledge they have acquired in practice courses through their way of thinking (Ledewitz, 1985). The knowledge is brought together in the student's mental process and reaches a stratified

structure in the final product. This stratified structure provides an opportunity for more original products to appear in the application environment and the formation of new trial environments that move away from stereotyped ways of making (Uluoğlu, 2004). In this context, it is possible to define practical courses as the moment when knowledge gives birth to knowledge as well as experiencing knowledge in reality.

In the education system, practical courses have a system based on supporting each other with theory courses. The balance-ratio relationship between these two areas is effective in revealing different models in education. Looking at the schools of architecture today, it is possible to see that these balances have changed. To give an example, MEF University adopts a more technical and practice-oriented model in its education system, while TOBB University of Economics and Technology has a model that includes practice based on a conceptual framework (P1-8). However, in both cases, both practical courses and theory courses are accepted as the cornerstones of education. The fact that practical courses require the physical environment reveals the significance of face-to-face education in architectural education.

2.1.2. Distance education

Distance education was first put forward in the late 1700s by William Rainey Harper and a group of like-minded scholars to create an alternative system to the education system dominated by the sharing of information by coming together in a physical environment. At that time, education was a formation that male individuals with the high socioeconomic status of society could reach and benefit from. For this reason, the idea of distance education has not been adequately supported due to the segment it will appeal to (Gunawardena and Mclsaac, 1996) (Figure 2.2).

When distance education is examined through the changes and transformations it has experienced until present day, it has been observed that it covers 3 different periods. The first period covers the time of learning by letter in the years when technological means are limited. The second period of distance education started with the development of technology and the introduction of radio and television into our lives. With the development of radio and television, access to society and the rapid distribution of information have become an alternative system to the distance

education system. With the establishment of open universities in the 1970s and the creation of the Texas TI-IN network in 1980, the access network of distance education expanded. The public had the opportunity to access various commercial courses. In the 1990s and later on, internet and web-based software provided new possibilities for distance education. With this development, the third period of distance education has started (Bozkurt, 2017). With the third period, the period that was previously called the "post-industrial age" was named the "information age" (Castells, 1996). This new era has enabled information to spread rapidly on a global scale, regardless of physical environmental conditions.

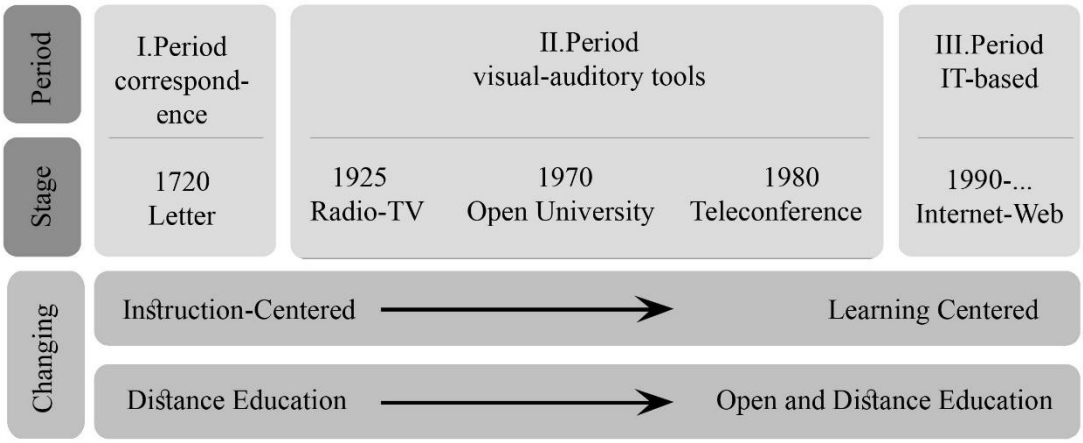

Figure 2.2: The historical process of distance education (Bozkurt, 2017)

When the historical background of distance education is examined, it is seen that it has a long history, but in the last 10 years, there have been great changes in its definition and impact. The model that emerged in the past as an alternative to the traditional education environment and for those who do not have the opportunity to access the traditional education environment, presently constitutes an alternative to the traditional education (MOOCs, Udemy, Coursera etc.). With the changing student profile and developing technology, the scope of distance education has also expanded (Akdemir, 2011). Web-based software has played a role in the emergence of education models such as online distance education (ODE) and online education (OD) in distance education and provided access to education without being dependent on physical environment conditions. However, this opportunity has been limited on higher education and adults in general, and its scope of influence has been inadequate at the secondary and primary education levels (Sari, 2020).

2.1.3. Blended education

Although there is no clear definition of blended education in the literature, it is possible to encounter various definitions. Graham defines blended education as the integration of online technologies (with computer-mediated instruction) with face-to-face education (Bonk and Graham, 2005). In another definition, due to the uncertainties contained in blended education, it covers all educational environments except online learning environments only and face-to-face education environments only (Smith and Hill, 2019). Based on literature research, it is possible to define blended education as an integrated systematized form of face-to-face and virtual education. Blended education, as well as its definition, includes a variety of terms. It is also expressed by terms such as flipped, hyflex and hybrid (Bates, 2005).

Another confusion in blended education is the environments in which technological channels are used, which arise due to its unclear definition. For example, according to some researchers, the situation of sharing information and data through mediums such as computers, e-mail or online communication in the face-to-face education model is defined as blended education. According to another group of researchers, the environments where this data exchange is provided are defined as a different field of education expressed with the term “web facilitated” and kept separate from blended education.

When the blended education model is examined through architectural education, it is possible to see that the blended education model is applied in many universities. As a result of the measures taken against the Covid-19 pandemic, the transition of all educational environments to virtual education environments has caused great obstacles. Several problems, such as insufficient infrastructure, have caused inequality in the educational environment. The rapid transition to online education has created an adaptation problem since practical courses and some course contents are not suitable for online education. However, despite these situations, the online education model was quickly adopted in the challenging period of 2020-2021 (Figure 3). As of March 2021, the normalization process has started, and the face-to-face education system has been restored. However, this return has been applied as a synchronized version of online education added to face-to-face education by 40%.

3. ARCHITECTURAL PRACTICE

When the historical process of architecture is examined, it is seen that it is a discipline that is based on practice and was born against needs such as shelter/protection. With the transition to settled life, people began to build structures with wooden frames, walls made of tree branches and plastered with mud, and later circles, menhirs and megaliths in which stone was used (Borden and others, 2009). The knowledge, skills and experiences gained from these construction techniques have been transferred from generation to generation in the master-apprentice relationship and have played an active role in achieving the present day of architecture. In the following periods, in addition to the act of making, architecture also started production in the theoretical field with the book "De Architectura" by Vitruvius (Legeny, Spacek and Morgenstein, 2018). This situation is of great importance at the contact point of architecture with theory. With this work, architecture began to be supported with theoretical knowledge and experienced developments and transformations in mutual interaction with the practical field in the following periods. Fogue stated the importance he attaches to the relationship between practice and theory by emphasizing the significance of transferring knowledge to the practical field and transforming it into action with the right analyses in revealing skills (Fogue, 2009). Aristotle, on the other hand, associated architecture with the concepts of poiesis and techne in this context (Aristo, 2017). The concept of poiesis is defined as knowing, conceptualizing, and producing objects within the scope of construction knowledge (Plato, 1993). This production process is realized by reason, consciousness, and purpose. The act of making occurs socially, economically, socially, and technologically with numerous different techniques. This situation is associated with techne. Techne defines how to produce the object perceptually and intuitively. In addition, it is the transformation of the knowledge that deepens and matures in the mind into an object with different techniques (Sönmez, 2018).

3.1. Construction Techniques and Materials

When the approaches to construction from the past to the present are examined, it is seen that the construction techniques and material use of architecture are periodically affected by environmental conditions and have experienced changes and transformations. When the first architectural productions of history are examined, the existence of oval and circular structures are encountered. These structures, dating back 30,000 years, were built as a solution to the need for shelter by using materials such as wood, rock, stone, and leather (Silver, Whitsett and Mclean, 2013).

In 10,000's BC, mud bricks obtained by shaping mud were widely used in the production of structures. However, with the Ancient World and Early Christianity, the idea of transforming fragile structures into stone monuments prevailed. During this period, Greek sculptors learned to carve the stone in human form and decorated the structures with these sculptures. The Egyptians and Greeks used simple column-beam building systems, and the Romans developed the arch system to cross large spans on bridges and aqueducts (Kuban, 2017). They also found concrete that allowed them to build fluid forms such as barrel vaults and domes.

In the years 790-1140 AD, due to the Romanesque influence, the possibilities of transitioning to wider spaces were tried, based on the idea that the frequent use of columns in structures, as in the Greeks, prevented the formation of wide and unobstructed spaces in the church buildings. These trials influenced the development of vault systems and the articulation of the western entrance to the churches as a structural element in the Romanesque period. To solve the structural problems faced by the Romanesque period, a new movement emerged in 1140-1520. This movement, known as Gothic, pioneered the use of new structural calculations in architecture with the use of Euclidean geometry and the spread of scholastic thought. The massive masonry has been replaced by pointed arches, high rib vaults and flying buttresses that utilize the possibilities of geometry (Gültekin, 2010).

During the years 1490-1620, a humanistic approach emerged that prioritizes individual experience and individual observation, which shaped the structure and construction techniques of the Renaissance period. This approach has brought about horizontal architectural studies on a human scale by questioning the proportions of giant structures. A new construction system has developed, in which horizontal lines are

emphasized and rectangular windows with pediments replace the round windows of the Renaissance. In the Baroque period of 1550-1770, oval construction techniques in which curved walls and floors are interlocked appear to have emerged. In the Baroque period, in the context of seeing art and architecture as a whole, an architectural language emerged in which large-span domes adorned with ornaments, creating illusions on the structure with light, color, and texture. Neoclassicism, which emerged in France between 1640-1850, is accepted as a reflection of the return to Classicism as a reaction against the Baroque and Rococo movements. In this period, unlike Classicism, higher-rise domes attract attention (Borden and others, 2009).

In the 18th and 19th centuries, the Industrial Revolution and the widespread use of coal and steam powered machines paved the way for the emergence of new materials such as cast iron, glass and steel and the rapid production of these materials (Le Corbusier, 2003). In addition, the developments in the industry caused population mobility from the village to the city and the importance of the city was increased. With this migration movement, the problem of housing in the cities has emerged. The need for housing and new materials that have become easy to access has led to the birth of Industrial Architecture. In this process, a rapid production model was adopted for the housing need and the frequency of glass and steel in architecture increased (Borden and others, 2009).

In the 19th century, the multiplicity of buildings and mass production in architecture was seen as a problem and the Arts and Crafts view emerged as a protest to this situation. This way of thinking advocated singular production against mass production. Technological developments such as electric lighting, radio communication, automobile and airplane in the 20th century have caused the new century to be defined as the century of machinery, speed, and motion. In this context, architecture of the new age saw mechanization as the basis. The principles of specialization and diversity in design are adopted in architectural knowledge. Although iron and steel were frequently used in bridges and large public buildings throughout the 19th century, changes in the use of steel in the 20th century increased the prevalence of steel use even more. In this new century, the possibilities of vertical architecture have been increased by using a steel frame system to solve the problem of producing high-rise structures.

With the emergence of Modern Architecture in Europe, a period began in which the historical process was left in the background and the idea of original design was

defended. Mies Van Der Rohe, one of the advocates of the modernist approach in this period, uses the terms Living/Variable/New for architecture. In the light of this approach, she produces designs that emphasize simplicity and functionality, in which steel and glass are used together (Drexler, 1960). When the years 1945-2000 are examined, the effects of different styles such as Late Modernism, High Tech Architecture, Postmodernism, Deconstructivism and Minimalist Modernism are seen. When the construction techniques of this period are examined, it is seen that an Expressionist and Humanistic approach prevails against the flat surfaces of the Early Modernist Period after the Second World War. Modern construction materials and modern engineering techniques have made it possible to experience productions that contain the sense of curve, fluid, and variability in architecture. Another factor of this situation is the opportunities provided by modern technology tools such as computer programs in the production of forms (Figure 3.1).

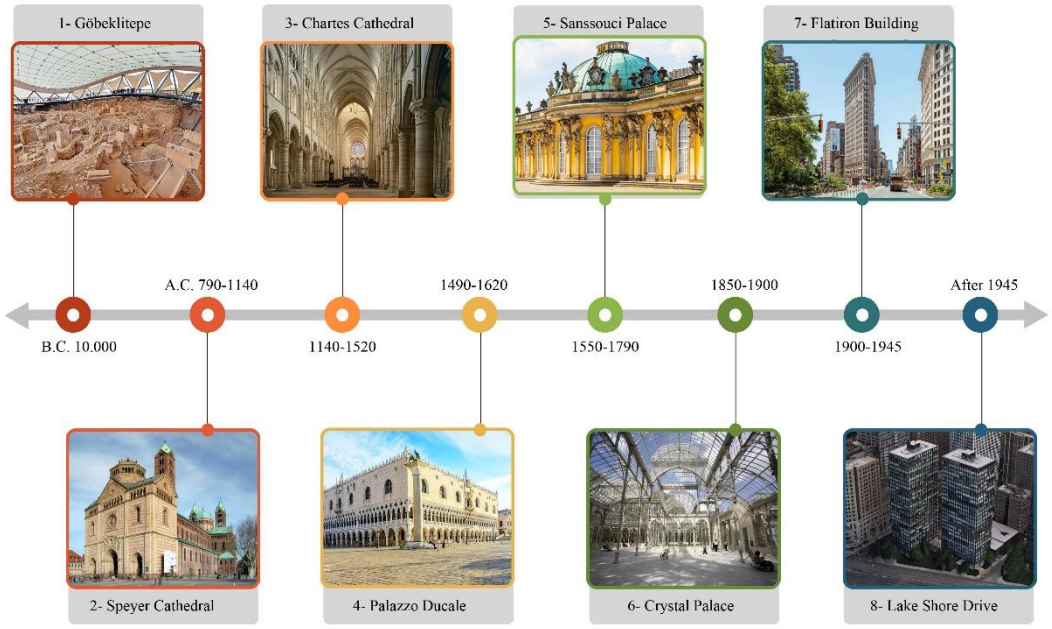

Figure 3.1: Construction Techniques in The History (URL-3, URL-4, URL-5, URL-6, URL-7, URL-8, URL-9, URL-10)

3.2. New Technology

The 21st century has brought innovations in many fields in the discipline of architecture. With the rising world population, the damage to the environment has increased and natural resources have started to deplete. Environmental problems and

social discourses played a role in shaping architecture. Interdisciplinary approaches such as sustainability, green architecture, ecological architecture have become the main factors in the structure design and production process. With the developing technology, recyclable materials and structures that can produce their own energy, enable the energy to be recycled and used again, do not produce harmful waste to the environment, have begun to be produced. Moreover, with the developing technology, the computer has taken an important place. Today, in addition to architectural product design, the computer has become an integrated structure that provides all the production processes, supervision, and coordination of a project. Again, depending on the development of technology, rapid production and construction techniques have been developed for population growth. The highlights of the technological developments are briefly explained below:

CAD (Computer-Aided Design): A technology that organizes large amounts of information and simulates the predictive behavior of objects by performing mathematical calculations. (Feng, 2021). It includes 2D and 3D production and design features. With this technology, it is possible to control the load carrying capacity of structures and materials, environmental analysis (thermal, daylight, acoustic…) can be made and many databases containing building information can be used. It can also be integrated with tools such as (Computer Aided- Engineering) CAE, (Finite Element Analysis) FEA/FEM, (Computer Numerical Control) CNC, (Computer-Aided Manufacturing) CAM, (Product Data Management) PDM (Silver, 2013).

BIM (Building Information Modelling): An information technology that can manage and control the design and construction processes of the project through the digital model. It also facilitates the exchange of information between architects, engineers, and contractors to make the design, consulting, and construction processes more efficient (Wilson, 2017). With this technology, the feasibility study of the project can be done, and it can be tested whether the design meets the requirements. Cost rates can be calculated, and unnecessary expenditures can be avoided. Data exchange can be provided with many programs in 3D designs. It can identify problems in advance during the construction process and carry out preventive work (Zhe, 2018).

AR (Augmented Reality): A technology that allows users (avatar) to feel immersed or experience 3D models with 360-degree rendering (Rheingold, 1991). It is the situation in which a non-concrete design creates a perception of reality in people (Gül, 2020).

With this technology, the avatar can walk through the design and experience it in its real dimensions. This prevents economic, labor and temporal losses in terms of allowing the building to be tested before it is produced.

VR (Virtual Reality): The animation of 3D models in a real environment with sensory interactions (Prabhakaran and others, 2021). VR technology is the case of reflecting the architectural design to the real environment. The employer can experience the final product in a real environment instead of seeing it through traditional 2D drawings, visuals, and models.

3D PRINTER: 3D printers were first invented in 1983 with 3D printing technology. Over time, with the development of 3D printers, it has become a technology that is frequently used in the field of architecture and its usage areas have become widespread. With this new technology, the cost rate has been reduced, the production time and the damage to the environment has been decreased (Felek, 2019). In addition, thanks to its integrated working feature with 3D models, it provides significant convenience in parametric designs, complex model analysis and construction processes. With this technology, which allows the use of many different materials such as plastic, resin, clay, metal, titanium and concrete, structures using various materials have been produced (Sorguç and Yemişcioğlu, 2020).

METAVERSE: The concept of metaverse was first mentioned in Neal Stephenson's novel “Snow Crash”. It is a system in which many users can interact through a virtual environment and virtual places (Frey and others, 2008). In this virtual world, there are many 3D objects and designs, as well as “avatars” that the user can navigate in them. This way, several dailies and social activities such as concerts, fashion shows, digital exhibitions can be carried out in this virtual environment. Metaverse technology also has an important place in the field of architecture. Real-life architectural productions play a major role in the emergence of free designs due to economics, structural technology, political and environmental reasons. In this context, Metaverse provides a free design space. In addition, its uniqueness can be guaranteed with the support of NFT (Non-fungible tokens) to preserve the originality of the design. Krista Kim sold the first NFT-supported digital home in this area (Figure 3.2).

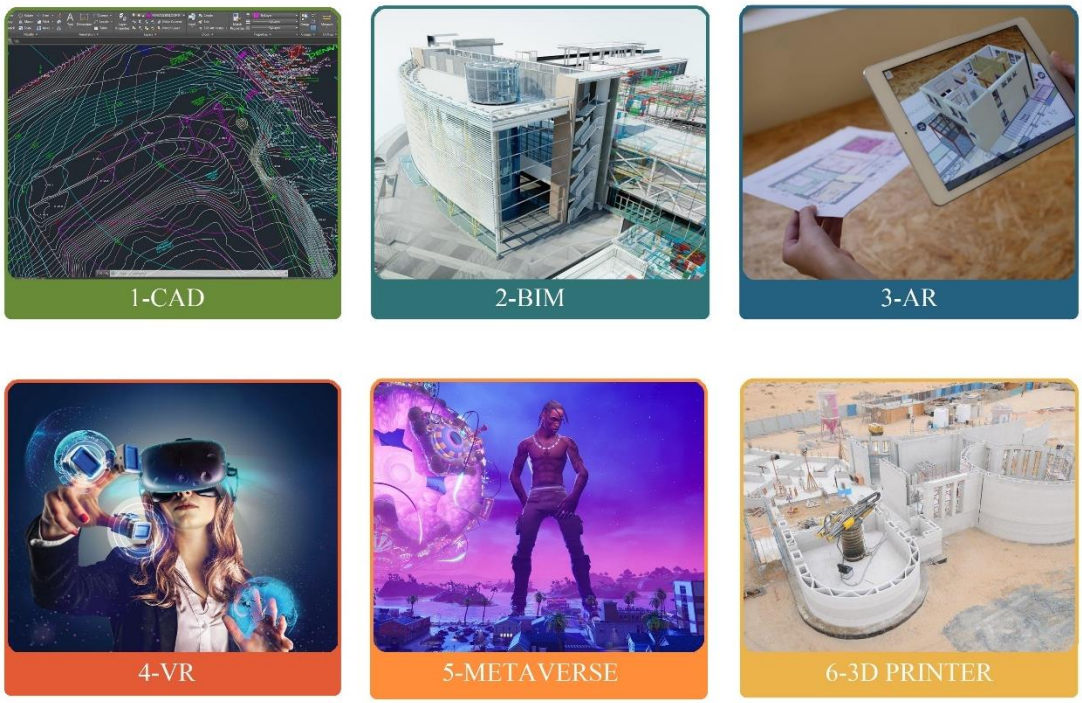

Figure 3.2: Technological Tools (Prepared by Author, URL-11, URL-12, URL-13, URL-14, URL-15, URL-16)

4. RESEARCH QUESTIONS

Architecture is a discipline in which the field of application expands persistently. As its sphere of influence expanded, so did the areas that influenced architecture. This section includes 8 questions, which has been asked in-depth interview, about the educational and practical fields of architecture, whose change and transformation accelerated with the pandemic. These eight questions were directed to the participants during the in-depth interviews and in this context, the evaluations of the participants on the educational and practical fields of architecture were taken.

4.1 How to design?

The concept of design has represented various approaches in terms of definition and scope in the historical process. It has been identified with many disciplines because it does not have certain boundaries and is shaped by “idea”. Therefore, several different

definitions have emerged. Looking at the origin and meaning of the word, the origin of the word design comes from the Latin “disignare”. In Italian, “disegno” means drawing. It means conveying what is in the mind with drawing. Later, this word passed into English as “design” (Akdemir, 2011). The meaning of the word includes drawing, sketching, planning and design actions of thought. According to Tom Petes, design is a holistic approach. It involves problem solving, decision making and value creation processes rather than producing a beautiful object (Solomon, 2015). Design is the materialization of the idea with numerous tools and methods and its contact with our senses. In addition, Design is a process associated with knowing and conceptualizing. This process defines intellectual integrity that can be summarized with the concept of Noesis, which consists of four components such as human, matter, form and needs. This intellectual integrity can also be expressed as the transformation of matter in accordance with the needs (Platon, 2000). Processes of processing/transforming matter, creating something out of nothing define Poiesis (Heidegger, 2015). Poiesis is the process of becoming. From this point of view, it is possible to say that design is the activity of the mind in the face of concrete and abstract needs. In retrospect, technological developments that gained momentum with the 20th century, wars, and damage to the economic and social structure caused by wars affected the art and thought environments and led to the emergence of new aesthetic pursuits. The design has started to be questioned with the changing time and environmental conditions. These inquiries brought a different perspective to design. Due to the pandemic encountered in the 21st century, many concepts have been reconsidered. This question title covers design-oriented inquiries. In this context, questions such as “What are the factors affecting today's design? What are the features and qualities that should be in the design? Do design tools affect design and the design process? What will the designs be like in the future?” were asked to the participants.

4.2 How to make?

In his book, Ludwig Feuerbach and the End of Classical German Philosophy, Engels called existence matter and thought spirit. Proceeding from this definition of Firedric Engels, the concept of “making” is associated with the fact that the soul transforms matter in the face of certain needs. Making occurs through the processes of knowing,

conceptualization, and representation. It is a state of action of what exists in the mind in the context of its relationship with design.

It is seen that from the past to the present, the approaches to making are periodically questioned with the changing environmental conditions, and a number of different techniques have been developed. With the development of technology, the use of computer-based tools has become widespread and the methods of making have transformed. This transformation has accelerated with the current Covid-19 pandemic. With the spreading of online working environments, the way of producing has also been subjected to research. In this context, questions such as “How did the pandemic process affect the way they do it? What are the factors that affect the way they do it? What kind of differences can be foreseen in productions based on making in the future?” were asked to the participants.

4.3 How to communicate?

The foundation of architectural design is communication. The important point in design is not to “watch” but to “see/understand” what is being discussed (Gabriel and Maher, 2002). This interpretation is made through verbal, visual and sensory communication. Today, computer-aided technological developments are changing design representations and architectural communication environments. Various design environments have been created with the use of computer technologies in design practice (Chiu, 1998). Along with new communication and computation technologies, virtual design studios have been established in architectural education (Kolarevic and others, 2000). The pandemic process requires these virtual design studios to be reconsidered in the fields of architectural design and application, and to re-establish communication among all participants that make up these environments. In this context, questions such as “What changes have occurred in the communication environments when the pre-pandemic and the pandemic process are compared? How did the changing communication environments affect the educational and practical fields of architecture? What will the architectural communication channels be like in the future?” were asked to the participants.

4.4 How to represent?

The word representation means to represent something abstractly, to be a symbol, to express a concrete example or model, to describe, to represent a situation, to indicate with a picture, to show (Büyük Laousse). Representations are presenting the reality that lives in the mind by using different tools. According to Ayşen Savaş, representation is defined as instruments connected with the unrealized. (Savaş, 2002).

Representation has also been used as a tool to transfer architectural ideas and approaches. In this context, it can be said that representation is the reflection of the design that already existed in the chaos of the mind to reality. Representation in architecture meets different meanings of concrete and abstract due to the tools and methods used. The used tools change as technology continues to develop just like the images that have been created in the mind change. These changes directly affect the productions.

From the very beginning, architecture includes a language of communication and structural methods that enable ideas and ideals to be transformed into forms through technique and technology. Therefore, it is important to re-examine this communication language and representation tools, especially within the framework of current pandemic conditions, depending on the culture and values that have a dynamic in the historical process.

The foundations of architecture are constantly evolving with the goal of expressing different realities and the development of technology. Virtual and augmented reality concepts change cognitive perception and improve production, design and representation methods (Özer, Nagakura and Vlavianos, 2016a). The following questions were asked to participants: How do you evaluate the representation tools of architecture, what changes has the pandemic caused in architectural representation tools, how do changes in representation tools affect design and the way of making, how do you foresee the architectural representation forms in the future?

4.5 How to produce?

Producing is an action expressed with the Greek verb poiein (Kart, 2015). A noun derived from the verb poiein, poietes (maker, producer), represents the specialist who

produces in his field. (Sumer, 1994). At the same time, the verb poiein indicates that making is directed towards a certain purpose in the process. When it reaches the result, it gains meaning and quality. The resultant thing is the poetic, that is, the product.

Nowadays, the methods for the origins of production have changed. The production conditions of the object have lost their Modernist roots and have evolved towards individual/situation-specific developing forms of production. The originality of the object, which is produced as a solution to design problems, is also related to the production process of the object. In this context, specific queries have been made about production methods and future production with this question.

4.6 How to build?

Building is a process based on technical and technological knowledge. There is the knowledge of doing at the basis of human actions that transform something into an object. The knowledge of doing can be explained by the concept of techne, which is prominent in ancient Greek thought. This concept has been used primarily in the sense of talent, skill, and craft, which covers handicrafts. The emerging and prominence of an object all belong to techne which is related to knowledge/knowing. Knowing can be used to see the future of a work before it is formed. It is becoming more and more important nowadays to see how a creation might come into being (to visualize) before it is created. Technology-based software allows us to see all the processes of building something before its physical production. Thus, the question of how it will build has become a question of representation. This representation also includes processes affecting the structure such as structural systems, materials, environmental conditions. Therefore, while building today has a physical response, the future may require an abstract production for technology-based programs before these physical responses. In this case, building can become an expression, such as the actualization of what is already known as a result action. The possibility that building will cease to be a physical response causes the questions of “in which forms and how” to be asked in this study.

4.7 How to educate?

It can be stated that architectural education is the most affected or discussed area among all the factors that form the architectural environment during the pandemic process (Sönmez and Çağlar, 2010; Özer, Yorgancıoğlu and Kavakoğlu, 2016b). Stepping away from the traditional face-to-face education model of architectural education, the content of which has been the subject of many different studies for many years, requires handling everything differently. The distance education system that is inevitably experienced in today's conditions has taken architectural education's characteristics of conversation and the face-to-face evaluation of the works produced to a different dimension. Therefore, the process of advancing design and production studios by means of technological tools necessitated some changes in the conventional structure of architectural education.

The pandemic process has brought up the issues of changing the understanding and perceptions of education and interaction with new tools for both students and academicians. Developing new methods for learning and education in digital environments that are convened through different software can be considered as a necessity in the context of current conditions. It is possible that these methods to be developed will force the pre-pandemic content of education to change. For example, in the context of the past habits of design and production studio environments and theoretical courses, the advancement of these courses does not seem possible in today's distance education system. It is inevitable to bring about content and method changes in every field of education at once. Therefore, it is important how the new course contents and methods for architectural education will be developed. The architecture of the future can be based on the conclusions to be drawn from the inquiries made about education today and in the near future, and their results.

4.8 How to lead?

Leading can be associated with content that can be defined as ethics, personal qualities, practical knowledge, and competence in the professional field (Le Goff, 1996). Considering the field of architecture and all the layers that it contains, the pandemic process envisages the establishment of new collaborations in both educational and

practical fields. In addition, it is necessary to develop new management tools, replace existing ones, and establish managerial perspectives towards the technological/digital one. The question of how the internalization of the changes and transformations experienced will be managed, especially the creation of the ethical contents of the profession, and thus achieving a consistency of the existing untidiness, is an important discussion area in the contemporary architectural environment.

5. ANALYSIS OF THE FIRST PHASE (IN-DEPTH INTERVIEW)

This section covers the analysis of In-Depth Interviews. In this context, the video interviews were converted into text. The texts obtained from the videos were transferred to the MaxQda-18 software and matched with the concepts in the context of subject integrity with the coding method. The concepts obtained are summarized to be analyzed through their contexts in the text (Figure 5.1). These summaries refer to "5.1. Inthe -depth Interview Summaries" section. In addition, in this section, the concepts associated with each document are given as a code map at the end of the document. The first 10 documents cover Academic Educators the next 10 documents include Architecture Educators. At the end of both groups, it was tabulated to examine the general distribution of the concepts over the groups (Table 5.1, Table 5.2).

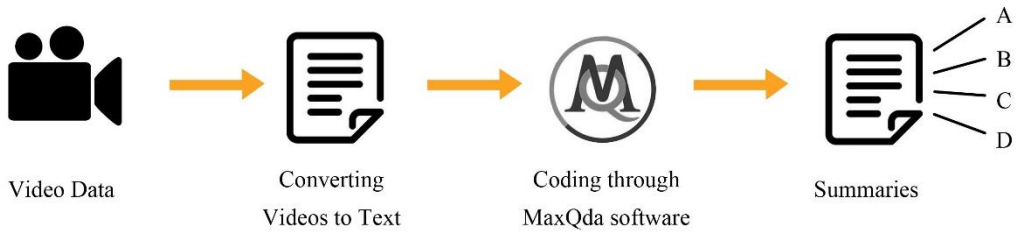

Figure 5.1: In-depth Interview Analysis Stages

5.1. In-depth Interview Summaries

5.1.1. (P1-1) Celal Abdi Güzer

To Murat Sönmez's question about how the process that started with Covid-19 changed and transformed the structure of society, Celal Abdi Güzer replied that the pandemic process is a temporary situation, but this situation creates a new point of view for the society at several points and creates an opportunity for awareness. He stated that it enables us to realize many things that we are not aware of in the rush of days and the lost order *(Rethinking).* In his evaluations in the field of education, he said that there were ongoing problems before the pandemic and the pandemic made it visible. In addition, by mentioning the number of architecture faculties in Turkiye, he argued that the difference between the levels of these faculties and the rise in the number of graduates with the increasing architecture faculties cause unemployment anxiety and future anxiety among new graduates *(Increasing Number of Architectural Faculty), (Qualification), (Increased Number of Graduates), (Unemployment), (Thinking about the Future).* He stated that these problems, which date back to the pre-pandemic period, affect architecture in various areas due to the reasons such as economy, politics, income distribution, ideology *(External Factors that Affect Architecture*), *(Devaluation of Architecture).*

He emphasized that the social distance situation, which emerged as a form of protection against the pandemic, creates an opportunity to focus on the problems, and question the existing situation *(New Opportunities/Changes), (Critical Approach*).

To Derya Güleç Özer's question of what kind of innovations await architecture in case of resumption of face-to-face education, C.A.G. replied that distance education is a simulation of our traditional education**.** He stated that the traditionally ongoing system was tried to be adapted to distance education without updating the education content *(Innovative Approach).* He said that he is against the situation where the education systems of universities are tried to be compared to each other and their history, tradition, number of teachers, campus and location are ignored *(Originality), (Qualification).* He emphasized that architecture includes diversity due to its multidisciplinary nature and that culture, art and intellectual knowledge fall within the background of architectural education *(Intellectual Accumulation), (Multidisciplinary Approach).*

To M.S.'s question of his thoughts on the changes in the curriculum under the influence of increasing schools of architecture, intellectual knowledge and culture was asked, C.A.G. replied through the monotypes of the curriculum and the profile of the academician. He argued that the educational content in universities should be

supported by architects in the practical environment and the education-practice relationship should be supported in this sense *(The Relationship Between Education and Practice).* At the same time, he found the participation of practical trainers in the field of education positive in terms of providing a different critical perspective *(Critical Approach).* He criticized the system established for producing only articles in relation to the academic environment and stated that situations such as the scores received from the article and how many articles were written led to out-of-field studies in the academic environment and this affected the quality *(Qualification).*

To D.G.Ö.'s question about how academic weight should be balanced in practical life, and how do you evaluate academic life, Ertuğrul Rufayi Turan answered saying that the biggest problem of the academy is to remove thought. He stated that it is necessary to be critical and interrogative in academic life and that the closed discourses for discussion, referred to as scientific facts, are discourses that distract people from thinking. E.R.T also said that scientific truth is "current", and thinking is "possible" *(Critical Approach).* In this context, he stated that architecture is not a profession but a discipline with a broad intellectual, artistic, and technical framework *(Multidisciplinary Approach).*

M.S. defined the 4-year education and training period as the entry stage to the profession that enables the student to maintain his/her whole life in the future. In this context, he asked the question of what kind of education should be given to the student during this 4-year period. C.A.G. stated that learning and development continued during the 4 years and later in the office environments. He emphasized that this period is fed by environments such as internships, competitions, biennials, and master's degrees *(Informal Education Environment).* He said that there should be institutional structures in the education system that allow the person to specialize, and that the people who take his expertise can work in their own field of expertise; only in this way, more qualified work will be done *(Qualification).* He stated that there should be environments that provide the opportunity for students to practically experience the knowledge they have acquired during their education process *(The Relationship Between Education and Practice).*

When M.S. talked about his concerns about the 4-year education and stated that he had doubts about whether this short period would be sufficient for the profession to be practiced throughout the student's life, E.R.T. stated that the education and training process was supported by post-university programs in foreign

countries, where a job was not obtained at the age of 20 *(Qualification)*. He also stated that efforts to develop intellectually, apart from professional knowledge, decrease in graduates *(Intellectual Accumulation).*

In the field of interdisciplinary discussion, C.A.G emphasized that the projects carried out over many different items, with too many control and supervision mechanisms, and working with experts from many different fields create problems about the originality of the design that emerges in the final product. He stated that this situation standardizes the architecture and directs the architect to be the product of an unknown collective work *(Originality)* (Figure 5.2).

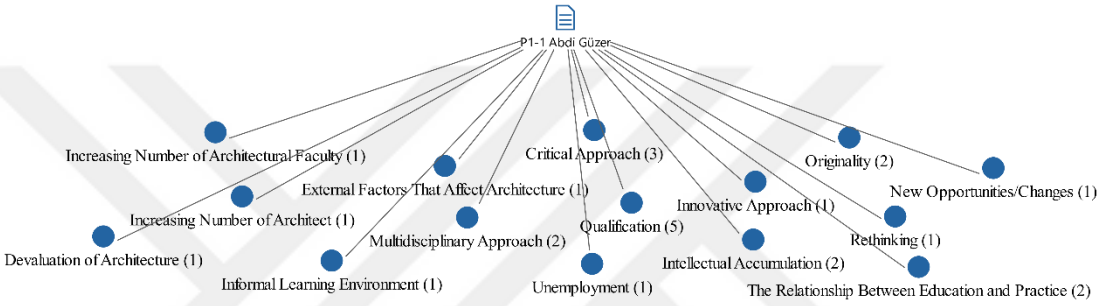

Figure 5.2: P1-1 concept map

5.1. (P1-2) MURAT ULUĞ

To Murat Sönmez's question, how do you evaluate the architectural environment, where many things have changed with the pandemic, Murat Uluğ replied that everything is progressing very quickly, but this speed has somewhat decreased with the pandemic**.** He said that this is a good opportunity to reevaluate some things *(Approach).* He also questioned how active mental performance can be without the act of making, since this process activates mental performance more than the act of making but depending on the fact that many things occur through the act of making. In this context, he mentioned that the quality may decrease in the future and of productions *(Qualification).* He argued that due to physical space restrictions, many mediums are tried to be established through online communication, and this may cause a crisis regarding public sphere. *(Online Communication).* He said that human existence is not based on the present, but on the future, and that the current pandemic

crisis can reveal things regarding the future *(Rethinking).* He also stated that the academy is based on the act of making and that this system may collapse when the act of making is removed.

When Derya Güleç Özer asked if he could explain the "making" part, M.U. answered as the spatial variables affecting the ways of making, and material choices affecting the way of making in terms of environmental approaches *(Environmental Approach).*

Ertuğrul Rufayi Turan said that as in M.U's discourse on the future, humanity focuses on the future, not the present. But he argued that the concepts of making (practice) and doing (poiesis) are things that exist in the moment. He stated that the theoretical part is chronological, and the situation of making has been connected to this chronology later. He said that this is not chronological, but paralogical, that is, an interval that explains the importance of the moment and the decision made *(Thinking about the Future).*

M.U. stated that people can build their own existence by throwing the past and the present moment into the past.

E.R.T. said that the future is sometimes a situation that is imposed on people.

M.U agreed with this view and said that his perspective on the future is an auto-ontological and liberating bond.

M.S, in the discourses about the future, stated that the concept of the future before the pandemic was always considered as a distant situation in perception, but with the pandemic, the distant future and the moment are layered on top of each other. He suggested that the problem of society maybe this stratification of time.

M.U. agreed with M.S when it's perceived combined but argued that it should not be considered combined. He stated that one should not look at the future ideologically and standing against the ideological pressures of the future will bring freedom *(Independence).*

M.S. stated that the future is built with the experiences gained in the past through the example of bread making. Against this view, M.U. said that this situation brings along problems such as owning land and obesity. In this context, he argued that when architecture changes its view of the past, its agenda will also change, and the view on the issue of permanence may change in the future *(Rethinking), (Thinking about the Future).*

M.U. defined the problem-solving moment of humans as the encounter moment of existence to being. He argued that people should distance themselves from their own world and try to understand the environment instead of trying to understand themselves.

E.R.T, gave Borges's cat poem as an example, stating that there is a misleading veil to understand, and that that veil exists in order to not see the world that humanity has reduced to ego. He also talked about the empathy established by Descartes-like thought and said that empathy is finding what is similar to oneself. In this context, he stated that the world cannot be viewed with empathy, and it is necessary to accept that the world does not belong to humans only.

To M.S's question about the evaluation of education based on the situations we have been in so far and are in today, M.U. stated that it is too early to discuss how it will affect the ways of making, but that this crisis will create fruitful initiatives for the future *(New Opportunities/Changes).* He also talked about the relationship of the student with the concepts in the learning process and mentioned that the concepts trigger images. He stated that images are temporary, concepts are timeless, and are composed of images. He advocated that universities should offer a unique education and training environment and that the architectural environment should be open to a critical approach *(Originality), (Critical Approach)*. In his assessment of the pandemic process, he expressed his concerns about being accustomed to remote communication environments creating a number of problems when returning to face-to-face education *(Online Communication), (Distance Education).*

M.S mentioned the importance of the informal education environment regarding the transformation to the physical environment and asked what kind of effects the distance education environment had on architecture *(Informal Education).*

M.U stated that online communication environments could not capture the warmth of face-to-face communication environments, but somehow, this new system was adapted *(Online Communication).*

E.R.T stated that since the border between humans and technology in communication has become blurred, there is no limit to whether humans use technology or technology uses humans *(Technology Integration).*

Regarding the future of architectural education, M.U stated that program-based education will be limited to the program and the future will begin to be designed as soon as this program begins to be demolished *(Rethinking)* (Figure 5.3).

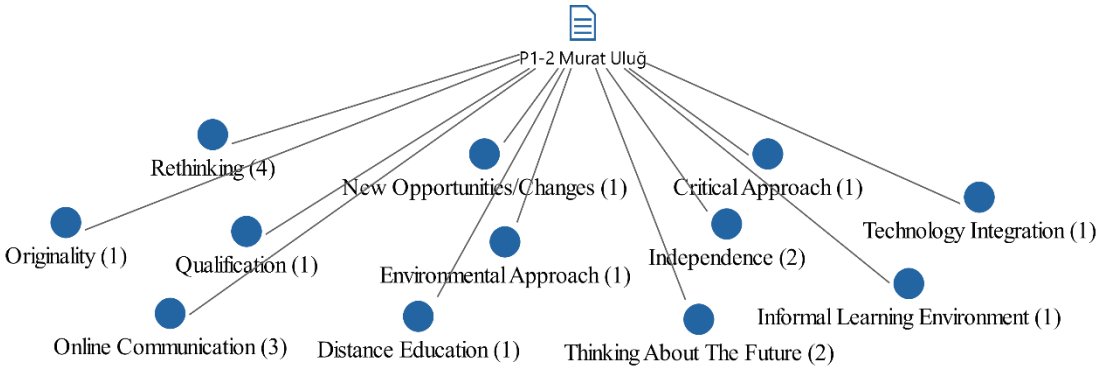

Figure 5.3: P1-2 concept map

5.3. (P1-3) SEMA ALAÇAM

To Derya Güleç Özer's question, how do you evaluate the practice of architecture under the influence of the pandemic, where technological developments are transforming so rapidly, Sema Alaçam answered the dilemma of subject and object. She stated that this was a period in which everything was in interaction and that remote communications were dominant. She argued that distance communication creates physical and digital constraints, and it is mentally impossible to attend two zoom meetings at the same time *(Online Communication).* She emphasized that this situation affects social communications and temporal changes are experienced in daily planning *(Social Relations), (Temporal Planning).*

To D.G.Ö's question, how do you explain performance-based design, S.A stated that performance is a state of formation through something, and this thing could be the object's own internal relations or external forces. Through Kolarevic's definition of "Performative Architecture", she said that architecture is a system that seeks answers to the questions of how it will respond and adapt to variables such as the social and cultural environments and technological developments *(Environmental Approach), (Technology Integration), (External Factor that Affect Architecture).* She emphasized that a holistic and multidisciplinary approach should be approached in performance evaluations and that an increase in one performance should not negatively affect another performance in another field *(Multidisciplinary Approach).*

D.G.Ö mentioned the importance of climatic performance and stated that ignoring the climate causes the formation of standardized structure stock *(Originality)*. Considering these climatic data, she questioned the relationship between the reflection in the design and the quality of education *(Qualification)*.

S.A emphasized the importance of recyclable productions in building design and talked about innovative design goals that allow reuse in different ways, both as a material and as a structural system *(Innovative Approach).* Talking about the air circulation problem in shopping malls and the problems in indoor/outdoor space setups in residences, she stated that the quality of the building is based on performance *(Qualification).* She mentioned that it is necessary to not think singularly while designing and that it is necessary to design by considering its relationship with various fields *(Multidisciplinary Approach).* She also emphasized that the sustainability of the design should be considered *(Environmental Approach).*

D.G.Ö asked about the content of the structural and material-oriented works exhibited at the "Pop Press" event.

S.A stated that this process started with studies on how to solve design problems with algorithmic approaches. She also said that this technology, it is aimed to integrate different performance values that affect the design and construction process in the early stages of the design *(Qualification), (Environmental Approach), (Technology Integration).* She said that they worked on how to transform the existing structures in a performance-oriented manner, and at this stage, the advantages and disadvantages of using the BIM model, which is one of the technological tools, were evaluated *(Technological Tools).* She explained that during this process they were working on different possibilities and experimenting with the use of different materials together *(Originality).*

D.G.Ö asked whether the stage in which different materials were used was to strengthen structurally or to pass structurally wide opening.

S.A. said that they aim to test the possibilities of using materials in designs with algorithmic calculations and they examine how the load-carrying capacity of material changes when it differs in form *(Rethinking), (Critical Approach).*

D.G.Ö talked about the lack of competition in the field of materials and production and asked how robotic technologies and 3D printers contribute to production *(Competition)*.

S.A stated that the possibilities of 3D printer technology have not yet been fully accepted and expanded in all areas. However, she noted that with this technology, it will be an advantage to produce in situations and environments that exceed the limits of human power, and this technology will become widespread *(Technology Integration), (Technological Tools), (New Opportunities/Changes)* (Figure 5.4).

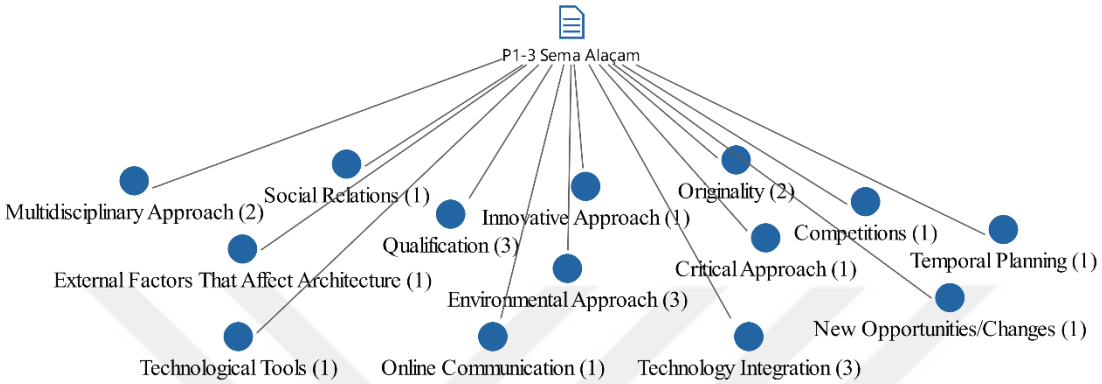

Figure 5.4: P1-3 concept map

5.4. (P1-4) HAKAN SAĞLAM

Murat Sönmez stated that the distance education environment was first seen as an opportunity, but over time, it caused the disappearance of interaction environment *(Social Relation), (Distance Education).* In this context, he asked Hakan Sağlam about the positive and negative aspects of the current situation of education.

H.S stated that students were prepared for the distance education process in the context of the bond they established with technology. He said that the aim of architectural education is not to give much information, but to provide the key to knowledge, and that this key can open countless doors with the digital world *(Technological Tools), (Technology Integration).* However, he said that it has negative effects on socialization. *(Social Relation).* He stated that practical fields such as architecture are not just informative education and sharing the environment physically is necessary *(Face-to-Face Education).*

M.S said that the pandemic may cause some fractures in the future *(New Opportunities/Changes).* **He stated that distance education environments can be maintained even after returning to face-to-face education, and that the content of education should be rearranged accordingly** *(Blended Education), (Rethinking).* **In this context, he asked what the educational environment would be like in the future.**

H.S stated that with the development of technology, it was previously known that information could be transmitted through technological tools, but who presented this information and how has become important today *(Qualification).* He stated that the education process starts with assistantship and continues throughout the professional process and require 30-40 years. He noted that distance education is developing quite quickly and there is a lot of ideas formed about this situation. He said that this complexity of ideas needs time to become clear.

M.S stated that architecture should re-establish cooperation with several disciplines and said that the relations with technology should be developed *(Multidisciplinary Approach), (Technology Integration).*

H.S, citing Vitruvius, stated that architecture should reconsider its relationship networks in the context of the period it is in. He stated that in today's architecture, it can be invisible due to its relations with several fields, but eventually, it is required to work together.

M.S, summarizing H.S's statements, stated that the education system should establish its own unique system, technology has an important place in education, and interdisciplinary relations are significant, and asked if there was anything else he wanted to add. H.S talked about the significance of morality and stated that architecture has numerous responsibilities in the background and that morality is important in this regard.

To M.S's question, what are the points that are considered to be the collapse of architectural ethics, H.S has said that the most basic goal of the architect is to explain oneself. He stated that in the process of self-expression, one must work with and among people, and that morality is important in this process. He emphasized that education can be obtained in countless fields, but there is no education on morality.

M.S asked the question of how the architect profile should be.

H.S, stated that the architect should be an intellectual *(Intellectual Accumulation)* (Figure 5.5).

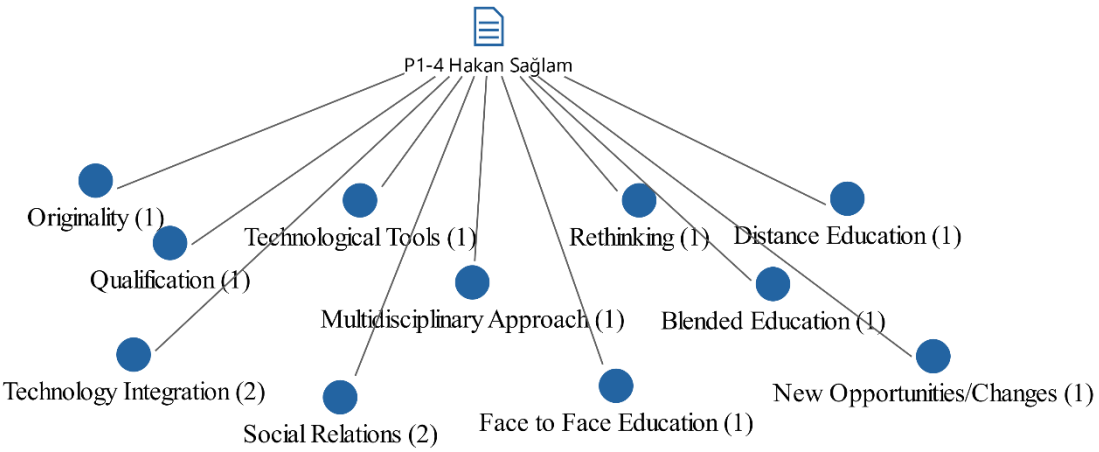

Figure 5.5: P1-4 concept map

5.5. (P1-5) MURAT GÜL

To Murat Sönmez's question about how you evaluate the architectural phenomena in today's conditions, Murat Gül replied that there are both overlapping and diverging sides of what is happening on Earth with our country. He argued that sometimes there is a lack of professional flexibility since architecture is a profession with old traditions and ancient rules. He mentioned that technological developments could be followed professionally in the last 10-20 years, but this situation has changed today. *(Technology Integration), (Technological Tools*). He stated that this situation may have been affected by changes in social structure and behavior patterns *(External Factors that Affect Architecture).* He indicated that developments on a global scale should be followed *(Innovative Approach).* He stated that reaching up to social life in the global sense is realized under the influence of many economic, political, and technological factors *(External Factors that Affect Architecture).*

M.S emphasized the increasing architectural schools and standardized education programs and asked how he evaluated architectural education in this context.

M.G stated that the increasing number of architecture schools brought along the necessity of questioning the educational content of the schools *(Increasing Number of Architectural Faculty), (Qualification).* He said that the education programs for the schools that have been opened should be customized and provide diversity in the

architectural environment *(Original Content).* He stated that TOBB ETU has adopted innovative approaches in this regard *(Innovative Approach).*

M.S stated that M.U gave lectures in many different countries and did his doctorate, and in this context, asked about the main differences between architectural education in Turkiye and other countries.

M.G mentioned that the countries he lived in are in a culture that is affected by numerous economic and political factors, and looking at Turkiye, it has a dynamic structure that is affected by these factors, as well. For this reason, he said that a general definition is not possible. He emphasized that the advantages of globalization brought standardization at a certain point and prevented originality in the education system *(Innovative Approach), (Original Content).* He said that in many countries there is no need to be an architect to practice architecture, only to use the title of architect a diploma is needed *(Qualification).* He stated that in the past, universities had certain styles and this situation provided diversity, but today this diversity started to disappear over time *(Originality).*

To M.S's question of how Covid-19, which affected the whole world, affected the field of education and whether this effect was the beginning of something, M.G said that before the pandemic, with the digital age, there were some inquiries such as distance education in the field of education. He stated that timid approaches have come to an end with the pandemic and that the pandemic accelerated this process *(Online Communication), (Distance Education).* He said that the global spread of distance education through a global situation creates equality, but this system is not sustainable. He argued that the rapid transition to distance education caused panic, but a solution was quickly reached, and the system worked *(Technological Tools).* He said that students had the fastest adaptation in this process *(Technology Integration).* He stated that this rapid adaptation is not sustainable in the context of course content and practical courses cannot fulfill the requirements in distance education as they did in face-to-face education *(Distance Education), (Face-to-Face Education).* He said that habits from the past are unlikely to change immediately, but the experience in this process may bring along new opportunities in the future *(New Opportunities/Changes).*

M.S stated that he thinks that the success achieved in distance education is not due to the education system, but to the student's good relations with technology *(Technology Integration)* (Figure 5.6).

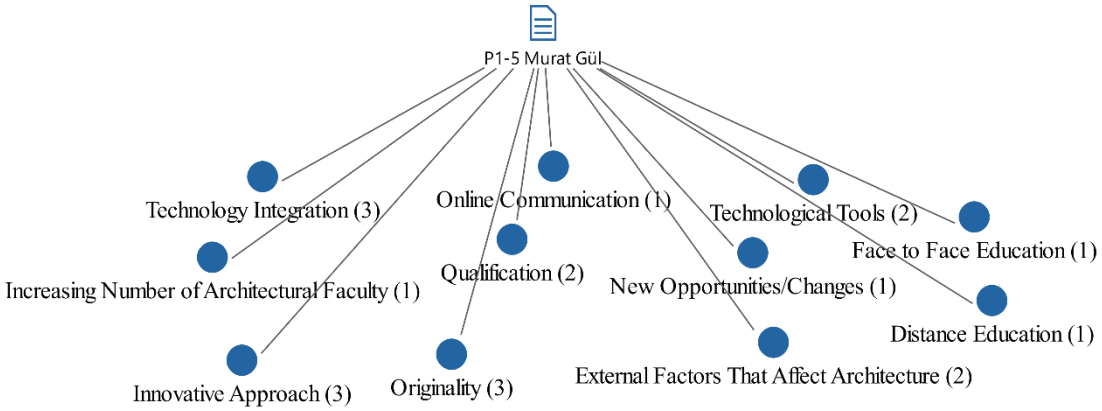

Figure 5.6: P1-5 concept map

5.6. (P1-6) NUR ÇAĞLAR

To Murat Sönmez's question, what is your general evaluation on architectural education and practice and how do you evaluate architectural education in our country in an academic context, Nur Çağlar said that there has been no change and that no exposure to innovation in general. She also mentioned the existence of a long-standing situation on a global scale *(Innovative Approach).* She said that the whole world has a heterogeneous structure in terms of quality, but Turkiye is also at the forefront in terms of quantity *(Qualification).* She stated that the increase in the number of schools was high and, accordingly, there was a significant increase in the number of graduates *(Increasing Number of Architectural Faculty), (Increasing Number of Architect).* She emphasized that this increase led to debates on unemployment and originality in the education system *(Unemployment), (Originality).*

To M.S's question, how do you evaluate the practice of architecture, N.Ç said that there are two types of architecture, one of which covers continual habits, and the other covers a conventional structure that is being formed. She stated that the distinctions between them are due to the different objects, production styles and materiality. She argued that these two situations sometimes conflict and reconcile, but in general, they are subject to an evolution at their own pace and rhythm with technology *(Technology Integration), (Technological Tools).* She mentioned the existence of an evolution that

goes on in its own process, since productions are made in professional, practical, and thought practice, and they interact with each other in the process, but do not cause great innovations.

M.S mentioned the existence of chaos and multiple discourse in the architectural environment and stated that there is a homogeneous structure opposite to this situation in terms of education. He also talked about the "Winter School" project that N.Ç implemented against this homogeneity and asked about the effects of this situation on differentiation *(Originality).*

N.Ç stated that this project was founded to reveal new initiatives that will contribute to education and that it is an alternative school system *(Informal Learning Environment).* She emphasized that it is a project with numerous participants from various schools and aimed to break the strict 14-15 week period of education *(Innovative Approach), (Social Relations).* She stated that these are the aims of overcoming the existing order *(Independence).* She stated that establishing the Department of Architecture at TOBB ETU was the right decision and that it contains areas of freedom *(Innovative Approach), (Independence*). She stated that the Winter School project, which was executed experientially by a group from Gazi University, contributed to the preparation of TOBB ETU's curriculum. N.Ç also talked about the education system of TOBB ETU and mentioned the positive aspects of providing education for 3 terms throughout the academic year with 11 terms in school and 3 terms in practical environments *(Originality), (The Relationship between Education and Practice*). She stated that they aimed to develop students in various fields within the education process and to provide diversity after graduation, and they achieved this in the last 5 graduate group *(New Opportunities/ Changes).*

M.S asked what kind of problems this new system, established at TOBB ETU, was created as a solution to.

N.Ç stated that the course contents and durations are an idea that was emerged from the necessity of creating an integrated structure when the overall system is considered. She said that it is aimed to ensure that the course hours are sufficient, necessary, and are integrated with other courses. She argued that certain content does not need long periods during the education phase, and it should be integrated with the practical environment. She referred to the difficulty of breaking the molds of the education system *(Innovative Approach), (The Relationship between Education and Practice).* She emphasized that this situation also contributes to the process of internalizing the

acquired knowledge and improving the intellectual level of the student *(Intellectual Accumulation), (To Internalize Information).* She stated that shortening the courses of unnecessary length will create personal space for students and educators, and it is aimed that this space of freedom will be reflected in the course contents *(Independence).* He mentioned the importance of keeping up with the pace in an environment where everything changes and develops very quickly *(Innovative Approach), (Technology Integration).* She stated that while teaching at TOBB ETU, attention is paid to creating original content and this has important effects on student motivation *(Originality), (Motivation/Concentration)* (Figure 5.7).

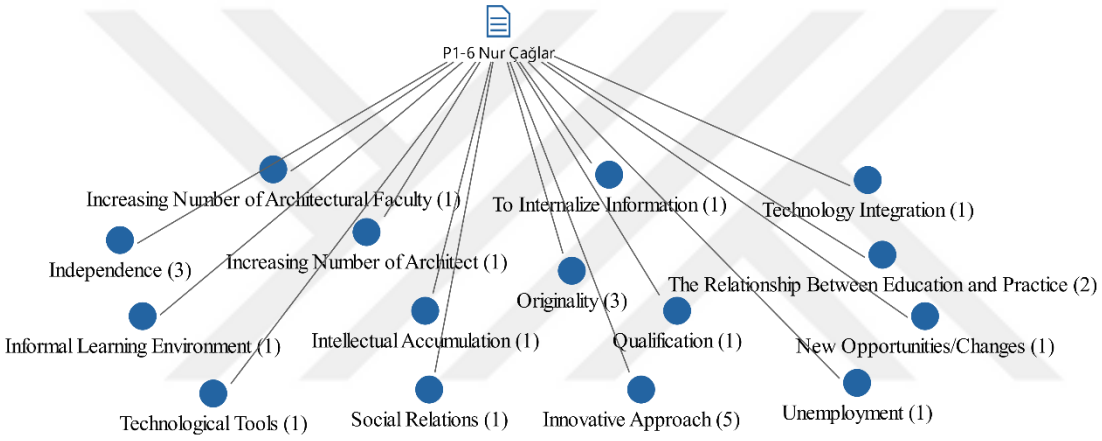

Figure 5.7: P1-6 concept map

5.7. (P1-7) MURAT GÜNAYDIN

To Derya Güleç Özer's question, how do you evaluate the situation we are experiencing with the pandemic, Murat Günaydın said that he thinks it caused the awareness of not being independent of the environment *(Environmental Approach).* He stated that he thinks an awareness was raised and the perception was changed with the virus affecting the whole world *(Rethinking).*

To D.G.Ö's question, what is ethics and whether it is different from physical condition and morality, M.G. replied that ethics and morality are considered together, but they actually have different meanings. He stated that morality is a situation that

may differ from society to society and from neighborhood to neighborhood, but that ethics has a universal frame whether it be written or unwritten *(Ethic).*

To D.G.Ö's question, that ethics corresponds to living truthfully in a book and what is the content of the concept of truth here, M.G replied that humans are at the top of the pyramid among living things in terms of thinking, perception and awareness. The civilization established to maintain life, defined the search for ways to reproduce and live more comfortably as a game. He emphasized that architecture, law, and economy are also a part of this game. He stated that as this game developed, unity and the ability to do business together improved and integration increased (*Multidisciplinary Approach*). He defined the reason for searching new possibilities regarding life as this game *(New Opportunities/Changes), (Technological Tools), (Technology Integration).*

M.G also said that he considers those who lived in the past as indispensable to the life we live in today. He stated that those in the past laid the first foundation of civilization and today's world is built on that foundation *(Thinking about the Future), (New Opportunities/ Changes).* He said that ethics is an effort to optimize these rules *(Ethic).*

When asked by D.G.Ö how we can be ethical, M.G stated that the criterion of being ethical is measured by virtue, and emphasized that the more fair, loyal, gentle and honest one can be, the more virtuous and ethical one will be *(Ethic).* He stated that in the case of personal ethics, one should question oneself through situations such as happiness, satisfaction, and capacity. *(Critical Approach).* He explained that one's happiness and enjoyment of life should be evaluated based on 4 criteria. He stated that the first of these is mental and physical health, the second is having a pleasant and good time with family and friends, the third is doing something properly for the society with pleasure, and the fourth is contributing without harming the environment *(Environmental Approach).*

When asked by D.G.Ö, what do you think about the situation of continuing a profession without loving it because of the need to earn money to maintain life, M.G stated that it is necessary to leave the job when the opportunity to quit and leave present themselves, and to be love the profession when it cannot be left *(Thinking about the Future)* (Figure 5.8).

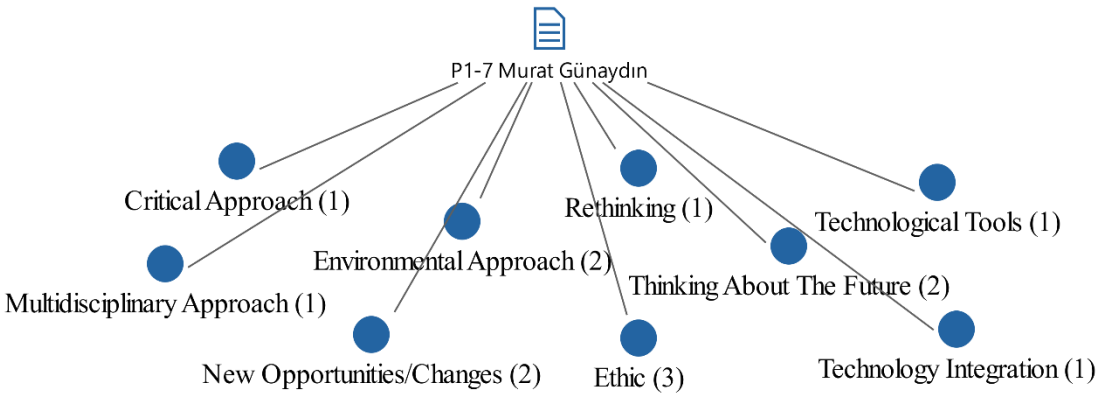

Figure 5.8: P1-7 concept ma

5.8. (P1-8) ATİLLA DİKBAŞ

To Derya Güleç Özer's question, how do you perceive today's architectural education, Atilla Dikbaş replied that he thinks that the 4-year architectural education is insufficient, and students graduate without gaining enough experience in the practical field *(Qualification).* He stated that architectural education should be supported by internships and that at the end of 4 years of education, internship activities should be resumed as a continuation of education *(The Relationship between Education and Practice).* In this context, he argued that the education period should be 5 years. He also talked about the idea of measuring the quality of graduates with certain examination systems *(Qualification).*

D.G.Ö stated that architectural education is to provide a certain culture and not to train a professional person, and it includes a wide spectrum such as music and art. She asked how the problems experienced in the practical environment and the adaptation process could be included in the education.

A.D answered through the faculty of architecture he founded, stating that internship and practice areas must be included in education, and talked about the importance of technological developments in education, as well *(The Relationship Between Education and Practice), (Technology Integration), Technological Tools).*

To D.G.Ö's question, what do you think about the 4+2 year model, A.D mentioned the integrated doctorate program and stated that the existing university models were examined before establishing the university. He stated that education should offer

opportunities in certain areas of specialization and that they offered an integrated master's program, similar to an integrated doctorate program. Thus, he explained the idea of training for 2 more years on specialization along with 4 years of education *(Innovative Approach), (Multidisciplinary Approach), (Environmental Approach).* He stated that this includes a system such as the fact that a person who receives a diploma at the end of 4 years of education, takes a 2-year specialization training and at the end of this period, takes a proficiency exam. While interrelated disciplines has the opportunity to be educated together in the first 3 years of this education process, he also mentioned the possibility of changing fields at the end of the first year *(Multidisciplinary Approach), (Originality).* He emphasized that this model was prepared by considering the factors affecting education throughout the country, rather than adopting a system that already exists elsewhere *(External Factors That Affect Architecture).* At the end of the 4-year education, the graduates have the opportunity to receive master's degree from other universities if they want to advance ins academy, while if they want to continue in the practical fields such as restoration and construction law, they are provided with expertise *(Qualification).* A.D, giving examples from his student years, stated that he was successful in the static courses he took, but had difficulty in establishing a connection with the field of application. He emphasized that he attaches importance to strengthening the communication between these two with this department he established, and stated that, in this context, the output of a course taken constitutes the input of another *(The Relationship between Education and Practice) (Multidisciplinary Approach).*

A.D noted that the literature review was given importance during the education phase and that the problem area emerged as a result of these reviews *(Intellectual Accumulation), (To Internalize Information).*

To D.G.Ö's question, can you elaborate the Integrated System Design course, A.D, said that in the Interdisciplinary Studio II course, the project was controlled jointly with the municipality, and that the Integrated System Design course began after this course. He stated that the output obtained from the Interdisciplinary Studio II course is the input of this course. He explained that this course was a follow-up study including the detailed solutions of the project, the estimation of the quantity, the preparation of the contract, and with this course, the students were provided with a simulation of what they can encounter in the practical field *(Multidisciplinary Approach).* He emphasized that technological developments are significant for the

education process and that it is important to include technology in education. He emphasized that BIM-based program knowledge is compulsory in education *(Technology Integration), (Technological Tools).* He stated that in the case of switching to distance education during the pandemic period, no difficulty was experienced in terms of technological relations *(Distance Education).*

When asked by D.G.Ö, whether you see architectural education transformed by the pandemic as an evolution or a revolution, A.D. replied that he deems face-to-face education necessary *(Face-to-Face Education).* He stated that there were difficulties even in face-to-face education in the first year for those who have just started architectural education, but numerous other courses were easily adapted to the distance education model *(Blended Education), (Distance Education).* He emphasized that it is important to physically be together because the student has an informal education environment at school *(Informal Learning Environment).* He noted that the rate of distance education may rise depending on the development of technological tools and the increase in their usage rates *(Technological Tools), Technology Integration).* He also argued that technology can reveal new opportunities *(New Opportunities/Changes).* He stated that it is still early for this situation as the low number of academicians in universities has not been resolved *(Qualification).*

D.G.Ö stated that in Istanbul, compared to many universities in Anatolia, there are channels where students can improve themselves outside the educational environment. In this context, she stated that online communication environments facilitate access to informal education environments *(New Opportunities/Changes), (Informal Learning Environment).* **She stated that with distance education, the situation of students developing their designs over models has changed.**

A.D stated that three-dimensional modeling was taught in the third grade and that the model had an important place in architectural education. He emphasized that it will be difficult for technology to replace the model even when this process is started to be handled with VR glasses *(Face-to-Face Education).*

D.G.Ö asked how the architect profile should be in the future.

A.D emphasized that the general problem of architecture occurs at the point of making a production with different disciplines. In this context, he said that it is important to produce projects in coordination with different disciplines and with the cooperation of experts in the production process in terms of reducing the margin of error

(Multidisciplinary Approach). He said that this collaborative situation should be introduced in the education phase.

D.G.Ö asked whether the practical courses of students affected their creativity in design *(Independence).*

A.D. explained that the structure lessons did not affect the creativity of the students but made them consider how their designs could be transported *(The Relationship between Education and Practice).*

A.D, He stated that the Integrated System Design course had couple of difficulties. He said that the first of these is the ability to use the BIM-based Revit program effectively and the second is the ability to execute projects in coordination with people from other fields *(Technological Tools),(Multidisciplinary Approach).* He emphasized the importance of an interior designer and architect to working together on the BIM data cloud *(Technology Integration).*

D.G.Ö asked how A.D evaluated the education in terms of increasing quotas and decreasing admission scores.

A.D, stated that the increase in the number of architecture schools and quotas is a problem. *(Increasing Number of Architect), (Increasing Number of Architectural Faculty).* He argued that the quotas should be reduced in cases where the newly opened schools can no longer be closed. He emphasized that the focus should be on the content and diversity of education *(Qualification)* (Figure 5.9).

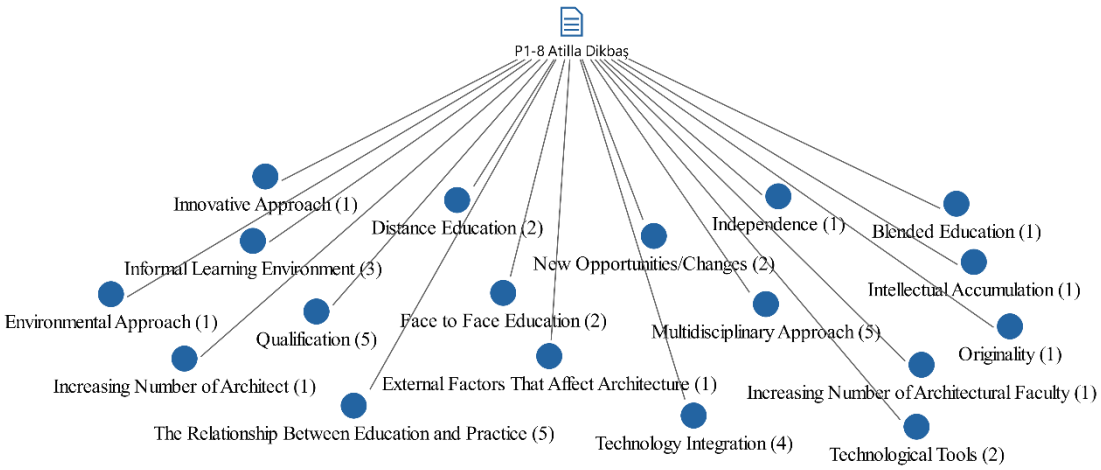

Figure 5.9: P1-8 concept map

5.9. (P1-9) AYHAN USTA

To Murat Sönmez's question, how do you evaluate the society of present time, Ayhan Usta answered that it is necessary to understand what society means, because society includes various conditions such as architecture, art, and production. He mentioned Deleuze's classification of society and explained Biang Chuang's definition of Performance Society. He defined it as the obedient subject of the Performance Society in disciplinary society *(Critical Approach).* He mentioned the existence of a libertarian individual, but also a society in which it is common to use this liberty voluntarily to gain status *(Independence).* He stated that approaches such as employee of the month, student of the month direct the society in this way. He emphasized that measuring an individual by his performance reflects the capitalist order. He mentioned that with the digital age, the number of likes is seen as an element that determines the quality *(Qualification).* He stated that to comprehend the current situation, it is necessary to stop, take a break, and understand what is going on *(Rethinking).*

M.S, said that the person who receives plenty of likes does not mean that he is more qualified, this situation causes illusions on the quality. He asked A.U of his position in the social structure.

A.U. noted that he finds the state of perceiving life to be related to how the person constructs their own existence and defines performance for themselves *(Critical Approach).*

When asked by M.S, what are the foundations of your own mentality, A.U stated that he tries to exclude himself from the performance community. In this context, he said that he is trying to execute academic and practical life together**.**

M.S, emphasizing that productions and ideas ceased to be public goods and turned into a structure related to capital, asked how the universal character of architecture was defined *(External Factors that Affect Architecture).*

A.U stated that architecture is the relationship between human being and their environment, and no one sits at a desk and seeks solutions to these problems, and this only becomes possible in line with the demands *(Environmental Approach).* He emphasized that such needs should be served to, but this service should not be servitude and should include freedom and originality *(Qualification), (Independence), (Originality).* He noted that architecture is a representation, and in this sense, what it

represents against external factors gains importance *(External Factors that Affect Architecture).*

M.S, said that with the developing technology of the day, the image gained importance and the image that emerged in a corner of the world affected architecture rapidly. In this context, he stated that architecture has become standardized and lost its originality *(Technology Threat), (Originality).*

A.U noted that several architectural offices offer variety of works but are associated with one work and stated that this situation is shaped by demands. He emphasized that demands are a factor affecting the quality of the work and an architectural environment was created where quality is defended through individual works. *(Qualification), (External Factors that Affect Architecture).*

M.S.'s question of where education stands in this social structure and architectural environment, A.U defined the rapid pervasiveness of the architectural environment based on the images as "memepool". He stated that he sees this memepool as the Covid-19 of architecture *(Technology Threat).* He said that the important thing in this situation is to teach the ability to think.

Based on Patrick Schonmeier's discussion, A.U stated that architectural education is not about educating people who can draw and render well for offices but is about training architects who focus on world problems such as climate and migration, who can think about it and produce accordingly *(Environmental Approach), (Thinking about the Future).* He said that the main point is not to learn the profession, but to learn to think *(Critical Approach), (Rethinking).*

M.S, in this context, stated that there should be a regulation in the education system.

A.U said that he stopped discussing this issue due to the frequent changes in the education system. He stated that it became important which educator the student encountered during the education process *(Qualification).* He argued that the effort to fix the system should be abandoned and should be worked on providing an efficient education to the student. He mentioned the necessity of raising architects who can think, think critically, and have an environmental approach *(Independence), (Critical Approach), (Environmental Approach).*

When asked by M.S whether the process experienced with the pandemic can cause good things in architecture in the future, A.U said that he thinks that the pandemic may cause social structures to be reproduced and to be questioned again in

the context of cultural relations *(Rethinking), (New Opportunities/Changes).* He said that the pandemic may have an impact on the spatial solutions of architecture *(Rethinking).*

M.S stated that even if the pandemic does not make radical changes on regards to the future, it will cause re-questioning the existing matters *(Rethinking).* **To the question of what this situation contributed to you as a person who is in the field of practice and education,** A.U answered as it allows you to contact countless people and touch their lives.

M.S indicated that this is to create an awareness towards a world that is not based on performance *(Critical Approach).*

A.U noted that the concept of "awareness" is very important. He said that what was done was not to touch, but to provide an awareness, and that the students should do this according to their own will.

M.S said that the important matter is how people distinguish themselves from others and how they create a space for themselves. He said that they should be able to share their thoughts and express themselves in their own words in environments of competition *(Competitions).*

A.U said that a qualified job should be able to tell a story, find a problem and offer a solution to it *(Qualification).*

To M.S's question, what position architects and students should be in the conditions of existence, A.U said that, firstly, they should not lose their faith and be hopeful for the future *(Thinking about the Future).*

M.S stated that one should not focus solely on architecture but should develop oneself intellectually and along with one's social relations *(Intellectual Accumulation).*

A.U mentioned cultural values on this subject and argued that in today's architecture, the cultural accumulation of students has weakened *(Intellectual Accumulation*). He said that an architecture based on images remains when the informal education environment disappears *(Informal Learning Environment)* (Figure 5.10).

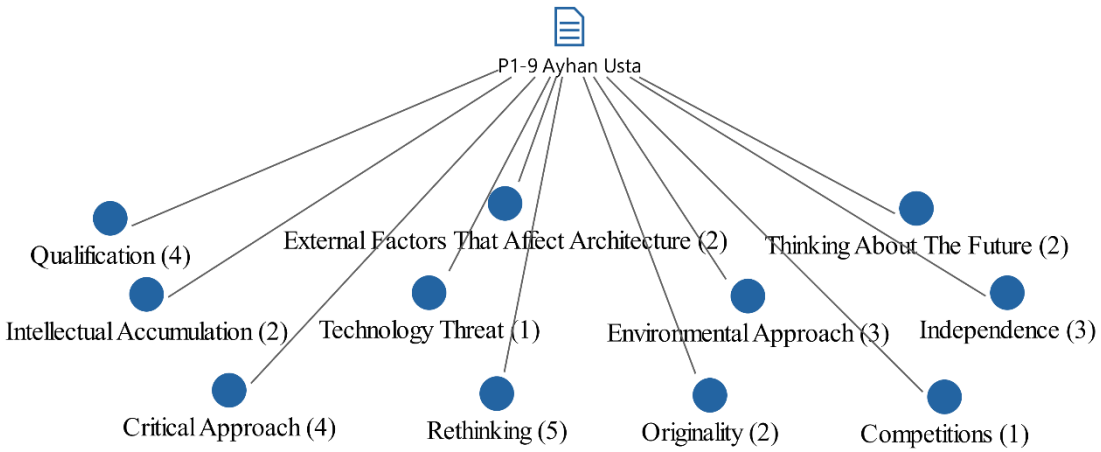

Figure 5.10: P1-9 concept map

5.10. (P1-10) ADNAN AKSU

Murat Sönmez defined production in terms of perceptions and actions and asked Adnan Aksu what kind of understanding and thought he had towards the architectural phenomena.

A.A, stated that the question "how" alone would not be sufficient, and it should bring many "wh-" questions with it. He said that architecture has numerous problems in education and practice and these questions have not been answered yet. He stated that there are great injustices in the world and that if they were to be resolved, a great chance would present itself for the world. He emphasized that there are environmental and social problems.

M.S asked if A.A had said "Stop, Take A Break" in the context of Tom Robbins expansions and whether this was a form of motivation to understand the present.

A.A, talked about the existence of injustices and how everything is experienced and consumed very quickly. He stated that it is necessary to rethink critically to prevent this flow and understand the world and what is going on with the motto "Stop, Take a Break" *(Rethinking).*

M.S said that the results of today's insights and actions will lead people to the future. In line with these insights, he asked how the studio processes were evaluated.

A.A, stated that the university and the office should be intertwined, and this would create new research areas. He noted that this unity generates an experimental space, and the foundation of architecture is based on these experimental spaces *(The Relationship between Education and Practice).* He said that with the pandemic, forms of communication are conducted through technological channels *(Online Communication).* He noted that the younger generation is more successful in integrating with technology *(Technology Integration).* He emphasized that technology develops rapidly, and this affects social life *(Technological Tools).* He stressed that in today's conditions, one should no longer be interested in what architecture is and what it will be but should focus on the question "What should an architect be?". He said that there should be rebellious architects against the deteriorating order, and this should be internalized *(Critical Approach), (To Internalize Information).*

A.A said that until modernism, knowledge was internalized and turned into an object, and the nature of work deteriorated with the introduction of representation into the production stage. He said that with the representation, the productions started to be realized in the representational area *(Qualification), (To Internalize Information).* He noted that this situation caused the separation of designer and the producer. He stated that in today's conditions, architecture is made in a representational area and then transferred to another stage in which the design would be transformed into the physical environment *(Technology Threat).*

M.S said that with the disappearance of the physical environment conditions, the forms of communication were provided through a screen and, accordingly, the forms of representation experienced a transformation *(Online Communication).* **He asked how the technological tools that caused this situation were evaluated in this context.**

A.A, said that it is necessary to adapt to the digital environment and not to split from evolution. He explained that there are continuous revolutions in life and, the continuity of these revolutions is evolution. He stated that it is necessary not to break the connection with the past and that it is necessary to establish the world by looking to the future. He mentioned the importance of digital tools and, that the possibility of this situation depends on digitality *(Technology Integration), (Technological Tools), (Thinking about the Future)* (Figure 5.11).

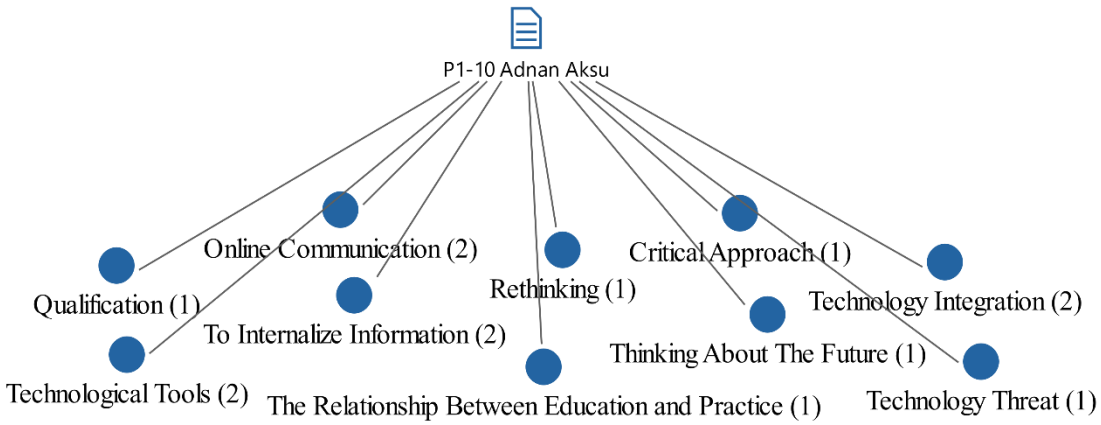

Figure 5.11: P1-10 concept map

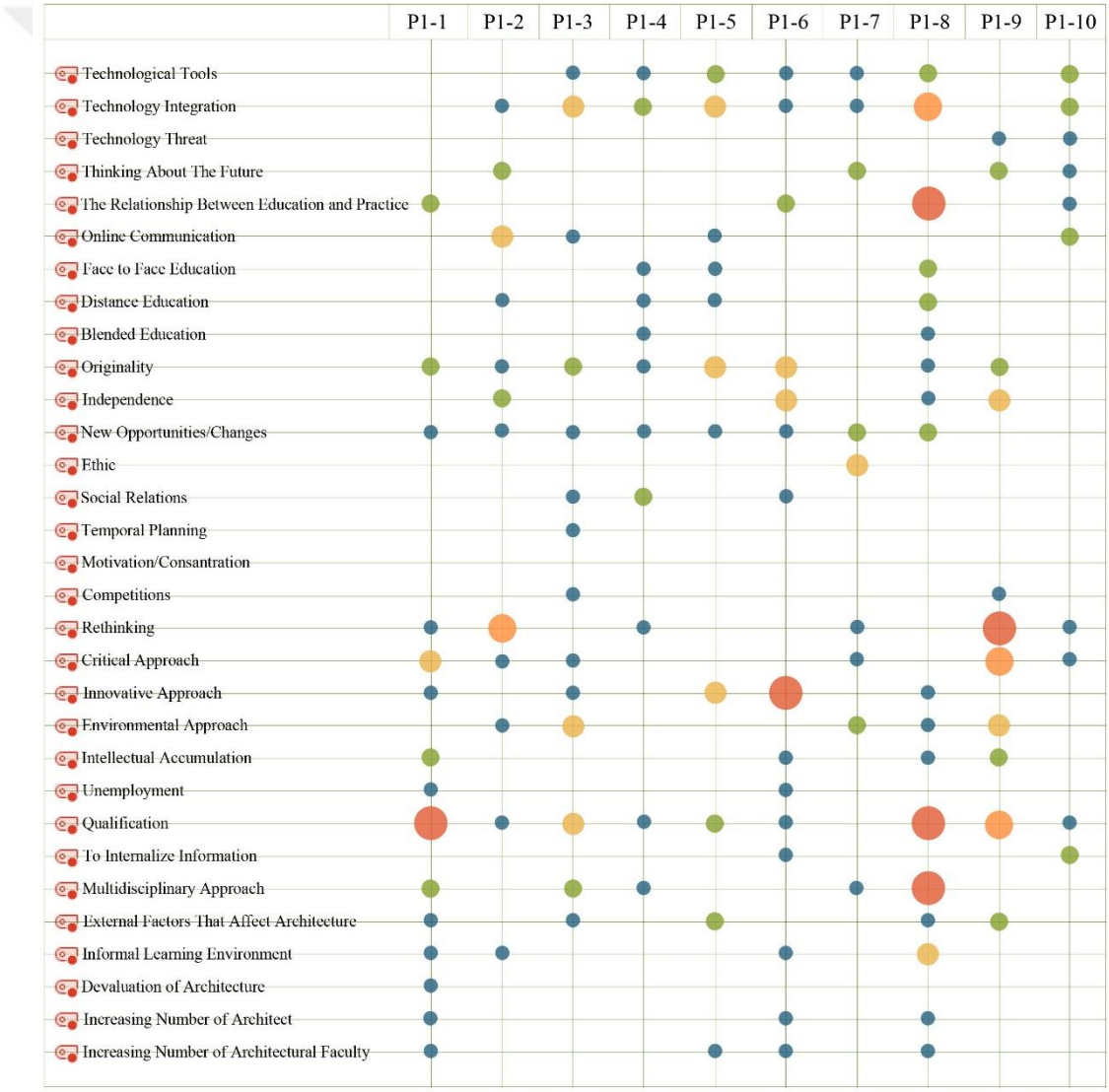

Table 5.1: (Academic Educator) Concept map of the P1 group

5.11. (P2-1) BEGÜM YAZGAN-KEREM YAZGAN

To Murat Sönmez's question, how do you evaluate today's architecture and how your thoughts and productions are affected, Begüm Yazgan answered as by first breaking down the problem and trying to comprehend it, and later creating a form of association. She said that they first try to understand the subject and then examine the form of associations made *(Critical Approach).*

Kerem Yazgan noted that in a period of brutal capitalism, they are trying to produce something different.

When asked by M.S, whether architecture is a part of this brutal capitalism, B.Y replied that in order to challenge brutal capitalism, it must first be understood. She stated that in a multinational project, they primarily focus on understanding the forms of association and that it is necessary to determine the type of relationship to finish the job. She said that in the formation phase of the design, they determined what kind of relationship the actors, materials and components should have with each other.

K.Y, said that they were both inside and outside of the design and that is why their office was named "Tangent". He stated that they are inside the production, that they are thinking of improving the production because this feels right, but they also respect those outside of it *(Qualification).*

M.S summarized this approach as follows: nowadays, when architecture is part of the global capital, they aim to develop architecture in response by producing. M.S stated that he considers production as one of the ways to oppose the system and considered production of space as a means to find a way to confront the system. In this context, he asked the question, how do you evaluate production.

K.Y defined production as conducting research. He said that production is made to understand. He stated that when trying to complete a work, the work was developed, and this is the definition of production *(To Internalize Information).*

B.Y stated that they see this as a problem through the example of Covid-19, and they try to understand and produce a solution. She said that this situation created a system, and it was aimed to find a solution together with "Teamwork" *(Multidisciplinary Approach).*

M.S asked whether to produce is to make a design or to develop a method of design.

K.Y, stated that they are seeking to develop a method. He said that when completing a work, it is his goal to execute in a way that will contribute to that profession. *(Ethic), (Qualification).* In this context, he mentioned that production has expansions such as research, contribution to the profession and self-development.

M.S, asked if they could give an example of their work with the background they mentioned.

B.Y, said that she did studies on systemic ecology during her doctorate. In this research, she stated that in order to develop a common working dialogue in the office ecosystem, a system should be determined, and it should include people of different fields such as engineers, architects, consultants and employers *(Multidisciplinary Approach).*

By deduction from this, M.S said that designing or producing enables to develop something based on thought and to produce the spatial equivalent of this. He said that the architect is a part of a whole during the production phase and it is not a stand-alone situation.

K.Y, stated that in his master's thesis, he worked on understanding the space and examining its dynamics, and argued that the actions in the design process and the actions of the built structure are different. He explained that there is a distance between these two situations and the engineer’s work is in this distance. He noted that being aware of this distance allows the understanding of the people and factors that affect production *(Rethinking).*

K.Y said that the collaborative situation sometimes causes standardization in design due to the adherence of other disciplines to the standards *(Originality).* He gave the example of engineer's disregard of the trees because they were not included in the American standards. In such a situation, he emphasized the necessity of finding a middle ground by going beyond the standard *(Environmental Approach).* In this regard, he said that architectural culture should be included in engineering education.

B.Y stated that the architect is now in a situation that organizes the process rather than designing alone.

M.S said that, according to K.Y and B.Y production is not singular but is to combine numerous parameters. He also stated that various actors are involved in

between thought and production *(Multidisciplinary Approach)*. He asked what the new perception is in the terms of forms of production.

K.Y gave the example of the sharks and said that they evolved over countless years. He stated that in this process, their scales were not similar to other fish and had a hard structure, and their tail was differentiated. He noted that evolution occurs in unity and since architecture has a dynamic structure, its evolution process should also be dynamic (Figure 5.12).

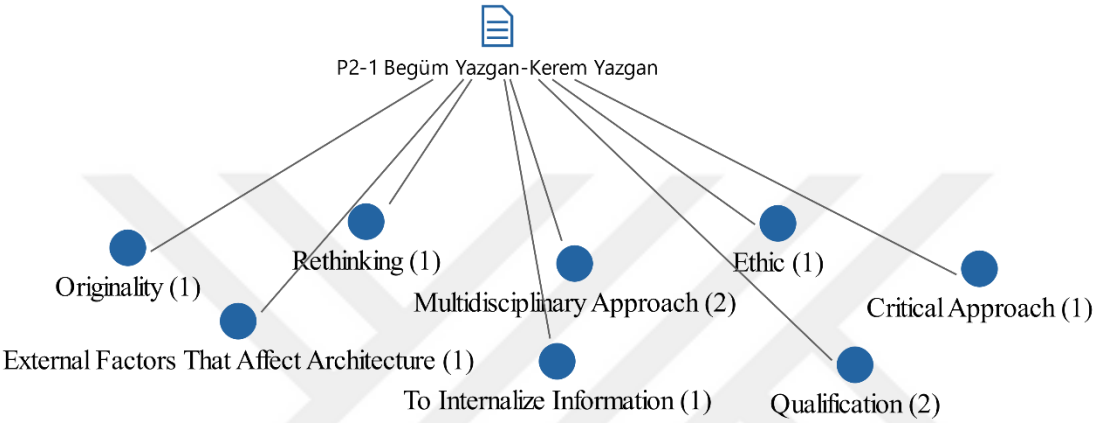

Figure 5.12: P2-1 concept map

5.12. (P2-2) KUTLU BAL-HAKAN EVKAYA

To Derya Güleç Özer's question, how do you evaluate today's architectural education, Hakan Evkaya stated that the spread of online communication environments with the pandemic has positive effects on accessibility. At the same time, he said that the education system was not revised accordingly, and the existing system was tried to be adopted to the distance education system *(New Opportunities/Changes), (Online Communication), (Distance education).*

Kutlu Bal argued that online communication environments cannot provide the success of face-to-face communication. Additionally, he noted that face-to-face communication environments also include informal education and that is where intellectual information exchange is provided *(Online Communication), (Face-to-Face Education), (Informal Learning Environment), (Intellectual Accumulation).*

When asked by M.S, what the benefits of this pandemic process are, H.E stated that it is advantageous for everyone to have equal conditions in accessing information *(Online Communication).* He also noted that online communication environments contain solely speaking and listening due to the disappearance of facial expressions and body language.

K.B gave an example through the Zoom program and explained that during the presentation, the screen grows larger and an environment where no one is visible is created. He said that this reduces concentration and creates extra difficulty in communication.

Derya Güleç Özer stated that it is extremely important to measure response in education and this measurement disappears and becomes meaningless in distance education.

M.S noted that students' ability to use the program has necessarily improved with distance education.

H.E said that with distance education, the programs and expression techniques used by students became identical *(Originality), (Technology Threat), (Technological Tools).*

D.G.Ö noted that the pandemic process has highly affected the social communications.

K.B, argued that the habit of using distance interaction tools has increased with the pandemic process and will continue to be used after the pandemic, but face-to-face education will not vanish because its environment also offers social interaction areas *(Social Relationship), (Technological Tools), (Blended Education).*

M.S stated that distance education also creates new opportunities and that people from different geographies can be included in the education staff on a global and national scale *(New Opportunities/Changes).*

K.B noted that he thinks, in this process, technical courses could be taken through online environments in the education system, but practical courses would continue in face-to-face education environments *(Distance Education), (Face-to-Face Education), (Blended Education).*

D.G.Ö, said that education is not providing information solely, and in the presence of such a situation, the applied courses can be continued with artificial intelligence, but this will only be science rather than education *(Face-to-Face Education).*

M.S considered the recording of the courses in distance education and the ability of the student to watch it later as an advantage and stated that it creates flexibility in temporal planning *(Temporal Planning).*

D.G.Ö asked how the experiences of the practical life reflect themselves on to education.

H.E replied that practical life experiences must be included in the educational environment, and the practice area, where making and production are intense, provides important inputs in the field of education. *(The Relationship between Education and Practice).*

D.G.Ö asked about the effects of practical life including technical information and adopting a realistic approach on creativity in the educational environment.

H.E, stated that on the contrary, as a team that prepares competition projects, they attach importance to design and guide students to be creative, a logical approach is expected only in terms of structure *(The Relationship between Education and Practice), (Competitions).*

M.S said that he thought that the education model did not contain anything for constructing and teaching even before the distance education. He said that distance education may lead to overcoming the situation of being caught up in realities in this context *(New Opportunities/Changes).*

K.B argued that there has not been enough time to make that observation yet, but when the education system is examined, it does not contain innovations in the transition to the new model, and the old model is tried to be carried out via zoom. *(Innovative Approach).*

To M.S's question of what kind of changes you experienced in the studio environments during the pandemic, K.B replied that there was a period of high tolerance. He stated that it was a more understanding and tolerant year as a result of capabilities and difficulties.

H.E mentioned that architecture generally approaches the problems with a reductionist approach and said that he does not find it right to reduce the pandemic process to balconies *(External Factors that Affect Architecture), (Critical Approach).*

When asked by M.S, what kind of difficulties architecture presents for new graduates in today's world, K.B replied that architecture has gone backwards compared to the past. He stated that the increasing number of universities and architects affected this situation negatively, as well. He noted that architecture is in the

position of serving capital, and this is an important factor of architecture's devaluation *(External Factors that Affect Architecture), (Increasing Number of Architectural Faculty), (Increasing Number of Architect), (Devaluation of Architecture), (Unemployment).*

To D.G.Ö's question of what kind of a response this high number of graduates would have in the architectural environment, K.B answered by saying that people with a reason and qualifications in their profession would be selected by the system *(Qualification).*

K.B also mentioned the importance of critical approach in the discipline of architecture *(Critical Approach).*

H.E stated that considering today's architectural environment and the environment itself, protecting every structure is not the most protective approach and that the production of structures that deal with environmental problems is important *(Environmental Approach).*

Lastly, D.G.Ö asked their views on the future of education.

H.E stated that there should not be only technical knowledge, importance should be given to humanities and knowledge should be gained on different disciplines *(Multidisciplinary Approach).*

K.B said that the education environment should not solely depend on the traditional education form but should contain diversity and innovations in the context of the requirements of the period *(Innovative Approach), (Rethinking)* (Figure 5.13).

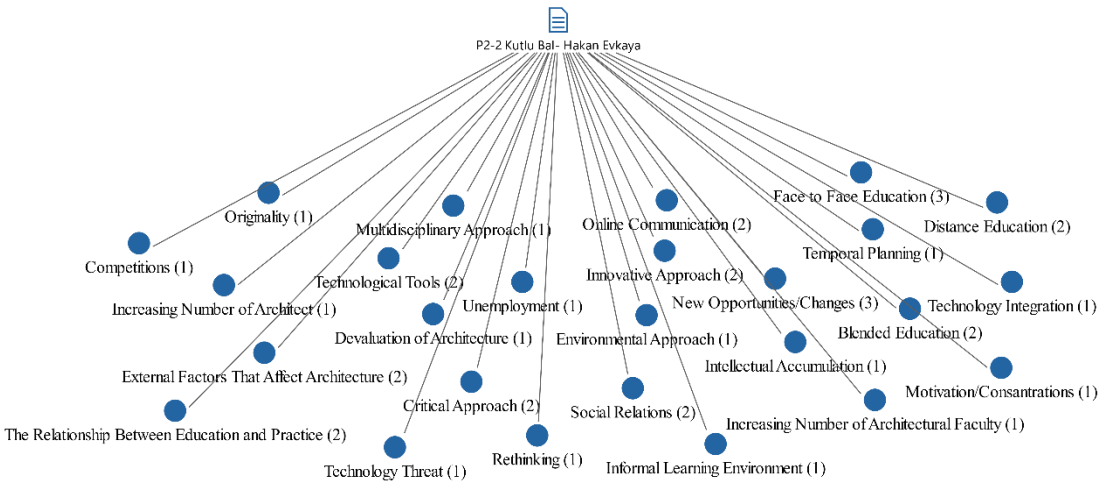

Figure 5.13: P2-2 concept map

5.13. (P2-3) ORAL GÖKTAŞ

Oral Göktaş stated that the discipline of architecture is not shaped around forms, styles, and intellectual theories as it was once, and there are much more serious problems today *(Intellectual Accumulation*). He underlined the necessity of making a more conscious architecture under the influence of environmental pollution, rapid urbanization, climate change and artificial intelligence, where abundance is now consumed *(Environmental Approach), (Technology integration), (External Factors that Affect Architecture).*

Murat Sönmez agreed that there are external factors affecting architecture and asked how internal situations were evaluated.

O.G argued that the effort to be liked should be abandoned and more serious situations should be focused on. He stated that, at this stage, scientific activities should be followed and that those who cannot do this will perish in the evolution process *(Innovative Approach), (Thinking about the Future).*

When asked by M.S, what constitutes your approach to architecture, O.G replied that they adopt a minimalist mindset. He said that this view is a minimalist approach, not only at the design stage, but also with all the technologies it contains, from the production process to the construction process of the project *(Critical Approach), (Environmental Approach), (Technological Tools).*

M.S noted that O.G's works give importance to the production of construction-oriented ideas, the relations between material and space, space and action. He asked what the approach was behind the idea of producing structures in such way.

O.G stated that there was a big burst in the construction sector with the 2002 crisis *(External Factors that Affect Architecture).* He said that during his time in Chile, a situation similar to that in Turkiye was experienced, but the solutions were different. He said that while there was burst of larger scale buildings in Turkiye, he found that small scale buildings increased in Chile. He stated that the geography is ignored and an approach that includes major interventions is dominant *(Environmental Approach).* He stated that architecture is an unwieldy discipline in changing its focal points *(Critical Approach), (Rethinking).*

M.S, noted that small-scale structures may have more quality in terms of location, context, and materials, but at the same time, building large structures is preferred

by the majority. In this context, he asked whether there were any references to building structures between these two scales.

O.G said that they made small-scale temporary public buildings and said that these are installations that interact with people. He stated that these were largely experimental and intended to react with the public sphere *(Innovative Approach).* He also stated that since it is a structure that will remain for four or five months, it should be a production that is produced quickly but has solid material selections. Lastly, he stated that they pay attention to the inability to reuse the materials in another project at the end of four or five months *(Environmental Approach).*

When asked by M.S whether there are difficulties of creating projects for the public sphere during the process of design and construction, O.G stated that they work with sensible people and there is a process of mutual exchange of ideas. He said that they executed some changes by making a joint decision depending on valid reasons.

M.S asked how experimentation was evaluated for the future of building.

O.G noted that experimentalism is not just trying something or an egocentric approach here. Considering numerous factors, he stated that experimentalism is a product that emerged under the influence of various elements that can provide a value and contribution to its location and establish a relationship with its location *(External Factors that Affect Architecture).* He emphasized that they work on objective realities rather than subjective scenarios. He said that they aim to make environmentally oriented and original designs *(Originality), (Environmental Approach).*

To M.S's question of whether the pandemic process would have a revolutionary effect on the architectural environment, O.G said that architecture has a very unwieldy structure to react to such effects. He also stated that the concept of social distance is the antithesis of architecture. He indicated that architecture tries to bring people together *(Social Relations)* (Figure 5.14).

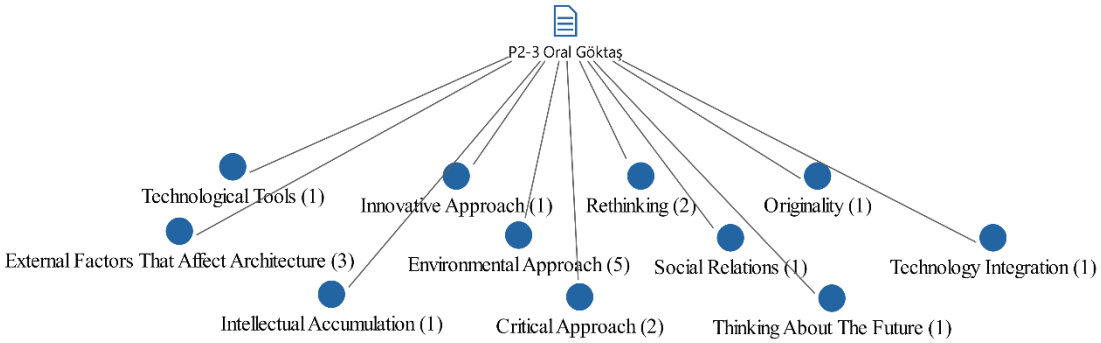

Figure 5.14: P2-3 concept map

5.14. (P2-4) SEMRA UYGUR

To Murat Sönmez's question, how do you evaluate today, Semra Uygur answered that she lives in a period when people consider the world to exist only for people and hopes that this will change in the future. *(Environmental Approach).*

When asked by M.S whether this selfishness contributes to humanity, S.U replied that instead of producing science inspired from nature, the resources of nature are consumed, instead of producing good works together, people are living in brutality, and as a reaction, nature has conditioned humanity to live today's situation *(Rethinking).*

To M.S's question of, how do you evaluate global architecture, S.U replied that architecture has lost its sense of belonging in the last 50-60 years with the studies conducted *(Environmental Approach), (Qualification).* She noted that it is forgotten who the structures serve to *(Originality).*

M.S asked S.U how she evaluated the situation of the cities.

S.U indicated that people no longer trust one another in cities with buildings being surrounded by walls and protected by security. She mentioned that this situation prevents people from trusting each other and socializing *(Social Relation).* She stated that architecture should not be seen as a trade but as a service to society *(Ethic).*

Derya Güleç Özer asked the question of how the architect's behavior should be through marketing and ethical situations.

S.U emphasized that the architect should be inquiring in the face of incoming works and that one should not think that "if I did not do it, someone else would" *(Critical Approach).* She stated that qualified structures that are not disconnected from the

context, do not use materials that will harm nature, can produce solutions to human needs, and do not imitate each other should be built *(Environmental Approach), (Originality), (Qualification).*

M.S, stated that architecture was built on images and this situation revives the country's economies. In this context, Ertuğrul Rufayi Turan was asked how he evaluates the relationship between architecture and the city.

E.R.T argued that the architect should think about the city and the citizen and should not surrender to brutal capitalism. He stated that environmentally independent productions are unethical *(Ethic).*

D.G.Ö asked S.U the contributions of the competitions to architecture.

S.U mentioned the contributions of the competitions held through the years 1985-1986 to architecture and stated that there are not enough competitions to evaluate this today *(Competition).* She noted that public structures in democratic countries are built with competitions, and this is significant. She also said that competition environments are a free space for creating original content since the production is prepared without an employer *(Originality), (Independence).* She said that in the last few years, competitions have revived, and this creates an important opportunity against unemployment *(Unemployment).*

M.S asked whether competitions increase the richness of ideas.

S.U, stated that the richness of ideas does not have a noticeable size. She said that this situation may have been affected by the tools or presentation formats used *(Originality), (Technology Threat).*

To D.G.Ö's question of whether the decrease in production quality encountered in competitions is due to education or the lack of importance on project production, S.U mentioned the standardization of educational environments in her answer through education *(Originality).* She stated that the standardization in education prevented multi-mindedness in group work in the office environment *(Innovative Approach).*

When asked by M.S whether the administrations contributed to the transformation of the design into existence, S.U said that the wishes and needs of the employer should be understood correctly. In line with these requests, she argued that the architect should do this work, not only for the employer, but also considering it as a public service. She stated that the architect should not give up making

interventions at necessary points with the power of persuasion, and this is important for professional ethics *(Ethic), (Qualification).*

S.U noted that in order to preserve the value of architecture, its awareness should be increased. *(Devaluation of Architecture).* She said that there should be architectural departments in municipalities. She also mentioned the inequalities in the distribution of architects between cities and argued that architects should do compulsory duty in terms of equal distribution to the country. She indicated that this would have positive effects on the awareness of the profession and could be a solution to unemployment for a considerable number of architect graduates *(Unemployment).* She argued that building from scratch should be limited, and it is necessary to provide work opportunities and environments where architects can develop their professional skills in areas such as restoration and conservation that can create job opportunities *(Increasing Number of Architect).* She emphasized the necessity of providing employment to graduates during this period. She explained that the number of academics should be increased, and the domain of architecture should be expanded.

E.R.T asked S.U if she had lost her professional enthusiasm.

S.U said that, as her generation they tried to change the world, though appeared to be unsuccessful due to 1980's revolution, but they hoped anything was achievable if they worked hard enough *(Thinking about the Future).* She stated that they could not change the world, but they were aiming to do exemplary work *(Qualification).* She said that there are those who bruise her excitement from time to time, but she still has her 30-year-old excitement. E.R.T mentioned that there are monotype projects, but even in prison projects they should not be established.

S.U stated that she lived in a period when geography, architecture and students were typified and ordinary *(Originality), (Independence).*

M.S stated that the existence of this type projects was concerned with producing quickly and inexpensively to spread education in the conditions of the country at that time. *(External Factors that Affect Architecture).*

S.U stated that when something starts to become typified, it separates from thought and typification has an emphasis on the importance given to education *(Originality).* She also said that typification occasionally may cause more serious economic costs.

S.U said that the importance given to the educational structure is a way of conveying the awareness of every student being unique and special. She argued that it is a

motivation to encourage the student not to agree to every thought *(Critical Approach)* (Figure 5.15).

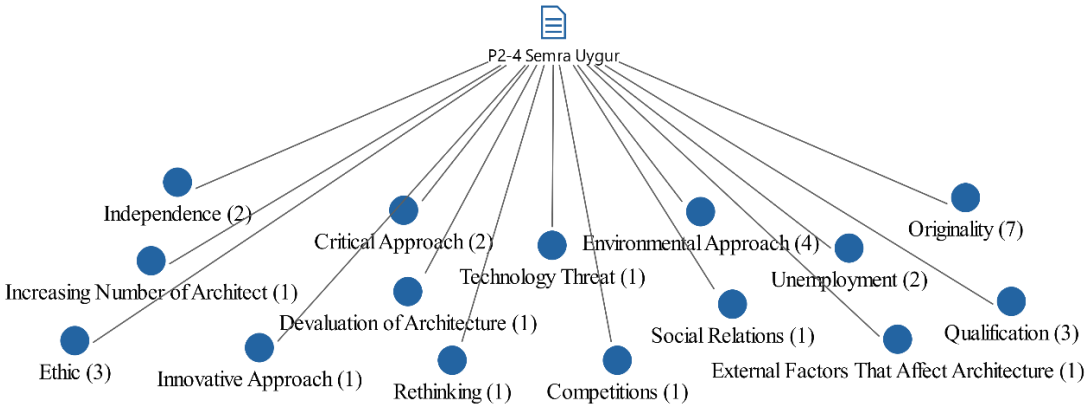

Figure 5.15: P2-4 concept map

5.15. (P2-5) BURÇİN GÜRBÜZ

To Derya Güleç Özer's question, can you tell us more about "Design Atlas" you have established, Burçin Gürbüz answered that it has a history of 12 years and projects of international scale are produced. She explained that the reason for its rapid growth was the bond it established with technology. She mentioned that they also established a company called "Garage Atlas" and said that they were making "digital twins". *(Technology Integration), (Technological Tools), (Innovative Approach).*

To D.G.Ö's question, how do you evaluate representation in architecture, B.G replied by stating that architecture also means making people imagine the final product and they do this in a way that is very close to reality with technological tools. She also said that they made realistic presentations with VR glasses *(Technological Tools).* She said that they work in integration with BIM, and thus, performance measurements can be made before the structure is built yet *(Technology Integration).*

B.G mentioned that they execute the design and implementation phases, and VR glasses are of importance to reduce the margin of error in relations with the constructors. She indicated that with technology, disruptions that may arise during communication are minimized *(Social Relations), (Technological Tools).*

D.G.Ö asked who uses the VR glasses.

B.G explained that the constructors use it and that they do not need to know how to use it in this process, because they can be directed with a tablet.

D.G.Ö asked the definition of VR technology.

B.G stated that the first trials started in 1984 and VR, which stands for "Virtual Reality", have been spreading rapidly for about four years. She said that with these glasses, an immersive space has been switched on and that it is possible to navigate in that space with physical movements *(Technological Tools).*

D.G.Ö asked in which areas this technology is used.

B.G said that it is used in the reconstruction of historical areas and in the animation of hard-to-reach areas such as underwater in virtual environments *(Innovative Approach), (New Opportunities/Changes).*

D.G.Ö stated that the completion of a destroyed or damaged historical structure is not favored by archaeologists. In this context, she said that she found this technology beneficial in terms of presenting the finished product beforehand to be discussed without damaging the historical texture *(Environmental Approach).*

B.G talked about the Bronze Wreck projects and stated that there will be VR areas in 15 different parts of the museum and will be supported by augmented reality. She said that the person who comes to the museum can experience the environment with the 360-degree broadcast system under water *(Technology Integration).*

When asked by D.G.Ö, if you can talk about AR technology, B.G said that it stands for augmented reality and is less complex compared to VR. She stated that the model to be applied was designed, placed in the augmented reality application and reflected in the real space through the phone camera. She indicated that this technology allows real dimensions to be associated with the camera in the real space, as a solution of trying to perceive the design as a dimension, *(Technological Tools).*

To D.G.Ö's question, how do you evaluate education and practice as someone who is active in the field of education, B.G answered by saying that she has been in education for three years and has had three different courses. She stated that these courses, which are focused on practical studies, are technological modeling course, game engines and augmented reality courses *(The Relationship between Education and Practice).*

To D.G.Ö's question, what kind of knowledge and skills newly graduated architects should have, B.G answered that they should have a philosophy and a story first, and then, they should have found a way to convey this philosophy *(Intellectual Accumulation), (Originality), (Technology Integration), (Technological Tools)* (Figure 5.16).

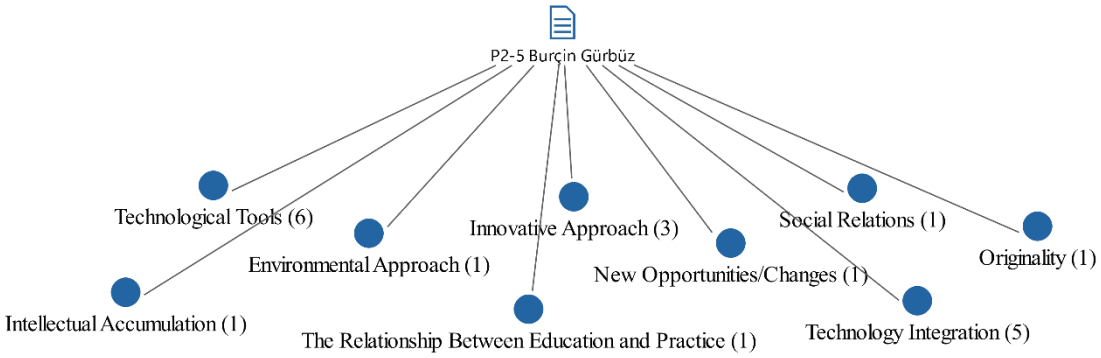

Figure 5.16: P2-5 concept map

5.16. (P2-6) KENAN GÜVENÇ

To Murat Sönmez's question about how you evaluate today's social structure, Kenan Güvenç replied that the present time is precious and valuable, but this has changed over time and the past is thought to be valuable, and for this reason, the present time cannot be perceived from the outside *(Critical Approach).*

When asked by M.S, whether what is proceeding in the world has special conditions for architects, K.G replied that making and acting is a state of organizing one's own encounters. In this context, he stated the necessity of comprehending the current situation *(Rethinking).*

M.S said that today's conditions have transformed the person into a standardized and identical anatomy *(Originality).*

K.G argued that existing and comprehension are different from one another. He stated that the differences of the answers to the questions asked in route to comprehension causes variety in the states of perceiving the whole *(Critical Approach).*

M.S indicated that in the case of perceiving the whole, he whole is pre-designed today and since people are a part of this whole, and it standardizes people.

K.G said that in the relationship of whole-ness, if the person impairs the whole or vice versa, the subjectivity of the person appears *(Independence), (Originality).*

M.S stated that people's emergence from the whole is standardized, and this creates a problem in defining one's own form of existence *(Originality).*

K.G gave the example of capitalism and said that as soon as people see capitalism as a threat, they should identify the effects and possible threats of capitalism *(Critical*

Approach). He said that capitalism is a manufactured condition and that when it is separated from it, it will obtain its own vital tools *(Independence).*

M.S argued that it is impossible to comprehend the whole in the social structure that has been deprived of reflexes, narrowed the means of thought, and motivated to serve certain areas. In this context, he asked K.G how he defined his own form of existence.

K.G said that he does not have any demand from or direction for outside. He stated that he does not have a place in the system and that he continues his life through his own makings and actions *(Independence).*

M.S asked how this situation could be evaluated through the general characteristic of architecture.

K,G stated that when architects come together, they talk about the problem areas and ethical situations of architecture, and they maintain the continuity of the problems by complaining that others will do it even if they do not. He said that this situation causes a cycle which he tries to steer clear *(Ethic), (External Factors that Affect Architecture), (Independence).*

M.S argued that when architects come together, they do not talk about the main problems or content of architecture and but are concerned with minor problems *(Rethinking).*

K.G noted that as an architect, he questioned architecture in his own inner world and answered what design means and why he does architecture in accordance with his own approaches *(Rethinking), (Critical Approach).*

M.S stated that when the concepts are evaluated in a whole, they make the person a part of the system, and in this context, approach the concepts is important.

K.G argued that the person is not isolated and has a social reflection. He said that the foundations of architecture began to be questioned as what is in the person's mind began to socialize *(Social Relations).* He emphasized the importance of understanding various fields in the route to comprehension *(Multidisciplinary Approach).* He states that socialization starts when one tries to comprehend the state of having an attitude towards certain events and situations but producing by ignoring this attitude *(Ethic).*

Through K.G's discourse, M.S said that the architect should also interact with people from various fields such as a mathematician, a sociologist, and a physicist. However, he stated that no matter what kind of thoughts one has as an architect,

the system works differently, and the difference between the architect's thought and the system is gradually widening *(External Factors that Affect Architecture).*

K.G mentioned the existence of the social and psychological backgrounds of architecture and referred to Şevki Balmumcu's "Exhibition House" project as an example *(External Factors that Affect Architecture).*

M.S asked whether this was the universal characteristic of architecture.

K.G stated that it was not and noted that architecture did not develop through its own dynamics but was crushed under the influence of numerous factors. *(Originality).*

M.S said that this situation developed under the influence of capitalism, capital and technological developments along with modernism *(External Factors that Affect Architecture).*

K.G explained that architecture co-existed with modernism in the 19th century and that the predecessor was only building construction. He said, "Modernism is architecture, architecture is modernism" and stated that for something with 150 years of history, the discussion threads focus on the wrong aspects *(Rethinking).*

K.G divided architecture into project and design and said that architecture is exhaustible, design and making are inexhaustible *(Originality).*

In summary, M.S stated that understanding today is based on self-understanding *(Critical Approach)* (Figure 5.17).

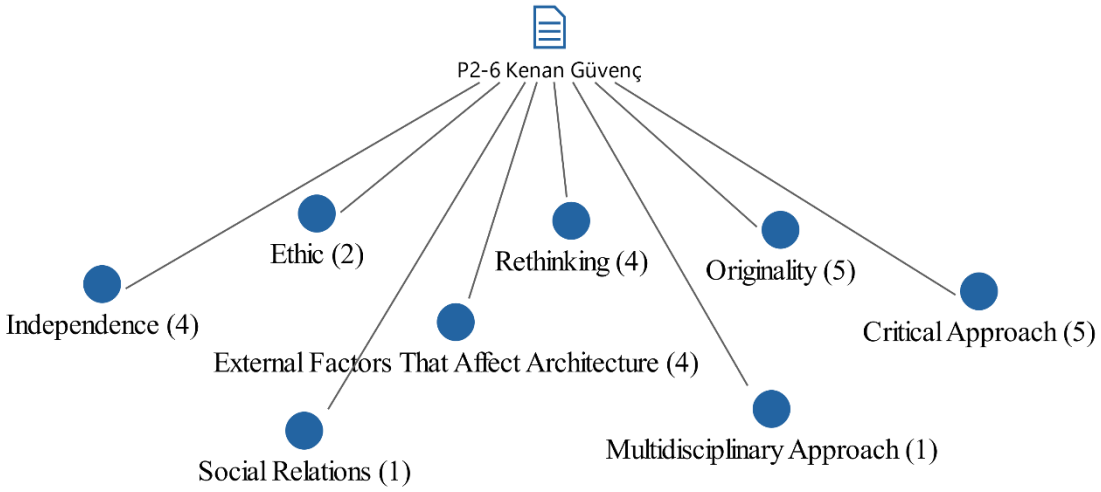

Figure 5.17: P2-6 concept map

5.17. (P2-7) FATİH YAVUZ-EMRE ŞAVURAL

To question of Murat Sönmez's, what are the general evaluations regarding the pandemic process, Emre Şavural replied as it is a difficult process when evaluated through social relations *(Social Relations).*

Fatih Yavuz said it was a period in which habits and needs of life were re-questioned *(Rethinking).*

M.S asked the evaluation of the remote working system on office basis.

F.Y mentioned the spiritual contributions of being physically in the same environment and stated that the remote working situation causes problems in temporal management *(Social Relations), (Temporal Planning).*

To M.S's question of the sociological evaluation of society during the pandemic period, F.Y. answered that the agenda changed very quickly with the effect of social media and the society was lost in this speed. He stated that the one does not have time to listen to oneself in the fast-flowing time and that most people experience unhappiness regarding life, those who have economic concerns or those who do not *(Rethinking).* He stated that people experience uncertainties and unhappiness about the future due to their high focus on life *(Thinking about the Future).*

M.S argued that due to the rapid change in the agenda, the person could not entirely focus on a subject.

E.Ş indicated that the impact of the events is related to the economy and this situation causes concerns other than boredom and psychological problems on the society *(External Factors that Affect Architecture).*

To M.S's question, how do you evaluate contemporary architecture, F.Y replied that the quality of the works done by the people, who were determined as the star architects of a period, and the architectural environment they created caused the compression of architecture and the suppression of society. He stated that large-scaled works emerged under the influence of that period *(Devaluation of Architecture).* Afterwards, he stated that the younger generation, who was concerned about issues such as social injustice, income inequality, and environmental problems, started to have a voice. He said that architecture will be the focus of the rehabilitation and reintegration of cities for a while *(Environmental Approach).*

E.Ş talked about the existence of two types of architects and stated that one cared about the context, and one could produce the identical works in any given place of the world.

He also mentioned the economic dimension of the work and stated that the cost does not scale the quality of the work *(Qualification).*

E.Ş also noted that the idea of settling in the countryside, which became prominent during the pandemic process, is temporary and the population density will continue to exist where trade is dominant *(External Factors that Affect Architecture).*

M.S stated that even if the pandemic does not cause major changes, it will cause numerous queries regarding life and solutions will be sought for them *(New Opportunities/Changes).*

Quoting Abdi Güzer, F.Y said that cities were created to be escaped from at the first opportunity and this situation needs to be questioned *(Critical Approach).* He said that new opportunities may arise in questioning socialization with the pandemic *(New Opportunities/Changes).*

M.S asked how they evaluate today's architect profile and architectural education.

E.Ş stated that the number of universities has increased rapidly and accordingly, there has been a great increase in the number of graduates *(Increasing Number of Architectural Faculty), (Increasing Number of Architect)*. He argued that the construction industry will take more careful steps and small-scale structures will become widespread in Turkiye, which has begun to face the problems of large-scale projects *(Unemployment).* He indicated that the contradiction created by the decrease in the construction sector and the increasing number of graduates should be resolved. Referring to the research conducted by Ufuk Akçayiğit from the University of Chicago, he said that the number of schools has increased in recent years, but the academic quality has decreased *(Qualification).* He noted that graduates should not be pessimistic and that those who are well in their profession can hold on to the profession at the end of the day *(Thinking about the Future).* He said that competition environments are a great opportunity for new graduates *(Competitions).*

F.Y emphasized that new graduates should be professionally equipped *(Qualification).*

M.S asked what the expected qualifications were in case of a job posting for the office.

F.Y replied that there should be people who have quantitative qualifications, but should also be concerned with other aspects, and have a field of interest other than architecture *(Intellectual Accumulation), (Originality)*. He stated that there should be

extra pursuits such as workshops and participating in social communities *(Informal Learning Environment).*

F.Y talked about the TOBB ETU Production Team and stated that it was valuable for M.S to deliver the course content to the students from different perspectives of the field.

M.S noted that such experiments were restricted in the conventional education environment and TOBB ETU provided him with this freedom *(Independence).*

F.Y stated that it is important and necessary to have an atmosphere of freedom in academia *(Independence).*

E.Ş defined the architect profile as the need for qualified people who do not develop themselves in singularity but have knowledge in every field possible *(Multidisciplinary Approach).*

F.Y stated that design is significant at all stages of production and therefore there should be people who can contribute to it at each stage of the project and who have knowledge of the process that gives importance to design.

M.S said that it is important for the technical knowledge to gain originality with the production process of the architect *(Original Content).* He also noted the importance of internalizing knowledge and transforming it into original techniques with technological tools *(To Internalize Information), (Technological Tools), (Technology Integration).*

F.Y mentioned the necessity of identifying the problem and producing efficient, qualified and environmentalist solutions *(Innovative Approach), (Environmental Approach), (Qualification)* (Figure 5.18).

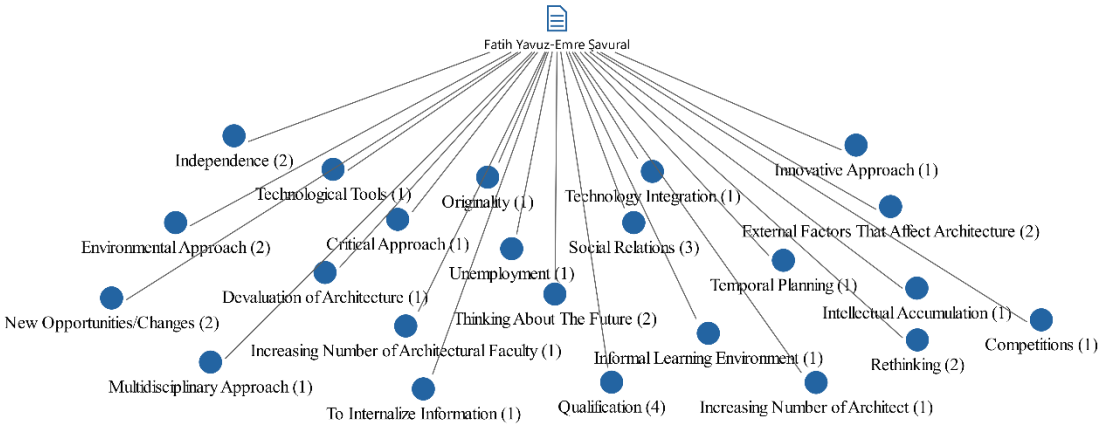

Figure 5.18: P2-7 concept map

5.1.18. (P2-8) NEVZAT SAYIN

When Murat Sönmez asked how Nevzat Sayın evaluates the time and society we live in, his answer was stolid. He stated that he sees the society as cynical, implicit and forgetting their wants in the face of tyrannical governments.

M.S asked Ertuğrul Rufayi Turan how he evaluated the issue of social cynicism. E.R.T referred to the cynicism of society by citing Heideger "A person who talks a lot has no meaningful words to say". He believes that the main break is in thinking.

M.S. asked whether the current time would be an obstacle or an occasion to escape from certain things.

E.R.T said that people try to understand what they have lost and as a result, they either reach nostalgia or realize that what they have lost created new opportunities. (*New Opportunities/Changes*).

N.S stated that a person should try to understand the values he/she has lost in this process *(Critical Approach).* He said that the foundational and geographical values of architecture should be protected against external factors and the society should be conscious of this issue (*External Factors that Affect Architecture*). A group of users, academicians and non-architects should not think about these issues in architectural matters. (*Qualification*). He said that the formation of new opportunities may rise when people realize what they have lost by escaping from their small issues (*Rethinking*), (*New Opportunities/Changes*).

D.G.Ö, to the question of how people have selfish interests in the capitalist order and whether if architects have power, N.S. replied by stating that architects have the power of persuasion. He said that with the power of persuasion, more qualified works can be done if approached critically and this is the duty of the architect. (*Qualification*), (*Critical Approach*). In addition, the young architects, who could not realize this, they damage the ground of agreement and compromise with the energy of doing business. (*Devaluation of Architecture*).

In addition to the misuse of architecture by local governments, M.S mentioned a situation in which the labor of the architect is exploited in architectural offices. In this context, he asked N.S how he evaluated the current global architecture.

N.S, quoting Oscar Neimer, stated that the world is unjust and said that architecture's clinging to art and objects in these injustices is a step towards maintaining optimism. When problems cannot be fought it is important to maintain optimism and try to make good things transpire.

M.S asked E.R.T what he thought about architect's taking refuge in technique when there are no social reckonings.

E.R.T replied that technique is dictatorial. He states that many things become silent and turn into objects and break away from the context of time-space. Referring to Borges' book "Death and the Compass", he states that when mortals and immortals talk, the immortal cannot enjoy life or fall in love. He also said that the architect has social responsibilities and should adopt a critical approach to problems *(Critical Approach*), (*Ethic*).

In order to clarify the importance of the persuasive power of the architect, N.S explained how a private property was transformed into a public space on the ground floor by giving an example from the "Milli Reasürans" structure. (*Qualification*), (*Rethinking*). This example was a success with the great influence on the employer. However, he stated that detecting such a problem, finding a solution, explaining it to the employer and persuading can only be done when the architect is competent and no longer cowedly *(Ethic).*

D.G.Ö asked his thoughts on architectural education and his views on the future.

N.S stated that he sees it as a cynical structure accumulated somewhere. He mentioned that students look at projects as basic design projects and are cynical about not going to the project areas. He also stated that even though the students graduate with high scores they know much about the world and social events. (*Intellectual Accumulation*), (*To Internalize Information*). He believes that the students did not have approaches such as problem posing, problematization and causality. (*Critical Approach*), (*Environmental Approach*). He talked about the problems caused by the standardization of education. (*Originality*), (*Independence*).

M.S stated that the innocent side of this situation is still the students and that the education system and academy is the cause.

N.S talked about a meeting of the heads of the architecture department and a student who graduated from ITU, with the highest ranking, was tried to be prevented from speaking at the meeting which was held for the student. He also stated that basic education should be taken in the first three years regarding the education model and

that the student should continue his two-year education in the field in which he wants to advance. (*Qualification*).

N.S said that when architecture is described on its own, it deficient in interest and can only be enriched in other contexts. He stated that the stories of architecture can reach to excellence with the support of other disciplines (*Multidisciplinary Approach*).

E.R.T said that there is a reality out there and people have deviated from it and whenever the difference was expressed and wanted to be protested, there was pressure to go astray (*Critical Approach*). He stated that an architect should protest concretely and that those who do not have that sensitivity on the political and social level do not have artistic sensitivity either.

N.S stated that architecture should be separated from other disciplines, its intellectual background is important, and it is very valuable to participate in architectural environments and conversations where remote access and physical access are not possible. (*Multidisciplinary Approach*), (*Technological Tools*), (*Informal Learning Environment*), (*Intellectual Accumulation*) (Figure 5.19).

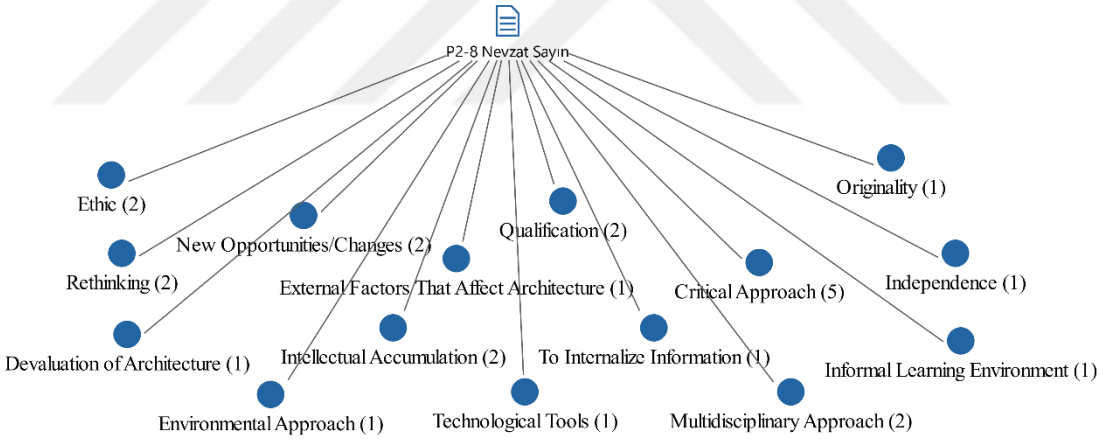

Figure 5.19: P2-8 concept map

5.1.19. (P2-9) ASLI ÖZBAY-HASAN ÖZBAY

To the question asked by Murat Sönmez, would you make a general assessment of today, Aslı Özbay answered that we are in a period that seems very static, but is experienced very quickly and consumed unconsciously.

Hasan Özbay stated that currently architecture is changing and transforming very quickly compared to the past, and other factors affecting architecture such as

environmental problems, political reasons are beginning to dominate *(External Factors that Affect Architecture).*

E.R.T has stated that besides the things that time is taking away away, it also represents the birth of new things *(New Opportunities/Changes).* He said that questioning the architect's profile also reveals intellectual concerns and discussing these questions over ethical concerns has a fair share of accuracy *(Intellectual Accumulation), (Ethic).*

To the question asked by Derya Güleç Özer, what are your thoughts about the general perception of the phenomenon of architecture in the world and in our country from an ethical point of view A.Ö stated that architects have serious social perception problems. She noted that there are problems in terms of public confidence in the architect, and that the pandemic process may perhaps be an opportunity to solve this problem *(New Opportunities/Changes).* She stated that an architect should approach the potential and the dangers carefully, regardless of the employer, and be able to resolve this situation with human relations and his/her persuasion power. *(Critical Approach), (Social Relations), (Ethic).* She stated that as a result of the rapid development of technology, the building production process of 3D printers is a danger for the architectural sector, therefore it is necessary to understand what purpose architects serve. *(Technology Threat).*

M.S's question whether it is possible to take this situation as your assessment of global architecture, A.Ö answered by saying that it may differ according to the point of view. He stated that Western societies will not be affected much depending on the population, but the third world countries that cannot manage their population and economy, will be affected by this situation. (*External Factors that Affect Architecture*). Based on James Stirling's statements about architects, H.Ö talked about how architects have lost altitude and have a submissive stance against everything. (*Devaluation of Architecture*), (*Critical Approach*). He stated that while the feeling that they can do everything is instilled to future architects during their education, some things may develop outside the architect's control, but the architect should have a stance against it by being aware of what is happening in advance.

M.S asked H.Ö and A.Ö about their ideas about competitions and competition projects in the context of their competition backgrounds.

H.Ö stated that competitions are the best areas for creating design. (*Independence*). He stated that the number of competitions held in Turkiye are very low compared to Germany. (*Competition*). The results of the competitions held in Germany are based

on a more modest, qualified and environmental approach (*Qualification*), (*Environmental Approach*). He noted that competitions create good opportunities for new graduates and young architects. (*Unemployment*). He also said that public buildings were previously built through competitions and thus contain diversity/originality, but nowadays it has turned into a typified structure (*External Factors that Affect Architecture*).

M.S.'s question was whether the effort of the architect to show all his skills in the competitions was due to the scarcity of the competitions, H. Ö said that if 200 competitions were opened a year, the situation would be very different. The competitions are based on making quality buildings regardless of the size of the building scale. (*Qualification*).

H.Ö, by giving examples from abroad, explained that the new precautions taken are to prevent the extreme number of participant applications and the loss of labor and time allocated to the competition by drawing or pre-qualification systems. He mentioned that in the competitions held in Turkiye, the administration's lack of explaining the competition requests and that the competition products that came out do not produce satisfactory results. (*Competition*)

D.G.Ö stated that the competitions are also an environment for self-development for students. In this context, she asked how the prequalification conditions would affect a competitors' self-development.

H.Ö stated that this would not be appropriate due to the low number of competitions in Turkiye, and it could be meaningful with an increase in the number.

A.Ö, talked about the scarcity of competitions in the last 20-30 years and evaluated the situations that caused it. He said that the architects and the Chamber of Architects were not supportive enough and therefore they could not ensure the existence of the competitions. (*Ethic*).

H.Ö, also noted that the ones that emerged was the efforts of the branches of the Chamber of Architects.

A.Ö, who has worked in the Chamber of Architects for many years, stated that they should put this matter at the top of their agenda but even though they had the authority they did not pay enough attention. Also, the Chamber should be concerned with the quality of the products produced as a result of the competitions (*Qualification*). She said that it is an important point of view for a design that many people ponder on the same problem and offer different solutions (*Originality*). She talked about the past

competition environments and stated that at the end of the competition, the teams met and discussed the projects. (*Informal Learning Environment*), (*Intellectual Accumulation*).

M.S asked about A.Ö's views on architectural education.

H.Ö stated that architectural education is important in terms of general culture and thus, the ability to approach events in a different way is gained. (*Multidisciplinary Approach*). She mentioned that the relationship between theoretical education and the practical environment is weak, the students cannot find a place to do their internships and that they are inexperienced in the practical field when they graduate. (*The Relationship between Education and Practice*).

M.S asked E.R.T how architectural education should be.

E.R.T, quoting Socrates, said that the ideal citizen should be in action. In architectural education, knowledge should be given in relation to practice. He also stated that architecture should adapt to the era and in this context, the architect has duties and responsibilities to uphold. (*Innovative Approach*), (*Ethic*). He stated that architecture is not only a technical thing, but also has artistic and philosophical aspects to it (*Multidisciplinary Approach*). An architect should have intellectual knowledge. (*Intellectual Accumulation*).

M.S asked what their assessments of the future of architecture and the architect are.

A.Ö stated that she agrees with the idea that the purpose of education is to impart architectural culture, but with this thought, problems arise when practice is separated from architecture. She stated that it is not enough to train only intellectual individuals, but also architects who have gained sufficient knowledge and experience in the practical field. (*The Relationship between Education and Practice*). Giving examples from the studio juries she attended, she had observed that the students did not place emphasis on to environmental relations in their projects and also the students are not conscious of designing projects in the historical area. (*Environmental Approach*).

H.Ö stated that compared to their school years, students do not have bigger goals such as changing the world (*Multidisciplinary Approach*). He also stated that in the competition projects, young newly graduated architects put forward designs full of basic technical errors. In this context, he said that ignorance is freedom and that's why they lost freedom (Figure 5.20).

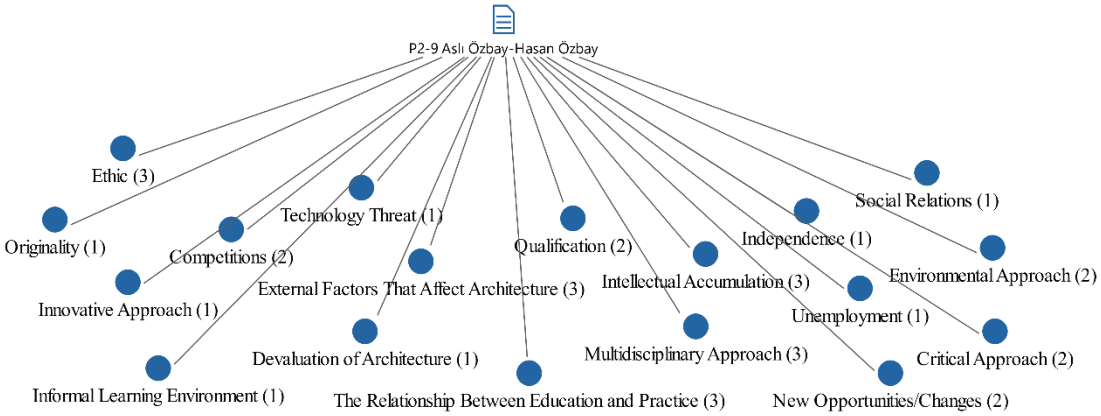

Figure 5.20: P2-9 concept map

5.1.20. (P2-10) MELİKE ALTINIŞIK

Murat Sönmez asked how you evaluate the society we live in, Melike Altınışık answered that there is a need for a certain slowness whereas in today's world everything is happening in a fast pace. She stated that this slowness should not be too slow that might cause blocking, and that it should not disperse the meaning too fast. Also, the pandemic can create an environment that will provide this slowness in this context and will cause rethinking about social responsibilities (*New Opportunities/Changes*), (*Rethinking*).

M.S, said that this fast-paced process prevents deepening on the subjects. (*To Internalize Information*).

M.A stated that this process is important in making qualified productions and that it causes an environment in which the production of quantities becomes widespread rather than producing quality (*Qualification*). She said that the area where speed is used is important and that speed should not be used over uniform mass production structures, but through a temporal management that gains more time for the quality of the work by accelerating in the necessary area with the use of technological tools (*Temporal Planning*).

Derya Güleç Özer mentioned that M.A is competent in computational design and asked the effects of computational design on architecture.

M.A emphasized the importance of working on diversity that produces possibilities rather than working on something singular. She stated that possibilities including

different performances were studied in order to find the best solution within the time frame and that this was done by turning technology into a benefit not by being a slave of technology (*Qualification*), (*Critical Approach*), (*Technology Integration*), (*Technological Tools*).

M.S, asked M.A how she evaluates the relationship between production and ideas to today's proceedings.

Ertuğrul Rufayi Turan, stated that speed does not have a temporal width, it is measured by moment. Moment is an important element in the capitalist system. When a thought is fixed in a moment, it tends to destroy one another and move on to a new moment. In this context, he said that thought is independent of the moment and has its own time and space interval.

To the question asked by M.S, on how the technological tools have an impact on design when evaluated in terms of subjectivity and innovation, M.A responded by comparing man to the tree of knowledge. She stated that everyone interiorizes the knowledge there from their own experience, life, readings, childhood and social relationships and transforms it into design. In this case, the thing used as a tool does not affect the originality of the design (*Originality*), (*To Internalize Information*), (*Technological Tools).*

M.S asked her evaluations on present architecture.

M.A replied that awareness and sensitivity towards architecture will increase with the effects of the environment, technology, and the pandemic. With the pandemic, people started to live their lives taking health precautions and with this experience, they started to behave in a more sensitive means in other issues. To name a few of those issues she gave examples as environmental pollution, nature, and climate (*Environmental Approach*). The pandemic caused people to question other aspects of life again (Rethinking).

M.S stated that the pandemic will cause major fractures and that new relations will be established between architecture and several other disciplines. (*New Opportunities/Changes*), (*Multidisciplinary Approach*).

M.A said that in interdisciplinary relations, different relations may arise from the ones that existed in the past. M.A stated that in a discussion about an architectural project, relations should be established with people of different disciplines such as a biologist and a sociologist (*Multidisciplinary Approach*).

D.G.D, mentioned M.A's Çamlıca Tower project and asked her thoughts about the competitions.

M.A stated that she believes in the importance of the competitions and that she had continued to work on competitions after she left Zaha Hadid's office. She said that competitions are an effective tool for thinking, learning and researching. These competitions are an important area of opportunity for young people, but in our country only a few competitions are being held (*Competitions*). She mentioned that the office sizes are not important in the competition environments and that only the quality of the work is important *(Qualification).*

M.S stated that competitions are research environments and contain innovations, but when the results of the competitions are observed, it is seen that the results have already been consumed 20 years ago. (*Innovative Approach*).

M.A, said that having different types of competitions are important. The important data to determine the competitions type is the content, scope, budget, and requirements program of the competition which should be well-defined. In Turkiye the issues arise due to the fact that the terms of the competition have not been clearly defined (*Competitions*).

M.S, asked M.A how the education she has taken made contributions to herself.

M.A, said the education she has taken thought her how to take risks and showed her that nothing was impossible. Also, in order to achieve them a great deal of importance should be given on process management, how to raise awareness and to think about all the possibilities (*Independence*), (*Rethinking*), (*Critical Approach*). Another contribution is that her education showed her a way to see technology as a tool, not as a goal (*Technological Tools*). Lastly, she said she learned the importance of nature and the need to understand its mathematics. (*Environmental Approach*).

M.A also stated that a piece of information is given to students and when a new information is passed on, the first information given loses its existence and has no continuity. She believes that the students' need time to assimilate the information acquired (*To Internalize Information*).

D.G.Ö asked how an architect's profile should be.

M.A said that it is important to reanalyze the research topics by approaching them from a different perspective, even if they have been researched before (*Rethinking*). She talked about the importance of researching new materials, doing research on other

disciplines, and working with social and environmental problems (*Environmental Approach*).

M.A, believes that an exact profile for an architect should not exist because such profile will be restrictive. Based on what E.R.T said, she said that the freedom of thought is the moment of silence between the existent and the nonexistent (*Originality*).

E.R.T described that moment of silence as “Stillness” and said that that moment is the moment of thought giving birth (Figure 5.21).

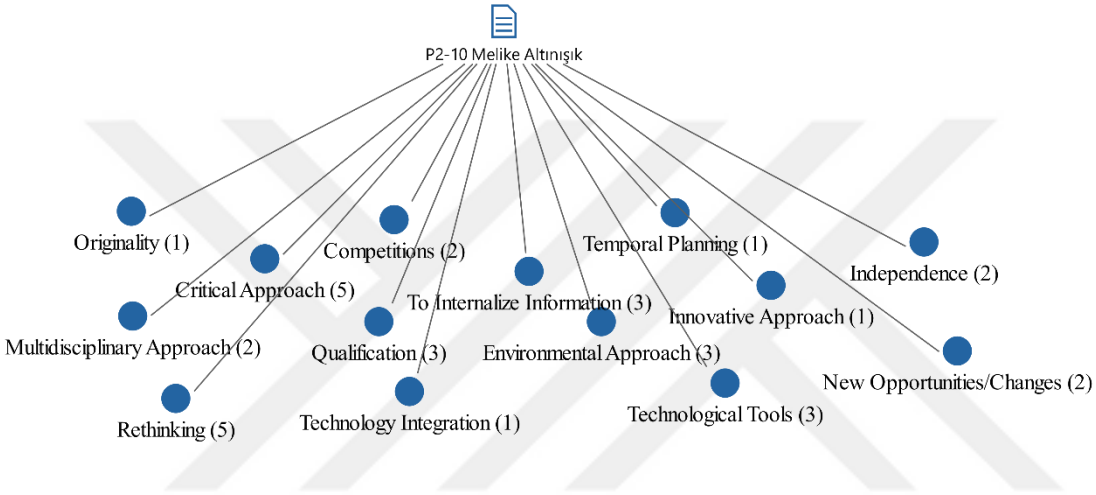

Figure 5.21: P2-10 concept map

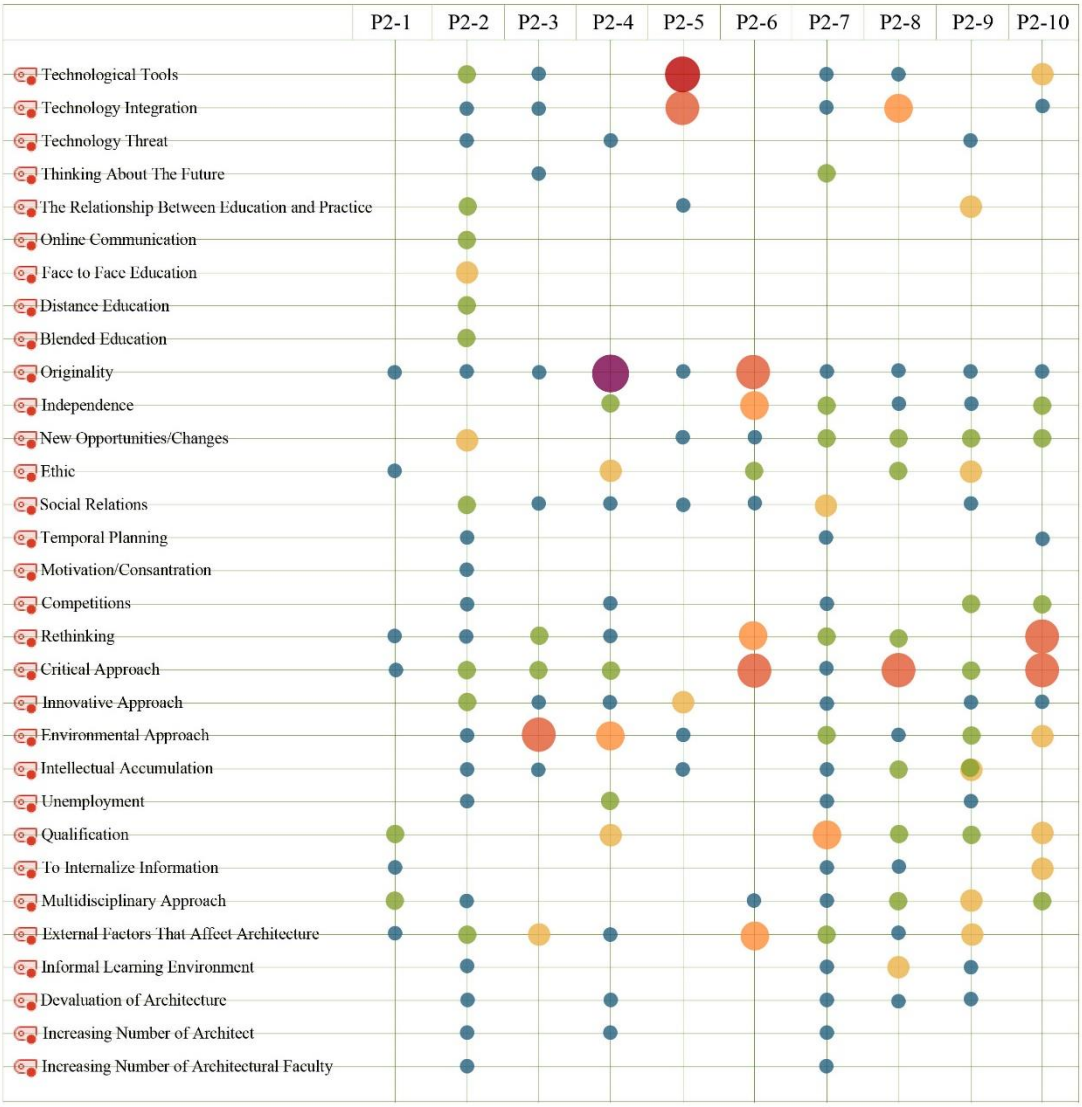

Table 5.2: (Architect Educator) Concept map of the P2 group

Kod Sistemi	P1-1 ...	P1-2 ...	P1-3 ...	P1-4 ...	P1-5 ...	P1-6 ...	P1-7 ...	P1-8 ...	P1-9 ...	P1-10...	P2-1 ...	P2-2 ...	P2-3 ...	P2-4 ...	P2-5 ...	P2-6 ...	P2-7...	P2-8 ...	P2-9 ...	P2-10...	Total
Technological Tools			1	1	2	1	1	2		2		2	1		6		1	1		3	24
Technology Integration		1	3	2	3	1	1	4		2		1	1		5		1			1	26
Technology Threat									1	1		1		1					1		5
Thinking About The Future		2					2		2	1			1				2				10
The Relationship Between Education and Pr	2					2		5		1		2			1				3		16
Online Communication		3	1		1					2		2									9
Face to Face Education				1	1			2				3									7
Distance Education		1		1	1			2				2									7
Blended Education				1				1				2									4
Originality	2	1	2	1	3	3		1	2		1	1	1	7	1	5	1	1	1	1	35
Independence		2				3		1	3					2		4	2	1	1	2	21
New Opportunities/Changes	1	1	1	1	1	1	2	2				3			1		2	2	2	2	22
Ethic							3				1			3		2		2	3		14
Social Relations			1	2		1						2	1	1	1	1	3		1		14
Temporal Planning			1									1					1			1	4
Motivation/Consantrations												1									1
Competitions			1						1			1		1			1		2	2	9
Rethinking	1	4		1			1		5	1	1	1	2	1		4	2	2		5	31
Critical Approach	3	1	1				1		4	1	1	2	2	2		5	1	5	2	5	36
Innovative Approach	1		1		3	5		1				2	1	1	3		1		1	1	21
Environmental Approach		1	3				2	1	3			1	5	4	1		2	1	2	3	29
Intellectual Accumulation	2					1		1	2			1	1		1		1	2	3		15
Unemployment	1					1						1		2			1		1		7
Qualification	5	1	3	1	2	1		5	4	1	2			3			4	2	2	3	39
To Internalize Information						1				2	1						1	1		3	9
Multidisciplinary Approach	2		2	1			1	5			2	1				1	1	2	3	2	23
External Factors That Affect Architecture	1		1		2			1	2		1	2	3	1		4	2	1	3		24
Informal Learning Environment	1	1				1		3				1					1	1	1		10
Devaluation of Architecture	1											1		1			1	1	1		6
Increasing Number of Architect	1					1		1				1		1			1				6
Increasing Number of Architectural Faculty	1				1	1		1				1					1				6

Table 5.3: Table showing the frequency of use of the concepts obtained in the result of in-depth interviews

5.2. In-depth Interview Analysis

The coding of the concepts with the document is important in terms of analyzing the context in which the concepts are examined in the text. The concepts obtained from the document analyzes are tabulated in order to see the frequency of use in the text and in the general framework (Table 5.3). According to the data obtained from this table, concepts of Informal Learning Environment, External Factors That Affect Architecture, Multidisciplinary Approach, Qualification, Intellectual Accumulation, Environmental Approach, Innovative Approach, Critical Approach, Rethinking, Social Relation, Ethic, New Opportunities/Changes, Independence, Originality, The Relationship Between Education and Practice, Thinking About The Future, Technology Integration and Technological Tools were emphasized more frequantly than other concepts, which indicates the importance of these concepts in the discipline of architecture. This table also contains clues on the urgent problems and solutions of architecture. In the conclusion part, the evaluations of these concepts are given.

The concepts from analyzes are mapped to understand which questions they match with (Figure 5.22). When the concepts are grouped based on the context in the documents, it has been observed that several concepts on the map are discussed in relation to the practical field and other concepts are discussed in relation to the field of education. It has been determined that certain concepts are discussed in both educational and practical fields. In addition to these, an area that attracts attention has been technology. Participants frequently discussed the effects and relations of technology on the field of architecture in the documents. This reveals the importance of technology. In this context, the concepts related to technology have been analyzed as a separate group under the name of technology, in addition to the practical and educational fields.

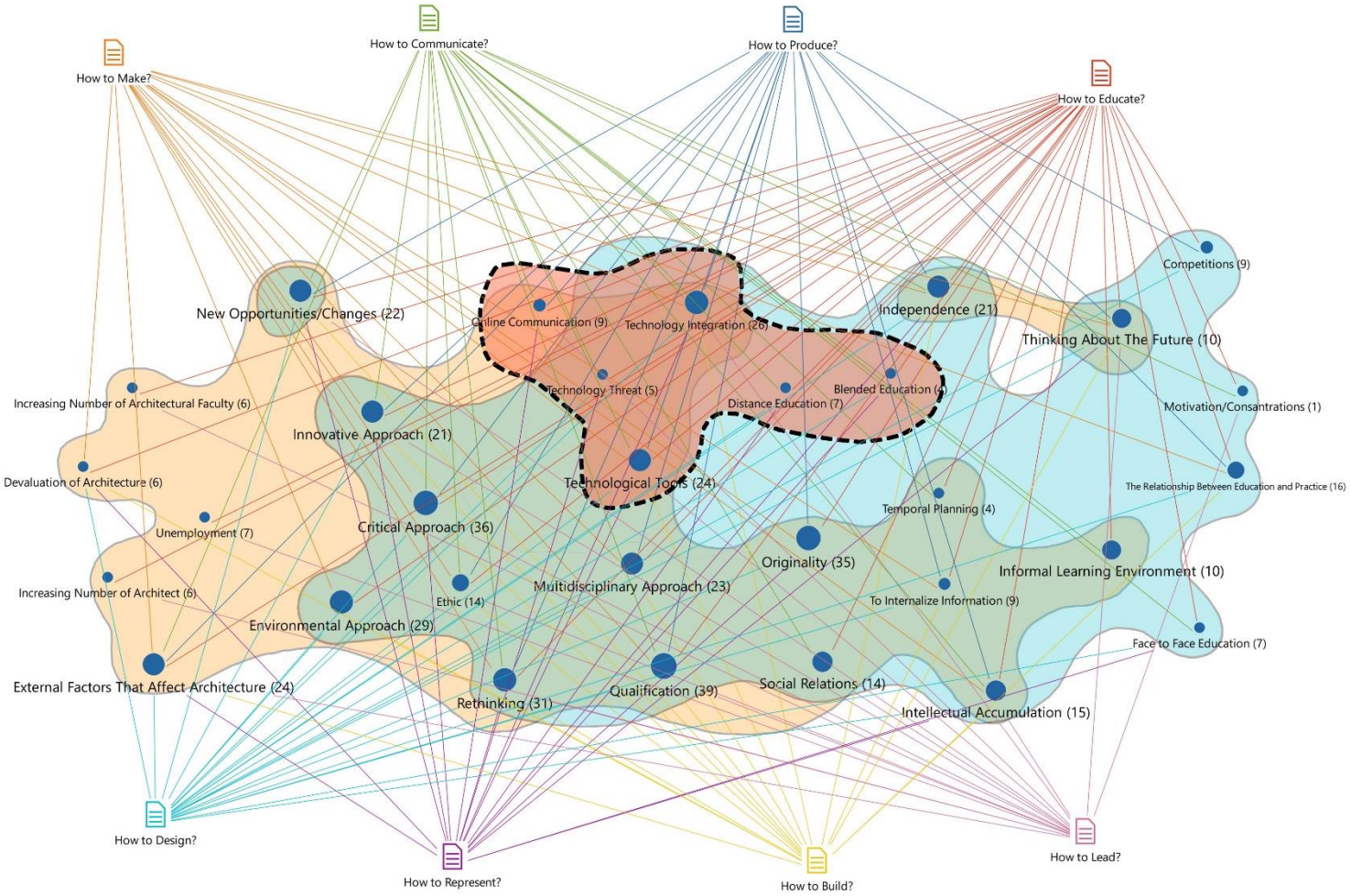

Figure 5.22: Concept map obtained as a result of in-depth interviews

5.2.1 Practice

The concepts related to practical field are included in Figure 5.23. Since some of the concepts are also related to the field of education, in this section, the concepts marked orange in the below table and related only to the practical field will be examined (*External Factors That Affect Architecture*, *Increasing Number of Architectural Faculty*, *Increasing Number of Architect*, *Unemployment*, *Devaluation of Architecture*).

Figure 5.23: Concepts related to Practical Field

External Factors That Affect Architecture (24), when the documents are examined, it is seen that architecture is exposed to numerous factors, primarily including economic (P1-1, P1-3, P1-5, P1-8, P1-9, P2-2, P2-3, P2-7), political (P2-2, P2-9), environmental (P2-8, P2-9) and technological (P2-3). It has been determined that among the factors affecting architecture, economy is the most frequently mentioned one.

Increasing Number of Architectural Faculty (6), it is thought that the dominant reasons behind the increase in the number of architecture faculties are economic and political reasons. (P2-2, P2-7, P2-9). The increase in the number of faculties has also triggered

problems such as the inadequacy of the number of academicians and the increased employment problems of graduates.

Increasing Number of Architect (6), the increasing number of graduates due to the increasing number of architectural faculties played an active role in the emergence of some problems in the architectural environment (P1-1, P1-6, P1-8, P2-2, P2-4, P2-7).

Unemployment (7), the rising number of graduates due to the increasing number of architectural faculties had an active role in the emergence of certain problems in the architectural environment (P1-1, P1-6, P2-2, P2-4, P2-7, P2-9). Semra Uygur suggested that the profession of architecture should be a mandatory duty in order to increase the awareness of the architectural profession, to raise awareness of the public on this issue, to prevent the density of regional architects and to solve the unemployment problem. Thus, she stated that employment of architects to municipalities that do not have architects and the increase of architectural project inspections are aimed (P2-4).

Devaluation of Architecture (6), many factors trigger each other leads to the gradual devaluation of architecture. Several problems that causes the devaluation of architecture such as the decrease in the quality and originality of the structures due to economic and political pressures, the proliferation of typical projects, the deterioration of the urban structure, the emergence of too many graduates and the problems of finding a job have resulted in the acceptance of projects for which the labor given due to unemployment is not paid for.

5.2.2 Education

The concepts related to educational field are included in Figure 5.24. Since several of the concepts are also related to the practical field, the concepts are only related to the field of education and are marked blue in the table below and that will be examined in

this section *(The Relationship Between Education and Practice, Competitions, Face-to-Face Education, Motivation/Concentration).*

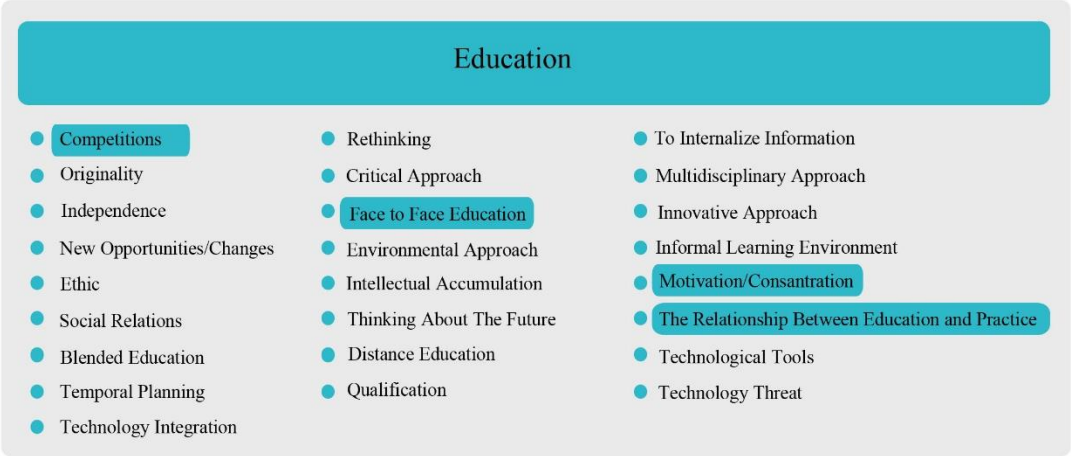

Figure 5.24: Concepts related to the field of education

The Relationship Between Education and Practice (16), since architectural education has a system that includes theoretical and practical courses together, practical field experience is important. When the documents were examined, the relationship between education and practice was frequently examined. In today's architectural education, it is seen as a problem that practical experience opportunities are more limited and internship periods are short (P1-1, P1-8, P2-2, P2-5, P2-9). It is mentioned that the students graduate without experiencing and internalizing the technical knowledge they have acquired, and they have difficulties in practical life. Abdi Güzer stated that the education system should be supported with architects and staff who have practical experience as well as academics (P1-1). While establishing the TOBB ETU Architecture Department, Nur Çağlar established an education system that attaches importance to the relationship between education and practice, and students were provided with office experience for 3 semesters (P1-6).

Competitions (9), as a means of providing practical experience to educational environments, competitions have been considered as beneficial in many respects in the field of education. It is also seen as a potential area for newly graduated architects (P1-9, P2-2, P2-7). In the competition projects, it has been stated that providing an environment provides equality for all architects by disregard to the number and

quantity of the projects a designer has produced before (P2-10). Competition environments in Turkiye were evaluated and it was stated that the low number of competitions created several problems (P2-4, P2-10). These problems has been identified as the single-handed execution of public works, the decrease in quality due to the decrease in project diversity, and the inability of competitions to present an alternative space for the unemployment problem (P2-9). Sema Alaçam has evaluated the diversity of competitions and stated that the diversity of competitions is limited, and there is a need to increase competitions in different fields such as the studies on materials (P1-3).

Face-to-Face Education (7), when the face-to-face education evaluations are examined, it has been determined that since architectural education includes practical studio courses, it should be supported with face-to-face education (P1-4, P1-5). While the distance education model can be applied in the last years of education through technological opportunities, it has been stated that this is not possible in the first graders who have just started architectural education (P1-8). While the evaluations made with today's technology necessitate face-to-face education, it is foreseen that the new opportunities that will be created by the development of technology will enable the practical and studio courses to be executed with distance education in the future (P2-2).

Motivation/Concentration (1), the concept of motivation and concentration was evaluated through face-to-face education. In this context, it has been determined that face-to-face education environments provide more positive effects on the concentration and motivation of students compared to distance education.

5.2.3 Education and practice

This section covers the analysis of the concepts focused on the intersection of education and practice. These concepts are identified as *new opportunities/changes, innovative approach, critical approach, blended education, temporal planning, technology integration, rethinking, distance education, technological tools, technology threat, environmental approach, ethic, multidisciplinary approach, qualification, originality, social relations, intellectual accumulation, to internalize*

information, informal learning environment, independence and *thinking about the future* (Figure 5.25).

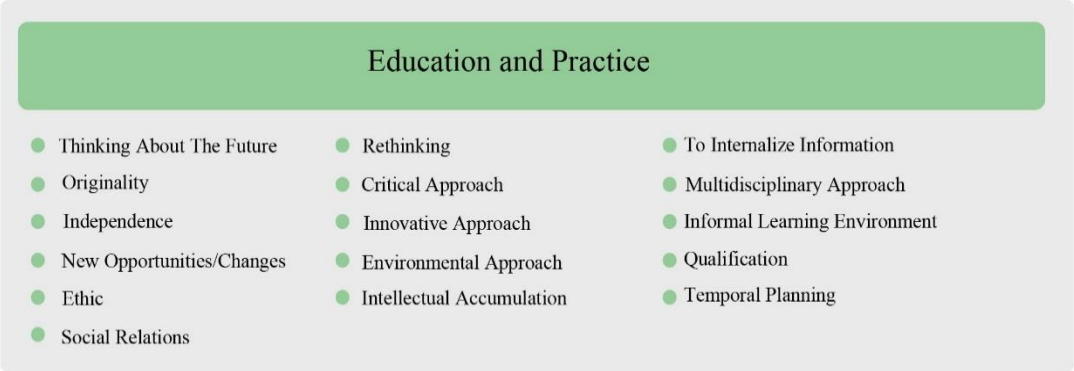

Figure 5.25: Concepts related to the fields of education and practice

Ethic (14), ethical values of architecture and architect profile are discussed under this concept. First, Murat Günaydın stated that there is a misunderstanding between the concepts of ethics and morality. In this context, he stated that ethics are written and unwritten rules that do not change according to society and cultural factors, and he said that morality may differ with culture and social structure (P1-7). It has been stated that the profession of architecture has duties to find solutions to social and environmental problems and provide services, as well as producing structures (P2-1, P2-6, P2-8, P2-9). Kenan Güvenç stated that the architect should be a person who produces solutions to problems, and this can be achieved if one's discourses and actions are consistent (P2-6).

Environmental Approach (29), environmental protection and environmental approach, which is one of the aspects that form the basis of architectural ethics, has been one of the most frequently mentioned concepts in document analysis. Various factors such as global warming, climate change and environmental pollution have also made it necessary to take some responsibilities and adopt solution-oriented approaches in the field of architecture, as in several areas (P1-2, P1-3, P1-7, P1-8, P1-9, P2-2, P2-3, P2-4, P2-7, P2-8, P2-9, P2-10). Aslı Özbay also stated that together with the

environmental approach, the protection of historical values and sensitivity towards the projects related to historical areas are required (P2-9).

Originality (35), one of the ethical concerns, originality has been one of the most emphasized concepts in both practical and educational fields of architecture. When the evaluations in the field of education are examined, the standardization of the education system and the disappearance of diversity in education systems have been seen as a threat in recent years. It has been determined that the homogeneous education system affects originality because it trains architects who think and produce on the same level (P1-2, P1-4, P1-5, P1-6, P1-8, P2-1, P2-8). Despite the references to this standard educational environment, it has been mentioned that there are structures leading to differentiation in a limited number of educational systems. TOBB ETU Faculty of Architecture founded by Nur Çağlar and Medipol University Faculty of Architecture founded by Atilla Dikbaş are given as examples (P1-6, P1-8). Hakan Evkaya stated that in addition to these, the technological tools used cause standardization in the expressions of the students (P2-2). In practical field studies, it has been stated that original productions are in a tendency to disappear gradually and the importance of originality in production techniques had been mentioned (P1-9, P2-3, P2-4, P2-5, P2-6, P2-7, P2-10). Regarding the practical field, Abdi Güzer stated that there are positive aspects of architecture working together with other disciplines, but at the same time, this integrated working system contains certain factors that restrict originality in design (P1-1). Sema Alaçam mentioned that originality should not only be in the field of design but also in new material and structure studies (P1-3).

Qualification (39), another issue that is frequently discussed, almost as much as originality, in document analysis has been quality. The subject of quality has been discussed though several areas of architecture such as the quality of the architect, the quality of the education system and the quality of production. It has been determined as a general opinion that the quality of education is decreasing every day (P1-1, P1-3, P1-4, P1-6, P1-8, P2-7). Emre Şavural mentioned that in addition to the quality of the education system, the quality of academic productions has decreased in recent years, based on the reference values in academic studies (P2-7). In the evaluations made on the quality of the structure, factors such as economy, political effects, environmental approaches, design, materials, techniques used were assessed and it was determined

that the quality decreased to a large extent, although not in general (P1-1, P1-2, P1-3, P1-9, P1-10, P2-1, P2-4, P2-7, P2-8, P2-9, P2-10). In the evaluations made on architects, it has been stated that factors such as intellectual knowledge, relations with other disciplines, ignoring environmental problems, use and correct use of technology are important factors that determine the quality of the architect (P1-1, P1-9, P2-4, P2-7).

Independence (21), architecture is a discipline that can produce original content under conditions of freedom. In this context, the concept of freedom has been examined in the field of education and practice and its importance has been emphasized. Considering the studies in the field of education, it has been determined that one of the biggest factors in the formation of original education systems is the provision of free education environments (P1-6, P1-8, P2-7, P2-8). In the practical evaluations, many external factors that affect architecture, such as capitalist order, ideological pressures, performance-oriented social structure, are mentioned and it is stated that these factors have an impact that damages the freedom environment of architecture (P1-2, P1-9-, P2-4, P2-6, P2-6, P2-9, P2-10).

Multidisciplinary Approach (23), in the documents, the importance of multidisciplinary approach over several fields has been mentioned regarding the relations of architecture with other fields. It has been repeatedly emphasized, especially in terms of holistic approach to the subject and making different performance evaluations with multidisciplinary and different approaches established in the practical field (P1-3, P1-7, P1-8, P2-6, P2-8, P2-10). When the evaluations in the field of education are examined, it is emphasized that architectural education is based on providing a design culture, as well as the necessity of encouraging a multidisciplinary approach in the education process (P1-4, P1-8, P2-2, P2-7). In this context, it is stated that the students should develop themselves in relation to numerous fields such as art, culture, intellectual accumulation, technology, and engineering (P1-1, P2-9).

Critical Approach (36), Ayhan Usta stated that the critical approach begins with questioning one's own existence (P1-9). Ertuğrul Rufayi Turan, on the other hand, stated that the disappearance of the critical and revolutionary approach would eliminate thought all together (P1-1). When the situation of adopting the critical

approach is examined through the general approach, it is stated that the environment, society, system and even the person themselves should be critically questioned (P1-1, P1-7, P2-6, P2-8, P2-10). Regarding the practical area, the importance of critical approach in creating new technologies, materials, construction techniques and production areas against political and economic pressures was mentioned.

Innovative Approach (21), architecture is a discipline that has been subject to changes and transformations depending on the current conditions it is in. In this perspective, today's architectural environment has been evaluated in the field of education and practice. Nur Çağlar, in this context, stated that architectural education has been in an ongoing structure for a long time and has not been exposed to any innovations (P1-6). In general, when the documents are examined, it has been determined that the educational environments are not sufficiently exposed to innovation over the current situations, but that there may be some innovations with the pandemic, which supports the opinion of Nur Çağlar (P1-1, P1-5, P1-8, P2-2, P2-4, P2-9). In the practical field studies, it has been argued that architecture has not experienced enough innovation due to its unwieldy structure in the face of rapidly developing technology and environmental problems. It is thought that with innovative approaches, the number of structures of low-risk, low-cost, sustainable, high-performance and uniqueness can be increased, thus preventing the deterioration of urban structures (P1-3, P2-3, P2-5, P2-7, P2-10).

Intellectual Accumulation (15), Oral Göktaş stated that architecture students have problems focusing on themselves and their personal development due to a number of current problems, and accordingly, they are insufficient in terms of intellectual knowledge compared to the architects of the past (P2-3). Several documents containing discussions about education have expressed opinions in support of Oral Göktaş (P1-1, P1-6, P1-8, P1-9, P2-2, P2-8, P2-9). Fatih Yavuz, while describing the architect profile, mentioned the importance of intellectual self-development as well as having professional equipment (P2-7, P2-5). It has been stated that intellectual knowledge is important at the stage of interpreting professional knowledge through one's own mental filter.

Informal Learning Environment (10), the unwritten and collective rules and knowledge of architectural education are gained in informal environments, as well as

formal environments (P1-2). It was emphasized that informal education environments such as competitions, exhibitions, summer schools, biennials are important and necessary in the education process (P1-1, P1-2, P1-6, P1-8, P2-2, P2-7, P2-8, P2-9). Due to the transition to the distance education system during the pandemic process, Atilla Dikbaş evaluated informal education environments. He stated that school environments such as cafeteria, café and library are also informal education environments, and in this context, distance education has negative effects (P1-8). Nevzat Sayın, on the other hand, approached this with a different perspective and stated that in conditions where it is not possible to come together physically, distance education environments can provide students with access to informal education environments with experts in their fields thanks to distance communication tools (P2-8).

Thinking About the Future (10), Emre Şavural stated that people have concerns regarding the future. In this context, he gave an example of a shark that can instantly reach to one drop of blood in the pool but has difficulty focusing when blood is dripped at several different points. He argued that people experience a future anxiety in which they do not know what they want, because they cannot fully focus on their lives and futures because of rapidly changing agendas and problems (P2-7). In this context, Murat Uluğ emphasized the necessity to leave the past and present moments in the past and focus on the future and oneself to build one's own existence (P1-2). It is stated that for a more livable future, architecture should adapt to current technological developments and produce solutions to environmental and social problems (P1-7, P1-9, P1-10).

Temporal Planning (4), the spread of online communication environments with the pandemic has made temporal planning often debatable. In the evaluations of the educational environment, recording a course in distance education was considered as positive in terms of accessing information according to one's own plans (P2-2). However, in another document, the possibility of accessing several things at the same time without spatial changes was evaluated negatively because it causes densities in the flow of daily life and limits the time allocated to personal space (P2-7). Sema Alaçam compared the spatial experience of time (pre-pandemic) and the experience of different times in the same place (pandemic process) and defined the current period as

a time in which actions, functions and relationships overlap each other in the same space (P2-10).

Social Relation (14), the change in social communication environments with the pandemic has caused the questioning of the forms of remote communication. In this context, when the documents are examined, it has been determined that the forms of distance communication negatively affect the social communication environments (P1-3, P1-6, P2-2, P2-3, P2-7). When the concept of social communication is evaluated through architecture, regardless of the pandemic, it is stated that the increase in architectural structures such as housing sites affect social communication environments (P2-4). Again, on architecture, Kenan Güvenç stated that socialization also triggers the socialization of the mind, and thus causes architecture to be re-questioned, and stated that he considers socialization important (P2-6).

Rethinking (31), this concept contains many questions. The first of these is questioning oneself/existence without getting lost in the flow of life, the second questioning existing things, and the third questioning things in the past. In the documents examined, it is stated that these inquiries will create opportunities for the future (P1-9, P1-10, P2-4, P2-7, P2-8, P2-10). Questioning the present moment and situation was deemed necessary in the field of architecture, as well (P2-1, P2-2, P2-3). In the evaluations regarding the pandemic, it has been determined that re-questioning the rapid changes in numerous areas of life can create some breaking points for the future (P1-1, P1-2, P1-7, P1-9).

To Internalize Information (9), Melike Altınışık stated that knowledge reaches originality with the person's internalization (P2-10). In this respect, it is important to internilalize the information obtained from the research in the project production process (P2-1, P2-7). The initial acceptance of some information has been associated with the internalization of that information over time (P1-6, P1-10).

New Opportunities/Changes (22), a group of participants stated that the situations caused by the pandemic in daily life may create new opportunities in the future and cause several changes (P1-1, P1-2, P1-5, P2-2, P2-7, P2-10). Evaluations made in the context of technological developments have shown that technology can provide new

advantages in various areas such as materials, structure, and education (P1-3, P1-8, P2-5).

5.2.4. Technology

In the concept map obtained from document analysis, the density of concepts related to technology attract attention. It has been seen that a significant portion of the concepts are evaluated in direct connection with technology. In this context, these concepts related to technology are also examined under the title of technology. In this section, the concepts of *blended education, technology integration, distance education, technological tools, and technology threat* are analyzed (Figure 5.26).

Figure 5.26: Concept related to technology

Online Communication (9), online communication, which emerged as one of the changes in communication environments due to the development of technology and have become widespread with the pandemic, has been examined within the documents. The online communication form, which was generally preferred for social purposes such as social media and video chat before the pandemic, has begun to be used in different areas with the pandemic. Workplaces carried out their activities through online meetings and online working environments, and the education was provided through online environments. Participants evaluated this rapid change environment through different fields. As a result of these evaluations, it has been realized that face-to-face communication environments provide a physical communication environment including gestures and mimics, and thus, proved to be more beneficial compared to online communication environments. It has been emphasized that, in this context, online communication environments have digital limits (P1-2, P1-3, P1-5). In the evaluations made on the practical environment, it was stated that physically being

present in the same environment has social and psychological effects besides the efficient continuity of the work. It was stated that in group studies, face-to-face working environments increased motivation and concentration and sparked the exchange of ideas (P2-2).

Distance Education (7), the distance education system, which is often the subject of research with technological developments, and whose prevalence is increasing rapidly with the pandemic, was evaluated by the participants. Participants stated that practical courses and design studios, which form the basis of architectural education, were subject to certain problems in the execution of this new distance education system. One of these problems, the desertion of physical space sharing, has caused the disappearance of informal education environments. It has been determined that the efficiency decreases in practical courses as the student's concentration shortens (P1-2, P1-4, P1-5, P1-8, P2-2). When the positive aspects are evaluated, the situations that prevent physical coexistence have been overcome in the distance education system, and thanks to this new environment, communication has been achieved with many experts from various fields (P2-2, P2-7). Derya Güleç Özer stated that she found it beneficial to have access to numerous effective activities such as seminars, conferences, interviews that support educational environments (P1-8).

Blended Education (4), in the document analysis, it has been determined that there are certain difficulties of the distance education system, but this system also provides advantages. This situation has generated a discussion on the blended education model. It is thought that the disciplines that consist of practical and theory courses together can be delivered partially with distance education. This model, which is called blended education and includes both face-to-face and distance education models, has been seen as a system that can be applied in architectural education in undergraduate, graduate, and doctoral periods (P1-4, P1-8, P2-2).

Technology Integration (26), the integration into the technology, which includes discussions in different fields, has been analyzed through the evaluations of the participants. Considering today's rapid development of technology, it has been stated that architecture should follow this development in education and practical areas and develop in an integrated manner (P1-2, P1-5, P1-6, P2-3). In the practical field,

technological developments provide advantages in numerous areas including construction techniques, material production, project management, labor, employer and architect relations (P1-3, P1-10, P2-5). It was stated that the educational environment should be implemented harmoniously with technology and the system should be supported by technology-based courses (P1-6, P1-8, P1-10).

Technology Threat (5), social communication environments, the prevalence of which is rapidly increasing with technology, have caused architectural design to be reduced to images. The fact that the programs used in the fields of design and representation generate certain limits has led to a decrease in originality and diversity in this field (P1-9, P1-10, P2-2, P2-9). Semra Uygur also mentioned the situation of building a structure with 3D printers and stated that this presents a threat to the architectural environment (P2-4).

Technological Tools (24), technological tools are of importance to the integration of architecture with technology. Melike Altınışık stated that for the future of architecture, it is necessary to contribute to the development of architecture by using technological tools correctly and without being captivated by technology (P2-10). Burçin Gürbüz mentioned the advantages of technological tools in the practical field and stated that technology has contributed greatly to the growth of the office they have established. She also stated that thanks to the augmented and virtual reality technologies during the project process, the satisfaction in communication with customers and employees increased and they reduced the margin of error. She said that advantages are provided in many respects by the increase in the prevalence of these technological tools in reconstruction studies (P2-5).

Sema Alaçam considered it an opportunity to make performance evaluations by means of technological tools in numerous aspects before the structure was built (P1-3). It has been stated that the prevalence of technological tools in the educational environment should increase and students should improve themselves in these areas as an elective course (P1-4, P1-8, P1-10, P2-2, P2-7, P2-8).

5.3. In-depth Interview Statistic Analysis

In this section, the data obtained from the in-depth interviews were analyzed statistically. The concepts obtained from the in-depth interviews were coded as C1, C2, and C3, as in table 5.4, respectively. Concept and person codes were analyzed by OLAP cubes, Mann Whitney u test and correlations methods.

5.3.1. OLAP cubes

The "OLAP CUBES" method was used first among the statistical data methods. **Online Analytical Processing (OLAP),** this system is a category of software that allows users to analyze information from multiple database systems simultaneously (URL-17). An OLAP cube is a data structure that solves the mesh of the limitations of relational databases by enabling rapid analysis of data. By means of cubes, data points can be searched for users and large amounts of data can be collected while accessing them (URL-18).

This table shows how often 20 people in the two groups who participated in the study mentioned 31 different concepts. Depending on the frequency of use of the concepts, 3 different clusters were identified (Table 5.4). The frequency of speaking the concepts is colored from dark blue to light blue. When the resulting clusters are examined:

- Cluster 1: In this cluster, it has been determined that academic educators are in the majority.

This may be due to the fact that technology is not seen as a problem area because it is used more frequently and in a more integrated way in the practical field compared to the field of education. Accordingly, fewer mentions may have been made by architect educators.

- Cluster 2: In this cluster, it has been determined that architect educators are in the majority.
- Cluster 3: It was determined that two people in Cluster 3 (P1-8, P2-2) said the concepts more frequently than the other people.

OLAP Cubes	Two Step Cluster Number			
	1	2	3	Total
C1-Technological Tools	1,56	0,67	2,00	1,20
C2-Technology Integration	2,00	0,33	2,50	1,30
C3-Technology Threat	0,11	0,33	0,50	0,25
C4-Thinking About The Future	0,67	0,44	0,00	0,50
C5-The Relationship Between Education and Practice	0,22	0,78	3,50	0,80
C6-Online Communication	0,78	0,00	1,00	0,45
C7-Face-to-Face Education	0,22	0,00	2,50	0,35
C8-Distance Education	0,33	0,00	2,00	0,35
C9-Blended Education	0,11	0,00	1,50	0,20
C10-Originality	1,11	2,56	1,00	1,75
C11-Independence	0,22	2,00	0,50	1,05
C12-New Opportunities/Changes	0,78	1,11	2,50	1,10
C13-Ethic	0,44	1,11	0,00	0,70
C14-Social Relations	0,56	0,78	1,00	0,70
C15-Temporal Planning	0,11	0,22	0,50	0,20
C16-Motivation/Concentrations	0,00	0,00	0,50	0,05
C17-Competitions	0,11	0,78	0,50	0,45
C18-Rethinking	1,11	2,22	0,50	1,55
C19-Critical Approach	0,78	3,00	1,00	1,80
C20-Innovative Approach	0,89	1,11	1,50	1,05
C21-Environmental Approach	1,33	1,67	1,00	1,45
C22-Intellectual Accumulation	0,22	1,22	1,00	0,75
C23-Unemployment	0,00	0,67	0,50	0,35
C24-Qualification	1,11	2,67	2,50	1,95
C25-To Internalize Information	0,33	0,67	0,00	0,45
C26-Multidisciplinary Approach	0,67	1,22	3,00	1,15
C27-External Factors That Affect Architecture	0,78	1,56	1,50	1,20
C28-Informal Learning Environment	0,11	0,56	2,00	0,50
C29-Devaluation of Architecture	0,00	0,56	0,50	0,30
C30-Increasing Number of Architect	0,00	0,44	1,00	0,30
C31-Increasing Number of Architectural Faculties	0,11	0,33	1,00	0,30
TOTAL	16,78	29,00	39,00	24,50
Cluster 1:P1-2, P1-3, P1-4, P1-5, P1-7, P10, P2-1, P2-3, P2-5				
Cluster 2: P1-1, P1-6, P1-9, P2-4, P2-6, P2-7, P2-8, P2-9, P2-10				
Cluster 3: P1-8, P2-2				

Table 5.4: OLAP Cubes analysis of in-depth interviews

The data obtained by the OLAP cubes method is evaluated below:

- Cluster 1 mentioned *technology integration* and *technological tools* more frequently than the cluster 2, but no difference was found in terms of context.

When the results obtained from the in-depth interviews constituting the first phase of the research was examined with cluster method, no significant difference was observed in the pre-pandemic, pandemic process, and post-pandemic through the evaluations cluster 1 and cluster 2. The evaluations of both clusters support each other in the field of architecture. When analyzed conceptually, differences were determined between the cluster depending on the frequency of use of the concepts.

- The concepts of *online communication, distance education, face-to-face education* and *blended education* were mentioned more frequently by cluster one compared to cluster 2.

This may be due to the fact that academician architects are more concentrated in this cluster.

- Cluster 2 mentioned *the relationship between education and practice* more than cluster 2.

The fact that the concept of The Relationship Between Education and Practice is mentioned more frequently in cluster 2 may be due to the density of architects working in the practical field in this cluster. In this context, architect educators may have identified some problems in the practical application of the knowledge acquired by the students during the education process.

- Cluster 2 mentioned *originality* and *independence* more than cluster 2.

Again, this concept may have been mentioned more frequently due to the fact that architect educators were more concentrated in this group. The reason for this may be that it is difficult to produce free and original designs due to the constraints and external effects (pressure) in the design process, which are frequently experienced in the practical field.

- Cluster 2, on the other hand, referred to the concepts of ethics, external forces that affect architecture, social relations, critical approach, and environmental approach more frequently than the cluster 1. While the concepts of ethics and critical approach were discussed by the cluster 2 in relation to practical field, they were discussed in relation to education in cluster 1. However, the subjects related to other concepts were similar in both cluster. This shows that clusters exhibit a holistic approach in their assessment of architecture, despite the difference of their area of expertise.

5.3.2. Mann-Withney u test

Mann-Whitney U test is a non-parametric test which is alternative to the parametric two sample t-test. It is first proposed by Frank Wilcoxon (1945) and later worked by Henry Mann and Donald Whitney (1947). Hence, the Mann-Whitney U test is also known as Wilcoxon rank sum test or Wilcoxon-Mann-Whitney (WMW) test. Mann-Whitney U test used for comparing differences between two independent groups (URL-19).

With the Mann Whitney u test, it was examined whether there was a significant difference between the two subject groups in terms of mentioning the concepts (Table 5.5). A significant difference of 90% was observed in C2, C13, C14, C19, and C29 concepts, and 95% in C27.

- C2(technology Integration): The concept of C2 was mentioned more by the P1 group than by the P2 group. This may have caused it not to be seen as a shortcoming by architect educators, since architectural practice is carried out in an integrated manner with technology. Due to the fact that the integration of technology in the field of education is lower than in the practical field, and the importance of technology is revealed with the pandemic; academic educators may have said this concept frequently more than architect educators.
- C13 (Ethic), this concept was mentioned more frequently by the P2 group compared to the P1 group. It can be thought that this situation arises from the intensity of the violation of ethical values in architectural practice.

	Group	N	Mean	Std. Dev.	Std. Error Mean	Man Whitney U	p	Dif.
C1-Technological Tools	P1	10	1,00	0,82	0,258	49,5	0,968	-
	P2	10	1,40	1,90	0,600	-0,040		
C2-Technology Integration	P1	10	1,70	1,34	0,423	29	0,097	90%
	P2	10	0,90	1,52	0,482	-1,660		
C3-Technology Threat	P1	10	0,20	0,42	0,133	45	0,615	-
	P2	10	0,30	0,48	0,153	-0,503		
C4-Thinking About The Future	P1	10	0,70	0,95	0,300	39	0,302	-
	P2	10	0,30	0,67	0,213	-1,032		
C5-The Relationship Between Education and Practice	P1	10	1,00	1,63	0,516	44,5	0,625	-
	P2	10	0,60	1,07	0,340	-0,489		
C6-Online Communication	P1	10	0,70	1,06	0,335	35,5	0,149	-
	P2	10	0,20	0,63	0,200	-1,442		
C7-Face to Face Education	P1	10	0,40	0,70	0,221	41,5	0,358	-
	P2	10	0,30	0,95	0,300	-0,920		
C8-Distance Education	P1	10	0,50	0,71	0,224	36,5	0,178	-
	P2	10	0,20	0,63	0,200	-1,346		
C9-Blended Education	P1	10	0,20	0,42	0,133	46	0,626	-
	P2	10	0,20	0,63	0,200	-0,487		
C10-Originality	P1	10	1,50	1,08	0,342	48	0,868	-
	P2	10	2,00	2,16	0,683	-0,166		
C11-Independence	P1	10	0,90	1,29	0,407	42,5	0,542	-
	P2	10	1,20	1,32	0,416	-0,610		
C12-New Opportunities/Changes	P1	10	1,00	0,67	0,211	45	0,691	-
	P2	10	1,20	1,14	0,359	-0,397		
C13-Ethic	P1	10	0,30	0,95	0,300	31,5	0,084	90%
	P2	10	1,10	1,29	0,407	-1,729		
C14-Social Relations	P1	10	0,40	0,70	0,221	30	0,098	90%
	P2	10	1,00	0,94	0,298	-1,656		
C15-Temporal Planning	P1	10	0,10	0,32	0,100	40	0,276	-
	P2	10	0,30	0,48	0,153	-1,090		
C16-Motivation/Consantrations	P1	10	0,00	0,00	0,000	45	0,317	-
	P2	10	0,10	0,32	0,100	-1,000		
C17-Competitions	P1	10	0,20	0,42	0,133	33	0,127	-
	P2	10	0,70	0,82	0,260	-1,525		
C18-Rethinking	P1	10	1,30	1,77	0,559	36	0,272	-
	P2	10	1,80	1,62	0,512	-1,099		
C19-Critical Approach	P1	10	1,10	1,37	0,433	24	0,044	95%
	P2	10	2,50	1,84	0,582	-2,018		
C20-Innovative Approach	P1	10	1,10	1,66	0,526	43,5	0,599	-
	P2	10	1,00	0,94	0,298	-0,526		
C21-Environmental Approach	P1	10	1,00	1,25	0,394	33	0,184	-
	P2	10	1,90	1,66	0,526	-1,328		
C22-Intellectual Accumulation	P1	10	0,60	0,84	0,267	41	0,460	-
	P2	10	0,90	0,99	0,314	-0,739		
C23-Unemployment	P1	10	0,20	0,42	0,133	39	0,300	-
	P2	10	0,50	0,71	0,224	-1,037		
C24-Qualification	P1	10	2,30	1,83	0,578	39	0,397	-
	P2	10	1,60	1,51	0,476	-0,846		
C25-To Internalize Information	P1	10	0,30	0,67	0,213	40,5	0,373	-
	P2	10	0,60	0,97	0,306	-0,890		
C26-Multidisciplinary Approach	P1	10	1,10	1,60	0,504	41,5	0,500	-
	P2	10	1,20	1,03	0,327	-0,675		
C27-External Factors That Affect Architecture	P1	10	0,70	0,82	0,260	27,5	0,077	90%
	P2	10	1,70	1,34	0,423	-1,770		
C28-Informal Learning Environment	P1	10	0,60	0,97	0,306	48	0,861	-
	P2	10	0,40	0,52	0,163	-0,175		
C29-Devaluation of Architecture	P1	10	0,10	0,32	0,100	30	0,057	90%
	P2	10	0,50	0,53	0,167	-1,902		
C30-Increasing Number of Architect	P1	10	0,30	0,48	0,153	50	1,000	-
	P2	10	0,30	0,48	0,153	0,000		
C31-Increasing Number of Architectural Faculty	P1	10	0,40	0,52	0,163	40	0,342	-
	P2	10	0,20	0,42	0,133	-0,951		
TOTAL	P1	10	21,90	7,98	2,523	31	0,150	-
	P2	10	27,10	8,82	2,791	-1,440		

Table 5.5: Mann-Whitney u test analysis of in-depth interviews

- C14 (Social Relation), The concept of C14 was mentioned more frequently by the P2 group compared to the P1 group. Due to the fact that educational

environments are also social and informal information environments, the adoption of an introverted structure in the practical field (offices) may have created a deficiency in social relations.

- C19 (Critical Approach), In addition to the fact that this concept was mentioned by both groups, more intensity was detected in the P2 group compared to the P1 group. The fact that the discipline of architecture, which is exposed to economic and political effects, has recently created a pressure element in the practical field, may have highlighted the necessity of being more critical towards events and the architectural environment.
- C27 (External Factors That Affect Architecture), depending on the approach in the concept of C19, this concept may have been mentioned more frequently by the P2 group.
- C29-Devaluation of Architecture, Again, depending on the approach in the concept of C19, this concept may have been mentioned more frequently by the P2 group. Factors such as the increase in the number of architectural faculties, the inadequacy of the number of academicians, the quality of education were frequently mentioned by academicians and architects. In addition, external factors such as economy and politics that affect the originality and quality of design can be an effective reason for the devaluation of architecture.

5.3.3. Correlation

The correlation system is used to determine the direction, magnitude and significance of the binary relationship between two or more variables. In addition, partial correlation analysis is also performed. According to at least one variable, the similarity distances of the units with each other or the distances showing the differences (dissimilarity) are calculated. The similarity/difference (Euclidean, square Euclidean, minkowski) matrices of units or variables according to various distance and similarity measures are find (URL-20)

With this analysis, the correlation of the concepts with each other in the total of the P1 and P2 subject groups was examined. And the data obtained from the table showing these correlation results were examined (Annex-2). The data obtained from the correlation are evaluated below.

- There is a positive, strong 99% significant correlation between C1 and C2.

It can be said that integration with technology increases the prevalence of use of technological tools.

- There is a negative, strong 95% significant correlation between C1 and C13.
- There is a strong 99% significant correlation between C2 and C13 in the negative direction.

This situation may have occurred due to the disregard of ethical values due to the widespread use of technological tools. The fact that access to information and design has become easier by means of technological tools may have caused plagiarism to increase and the originality to be negatively affected while benefiting from these sources.

- There is a positive, strong 95% significant correlation between C1 and C20.

Contrary to the relationship between C1 and C13, the use of technological tools in the right areas may have enabled new innovative developments in architectural productions in the direction of improving quality and performance.

- There is a positive, strong 95% significant correlation between C2 and C7.
  There is a positive, strong 95% significant correlation between C2 and C8.

The state of integration with technology has been found to be very important in both face-to-face education and distance education and its necessity has been emphasized. It is thought that this situation may create new opportunities in the education system.

- There is a strong 95% significant correlation between C2 and C18 in the negative direction.
- There is a negative, strong 99% significant correlation between C2 and C19.

In line with the results obtained here, it can be said that the way of looking at events and situations and the frequency of critical approach decreased with the increase in technology integration. In addition, it can be said that a way of thinking stuck between the possibilities and possibilities brought by technology has become widespread.

- There is a negative, moderate 95% significant correlation between C2 and C29.

It has been determined that the relationship between C2-C18 and C2-C19 has an effect on the depreciation of architecture. With the spread of a certain way of thinking and the disappearance of different perspectives, the quality and originality of architecture may have been negatively affected, and architecture may have lost value accordingly.

- There is a positive, moderate 95% significant correlation between C3 and C17.

In the context of the relationship between C1-C13 and C1-C13, the evolution of architecture into a system based on images and the effect of originality/quality conditions accordingly may have caused technology to pose a threat in competition environments.

- There is a positive, moderate 95% significant correlation between C4 and C18.

The fact that many facts existing in the education and practical fields of architecture should be rethought within new conditions and possibilities regarding what can be done for the future of architecture makes this correlation strong.

- There is a positive, moderate 95% significant correlation between C5 and C20.

The relationship and closeness established between architectural education and practice were seen as insufficient by many in the in-depth interviews. It can be thought that these two structures that feed each other should be in a closer relationship with innovative solutions.

- There is a positive, moderate 95% significant correlation between C5 and C22.
- There is a positive, strong 99% significant correlation between C5 and C28.

It is concluded that the relationship established between education and practice has positive effects on environmental approach and informal education environments. It is thought that this situation may be effective in closely following and discussing the solutions produced against environmental problems and presenting new solution proposals depending on the experience of the acquired knowledge in the field of application. Informal education environments also enable this ground to be formed in this respect.

- There is a positive, moderate 95% significant correlation between C7 and C16.
- There is a positive, moderate 95% significant correlation between C8 and C16.
- There is a positive, strong 99% significant correlation between C9 and C16.

The importance of education models on the motivation and concentration of students is understood from the positive values of these correlations. The education model is evaluated as increasing the quality of education and increasing student concentration.

- There is a positive, strong 99% significant correlation between C17 and C21.

In the in-depth interviews, it was mentioned that the competitions were few in number, their contribution to the students in architectural education and the necessity of making public buildings through competitions in the practical field. It has been stated that competition projects and different designs are competitive environments that offer solutions by considering many different criteria together. In this context, it can be said that competitions are an encouraging environment for production by considering environmental approaches.

6. ANALYSIS OF THE SECOND PHASE (SURVEY)

At this phase of the research, a survey was applied to 20 experts in the field (10 academic educators, 10 architect educators) who participated in the in-depth interviews. The fact that it has been applied in different time periods is important to determine the rate of change in perspectives towards events over time. The content of the survey covers the evaluations of three different time periods are pre-pandemic, pandemic process, and post-pandemic (Figure 1.4).

6.1. Pre-Pandemic Survey Results

At this phase of the survey, it was asked to evaluate the educational status in the pre-pandemic period. Likert-typed rating method was used for the evaluation of

educational status, standard education program, innovative education environment, original course contents and methods, use of digital tools, au courant-ness of course content, interdisciplinary relations, access to informal education environment, relationship between education and practice, relationship between education and theory. Survey questions were shared in the appendices section of the thesis (Appendix 1).

18 out of 20 educators mentioned above participated in the survey study. The evaluations of the participants were shared numerically in tabular form (Table 6.1). In the evaluations of 18 people, the areas where the same opinion was shared by 9 or more people are shown in orange (Table 6.1).

When the pre-pandemic education status is evaluated, it is seen that the *standard education program* was considered insufficient by 11 people. It is possible to assume that the education system has a more introverted structure in terms of adaptation to current times and events.

	Definitely sufficient	Sufficient	I don't have an idea	Insufficient	Definitely insufficient	Total of definitive answers
Standard education program	1	4	2	10	1	11
Innovative education program	1	2	5	8	2	10
Original course contents and methods	0	1	5	10	2	12
Using of digital tools	0	6	7	4	1	6
Up-to-dateness of course content	0	2	8	5	3	8
Interdisciplinary relations	0	2	1	11	4	15
Access to the informel education environment	0	7	4	6	1	-
Relationship with practice	1	2	2	9	4	13
Relationship with theory	0	4	8	5	1	6

Table 6.1: Pre-pandemic survey results

The architectural profession, which has a multidisciplinary structure, is closely related to other disciplines thanks to its nature. However, according to the results of the survey study, the pre-pandemic education system was deemed inadequate by 15 people in the context of *relations established with other disciplines*. It seems possible that the reason for the evaluation of standard education system as inadequate is its inability to include developments and transformations in the education system due to insufficient

multidisciplinary relations. In addition, the *originality of the course content* was found to be insufficient by 12 people and the *innovative education system* was considered inadequate by 10 people. Again, the reason for these two situations to be evaluated as insufficient may be another factor arising from the introverted structure of the education.

The use of digital tools in the education system and the *au courant-ness of the course contents* did not produce a significant result in the survey data.

Architectural education has a holistic form of education that includes practical and theoretical courses. For this reason, the relations between theory and practice are important for architectural education. When the evaluations of the participants in these two areas were examined, while no significant results could be observed in the relations with the *theoretical field* in pre-pandemic education, the relations with the *practical field* were considered insufficient by 13 people.

6.2. Pandemic Study Survey Results

	Definitely agree	Agree	I don't have an idea	Don't agree	Definitely do not agree	Total of definitive answers
Time management has become easier	3	6	2	5	2	9
Access to large audiences has become easier	3	13	0	2	0	16
Data sharing has become easier	3	10	5	0	0	13
Communication has become easier	2	7	4	3	2	9
The use of digital media has increased	6	10	1	1	0	16
The disappearance of physical environment con...	6	12	0	0	0	18

Table 6.2: Pandemic study survey results (Part 1)

When the pandemic process phase of survey results of architectural education and practice evaluations are examined, it is possible to see that the pandemic had effects in various areas (Table 6.2). The view that the pandemic increased the prevalence of digital media use was supported by 16 people. In this context, the evaluation of online communication environments in terms of *reaching large audiences* was found to be successful by 16 people. 18 people are of the opinion that it is possible to establish

academic connections that are otherwise physically not possible. In addition, 13 people think that *data sharing* has become easier with the online environment. However, no significant difference was observed in terms of *easier communication*. It is thought that this situation may be the result of limitations that online communication has due to the disappearance of factors such as gesture and mimic in face-to-face communication, which are frequently mentioned in in-depth interviews. A certain view could not be obtained on *temporal management* becoming easier. It is thought that this uncertainty may have arisen from different perspectives on temporal management in in-depth interviews.

In the evaluations of the distance education process, 15 people think that the *communication with the student* has weakened. When the evaluation was made on whether the criticism process of courses based on producing such as studio and practical courses, has become more difficult or not, no significant difference has been observed.

	Definitely agree	Agree	I don't have an idea	Don't agree	Definitely do not agree	Total of definitive answers
The student's practice of doing is weakened	7	10	1	0	0	17
Communication with the student was diffucult	4	11	1	2	0	15
Difficulty in adapting to digital environment	0	4	2	11	1	12
Students easily adapted to the digital environment	0	3	3	9	3	12
Criticizing project has become difficult	0	7	3	8	0	8
There has been inequality in access to digital media	1	11	5	1	0	12
Online education has reduced student consantration	5	7	2	4	0	12
Hand drawing/sketching skills have weakened	6	8	3	1	0	14
The form of informel education has weakened	1	10	3	3	1	11

Table 6.3: Pandemic study survey results (Part 2)

12 people think that they have no difficulties in *adapting to the digital environment*. In the evaluations made regarding the students, 12 people think that the students do not experience any difficulties in *adapting to the digital environment*. It is thought that this may be the result of the close relationship students establish with technology,

which was frequently mentioned in the in-depth interviews. However, in the context of the evaluation results, it is seen that this success has not been achieved in numerous other areas. 12 people think that it is difficult for students to access online classes because of the *inadequacy of infrastructure facilities*. 12 people supported the view that the students who could attend the classes experienced a *decrease in concentration* as a result of distance education. In addition, 14 people supported the view that *hand drawing/sketching skills* decreased due to the widespread use of technological tools. Again, in the same context, the view that practice of students weakened was supported by 17 people. Restriction of access to informal education environment such as school with distance education and various accompanying physical constraints have had a negative impact on students (Table 6.3).

6.3. Post-pandemic Survey Results

Under this title, the predictions of the participants for the future of architecture were evaluated.

	Definitely agree	Agree	I don't have an idea	Don't agree	Definitely do not agree	Total of definitive answers
Innovative edu. environment should be created	12	6	0	0	0	18
Original contents and methods should be developed	11	7	0	0	0	18
Course content should be updated	8	9	1	0	0	17
Information sharing environments must be supported	12	5	1	0	0	17
Competition should be encouraged	8	6	2	2	0	14
Symposium...etc should be part of education	7	8	2	1	0	15
Activities at the education/practice interface	5	12	0	1	0	17
Article writing in education should be supported	8	7	2	1	0	15
The use of digital production tools should be encou.	8	8	1	1	0	16
Use of digital software tools should be increased	8	7	2	1	0	15
Interdisciplinary relations should be supported	12	5	0	1	0	17
The relationship with pratice should be supported	10	7	0	1	0	17
Tubitak etc. support should be provided	9	7	2	0	0	16
Internship periods should be extended	9	6	3	0	0	15

Table 6.4: Post-pandemic survey results

In the evaluations regarding the **future of the education system**, the necessity of establishing an *innovative educational* environment was supported by 18 people, the necessity of *originality of course content and methods* by 18 people, the necessity of *updating course contents* by 17 people, and the necessity of *increasing interdisciplinary relations* by 17 people. The deficiency of these four situations in the current educational environment has also been frequently discussed in the in-depth interviews. In this context, the survey data provided consistent data with in-depth interviews.

In the evaluations regarding the **future of educational environments**, 17 people supported the *creation of environments to increase information sharing and interaction*, and 14 people supported the necessity of directing students to activities that trigger the sense of rivalry such as *competitions*. In addition to these, 15 people supported the view that participation in *workshops, symposiums and seminars should be included to education*. These three cases indicate that education is not limited to school boundaries and students have opportunities to acquire knowledge and experience in various fields. In the in-depth interviews, it was stated that these environments are important in the internalization of knowledge and the creation of original/rich productions through one's own mental process.

In the evaluations regarding the **future of the academic environment**, the necessity of reinforcing the efficiency of the academic staff at the education/practice interface was supported by 17 people, and the necessity of increasing the time allocated to non-educational academic activities was supported by 15 people.

In the evaluations of **technological developments**, the necessity of encouraging the *use of digital production tools* was supported by 16 people and the necessity of increasing the *use of digital software tools* was supported by 15. In the in-depth interviews, it was stated that the correct use of digital production tools can create new opportunities in the architectural environment. Taking advantage of the opportunities provided by technology (VR, AR, 3D printer, BIM…) in the architectural productions of the future, it is possible that productions with a holistic approach, which combine

many parameters such as cost, workforce, building performance, sustainable material, climate, environment, structure, time, will become widespread.

In the evaluations for the **practical field**, the necessity of *increasing the relationship with the practical environments* was supported by 17 people and the necessity of *updating the internship systems and extending their duration* was supported by 15 people. When the practical field relationship of education is evaluated by considering in-depth interviews and survey data, it is possible to say that this relationship is seen as insufficient in the current education system. In addition, *the support of Tübitak and European Union projects* was supported by 16 people (Table 6.4).

7. CONCLUSION

Architecture is a discipline open to change and transformation due to its interaction with different disciplines and its structure that adapts to the spirit of the age. The Covid-19 pandemic, which constitutes the problem area of the study and affected the whole world by changing and transforming various aspects of life, has also caused numerous effects in the field of architecture. This study predicts that the pandemic will cause a fracture in the educational and practical fields of architecture. Fracture refers to the comprehension of what the conditions for education and practice that was suddenly subjected to the conditions of the pandemic are, and how they can be resolved. It is thought that the material, structural, spatial, and sensory oriented realities of architecture have been fractured by the pandemic conditions and that new realities can acquired by redefining the relationship established with technology. In this context, by using in-depth interviews and survey research methods, the opinions, thoughts, experiences, and suggestions of a total of 20 people, 10 academic educators (P1) and 10 architect educators (P2), were taken.

A comparison was made of the results of the survey and in-depth interviews for the fields of architectural education and practice. As a result of this comparison:

- According to the data obtained from the in-depth interviews and survey results, the education system; *interdisciplinary interaction*, *content* and *adaptation* to the current situation were seen as insufficient.

It is thought that this situation in the education system, which has been going on for a long time, may have been detected in the event of a new problem (Pandemi). In addition, it is thought that these concepts may have had an impact on the architectural environment, which is losing value day by day.

- For the future of the education system, according to the data obtained from both phases, in the education system; It has been determined that *innovative, original, up-to-date content* should be created and *interdisciplinary interaction* should be increased.

In addition to the survey data, in the in-depth interviews, it was stated that in the course contents, systems that allow the output of one course to provide the input of another course should be developed to *internalize the information.* The results obtained here strengthen the argument that there will be certain changes in the education system in the future. It seems likely that the course content and methods from the past will be rearranged in accordance with the rapidly transforming new age and contribute to *the future of architecture*, and *original content* will also be prepared by considering *interdisciplinary relations.*

- As for educational environments, in in-depth interviews, distance education was considered insufficient for practical and studio courses within the current technological capabilities, and that the *face-to-face education* was stated to be a requirement.

Student motivation, difficulties in communication with students and difficulties in conducting some practical courses may have strengthened the thought that face-to-face education is necessary in architectural education.

- In the survey evaluations, results supporting face-to-face education were obtained due to *the difficulties of criticizing projects, poor communication with the student*, *low concentration*, and *weakening of practice*. However, the data obtained from the results of the survey (*access to large audiences, the*

disappearance of physical conditions, increase in academic connections, temporal management) and in-depth interviews (*easier access to architectural environments such as seminars, conferences, the opportunity to take courses from experts in different geographies, the ability to access lessons repeatedly withs the recordings made*) also indicate the existence of areas where distance education has proven to be advantageous.

The results from this showed that theory courses can be conducted with distance education for the future. With the distance education model, it can be seen as a new opportunity for architectural education that students can take lessons from many different geographies, experience different architecture schools and take lessons from many different experts in their fields. This situation also has the potential to enable students to develop different perspectives towards the discipline of architecture. This situation constitutes a strong argument for the transition of the education system to the blended education model. These opportunities and potentials constitute a strong argument for the transition from the traditional education system to the coeducational model in architectural education.

- In the survey results for academic environments, it has been concluded that the academic environment should be increased in the intersection of education and practice and the time allocated to non-educational academic activities also should be increased. In the in-depth interviews, problems such as the low number of academicians and the decrease in the quality of academic productions compared to the past were evaluated.

When these results are evaluated together, the increase in the course obligations of the academicians due to the low number of academicians indicates that the quality may have been affected due to the limited time allocated for academic productions. The fact that the course contents have not been exposed to innovation for a long time and the education models on the school basis are not sufficiently original may be due to the limited time allocated by the academicians to this field due to the low number of academicians.

- The results obtained in the survey study for the practical field (such as the relationship between education and practice, internship periods, Tübitak projects) were evaluated on the basis of education. In the in-depth interviews, issues such as construction systems, production of renewable materials, the quality of the buildings, and compliance with architectural ethics against external factors were evaluated.

The data obtained from the survey and in-depth interviews are generally based on the relationship between the practical field and education and it is aimed to reinforce this relationship.

This situation creates the opportunity for students to experience the knowledge gained in the practical field by extending the internship periods in architectural education. It can also encourage students to do different studies such as Tübitak projects. This situation strengthens the argument that some situations should be re-examined in the context of the relationship between architectural education and the practical field.

- Evaluations of technological developments show consistency in terms of positive aspects of these developments as a result of survey studies and in-depth interviews. In both phases, the advantages and possibilities of technology in many areas such as cost, labor, environmental approach, production of high-performance structures, more realistic presentation techniques in the field of architecture were evaluated. However, in addition to the survey results, the negative effects of technology (such as the restriction of originality caused by the use of technological tools in the design, the evaluation of architecture through images, the problems experienced in its integration into practical courses, the limitation in communication...) were also discussed in the in-depth interviews.

Despite the negative aspects of the results, the fact that they have several advantages indicating that technology will have a closer relationship with architecture and will create / give birth to new norms in architecture. In order to prevent the negative effects of technology, it can be said that the purpose of use and usage areas should be controlled. The use of technology as a tool that respects ethical values, focuses on

environmental problems and considers climatic changes, and supports originality and quality, has the potential to prevent negative consequences. In this context, it is envisaged that technology is the means to solve the problems caused by the fractures caused by the pandemic in both the educational and practical fields. The critical point is how and to what extent this close relationship between architecture and technology will affect new architectural behavior patterns in the future.

As a result of all these researches; It can be said that the pandemic has created an opportunity to confront some of the problems that exist in architectural education and practice but are not aware of or are known to exist but are ignored. This confrontation has paved the way for rethinking and questioning numerous facts. Pandemic process includes the discussion of what kind of and how new technological tools will have its effects in the architectural environment in one hand, on the other hand it makes it inevitable for the architect to redefine the conditions of the professional existence as a multidisciplinary profile. In this context, the pandemic has created a breaking point in the field of architecture.

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APPENDICES

Annex-1: Survey Questions

Covid-19 Salgını ve Sonrasında Mimarlığın Pratik ve Eğitim Arakesitinde Geleceği Düşünmek ve Üretmek					
	(Salgın Öncesi Dönemde) Eğitim Durumunun Değerlendirilmesi				
	Çok yeterli olduğunu düşünüyorum	Yeterli olduğunu düşünüyorum	Kararsızım	Yetersiz olduğunu düşünüyorum	Çok yetersiz olduğunu düşünüyorum
Standart eğitim programı					
Yenilikçi eğitim ortamı					
Özgün ders içerikleri ve yöntemleri					
Dijital araçların kullanımı					
Ders içeriklerinin güncelliği					
Disiplinler arası ilişkiler					
Informel eğitim ortamına erişim					
Pratik ile olan ilişki					
Teori ile ilgili olan ilişki					

Covid-19 Salgını ve Sonrasında Mimarlığın Pratik ve Eğitim Arakesitinde Geleceği Düşünmek ve Üretmek					
	(Salgın Sürecinde) Eğitim Pratiğinin Değerlendirilmesi				
	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
Zaman yönetimi kolaylaşmıştır					
Geniş kitlelere ulaşma açısından başarılıdır					
Veri paylaşımı kolaylaşmıştır					
İletişim kolaylaşmıştır					
Dijital ortamın kullanımı artmıştır					
Fiziki zorlukların ortadan kalkması ile daha önce mümkün olmayan bağlantıların kurulması, uzmanların/akademisyenlerin davet edilmesi mümkün olmuştur					

Covid-19 Salgını ve Sonrasında Mimarlığın Pratik ve Eğitim Arakesitinde Geleceği Düşünmek ve Üretmek					
	(Salgın Sürecinde) Uzaktan Eğitim Sürecinde Stüdyo ve Uygulamalı Derslerde ki Temel Problemleri Nasıl Değerlendirirsiniz?				
	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
Öğrencinin yapma pratiği zayıflamıştır (maket, malzeme eksikliği vb.)					
Öğrenci ile iletişim zorlaşmıştır					
Dijital ortamı kullanmada zorlandım					
Öğrenci dijital ortamı kullanmada zorlanmıştır					
Kritik vermek güçleşmiştir					
Altyapı olanakların yetersizliği, öğrencilerin katılımını güçleştirmektedir					
Uzaktan eğitim öğrenci konsantrasyonunu düşürmüştür					
El çizimi/ eskiz becerileri zayıflamıştır					
Informel eğitim biçimi zayıflamıştır					

Covid-19 Salgını ve Sonrasında Mimarlığın Pratik ve Eğitim Arakesitinde Geleceği Düşünmek ve Üretmek

	(Salgın Sonrası) Mimarlık eğitiminin geleceğinde, pratiğe yönelik açılımların nasıl geliştirileceğini düşünüyorsunuz?				
	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
Yenilikçi eğitim ortamı kurulmalıdır					
Özgün ders içerikleri ve yöntemleri geliştirilmedir					
Ders içerikleri güncellenmelidir					
Okul içerisinde bilginin paylaşıldığı etkileşim ortamları oluşturulmalıdır					
Rekabet teşvik edilmelidir (yarışmalar vb.)					
Çalıştay/ sempozyum/ seminerlere katılım eğitimin parçası olmalıdır					
Akademik eğitim kadrosunun, eğitim/pratik arakesitinde etkinliklerini arttırmaları sağlanmalıdır					
Eğitim dışı akademik aktivitelere ayrılan zaman arttırılmalıdır (makale/bildiri yazımı, proje üretimi, ürün tasarımı vs.)					
Dijital üretim araçlarının kullanımı teşvik edilmelidir					
Dijital yazılım araçlarının kullanımı arttırılmalıdır					
Disiplinler arası ilişkiler arttırılmalıdır					
Pratik ortamlar ile olan ilişki (sanayi, mesleki, ar-ge vb.)					
Tübitak/ Avrupa Birliği vb. proje desteklerinin alınması sağlanmalıdır					
Staj Sistemlerinin güncellenmesi/ süresinin uzatılması sağlanmalıdır					

Annex-2: In-Depth Interview Correlation Table

Group P1-P2 Correlations

			C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30	C31	TOPLAM
Spearman's rho	C1	Cor. Coef.	1,000	,783**	-0,158	-0,157	0,216	0,214	0,430	0,287	0,325	-0,377	-0,360	0,412	-,481*	0,034	0,353	0,250	-0,054	-0,287	-0,379	,459*	-0,031	-0,114	-0,272	-0,190	0,255	-0,058	-0,334	-0,060	-0,148	0,000	0,248	0,088
		Sig. (2-tailed)		0,000	0,507	0,510	0,361	0,364	0,058	0,220	0,163	0,102	0,119	0,071	0,032	0,888	0,127	0,287	0,820	0,220	0,099	0,042	0,897	0,632	0,246	0,423	0,278	0,808	0,150	0,800	0,291	1,000	0,291	0,713
		N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	C2	Cor. Coef.	,783**	1,000	-0,293	-0,021	0,160	0,378	,457*	,448*	0,339	-0,269	-0,425	0,196	-,602**	0,106	0,193	0,021	-0,224	-,488*	-,748**	0,379	0,092	0,303	0,374	0,158	0,086	0,166	0,396	-,495*	0,059	0,208	-0,179
		Sig. (2-tailed)	0,000		0,210	0,928	0,502	0,100	0,043	0,048	0,144	0,251	0,062	0,407	0,005	0,655	0,416	0,931	0,343	0,029	0,000	0,100	0,700	0,192	0,105	0,506	0,718	0,484	0,084	0,027	0,804	0,379	0,450
		N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	C3	Cor. Coef.	-0,158	-0,293	1,000	0,099	0,283	0,224	0,043	-0,026	0,113	0,000	0,097	-0,116	0,198	0,110	0,000	0,397	,523*	0,010	0,278	-0,032	0,238	0,218	0,412	0,041	-0,087	0,189	0,240	-0,023	0,378	-0,126	-0,126	0,311
		Sig. (2-tailed)	0,507	0,210		0,677	0,227	0,342	0,857	0,912	0,636	1,000	0,684	0,627	0,403	0,645	1,000	0,083	0,018	0,965	0,236	0,893	0,312	0,357	0,071	0,865	0,716	0,424	0,309	0,923	0,100	0,597	0,597	0,182
		N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	C4	Cor. Coef.	-0,157	-0,021	0,099	1,000	-0,329	0,162	-0,321	-0,125	-0,270	0,402	0,126	-0,231	0,123	-0,148	0,027	0,148	-0,027	,488*	0,026	0,415	0,022	0,021	0,176	0,086	0,025	0,425	0,041	0,067	0,164	0,164	0,164	-0,210
		Sig. (2-tailed)	0,510	0,928	0,677		0,156	0,495	0,168	0,598	0,249	0,079	0,595	0,326	0,607	0,533	0,910	0,529	0,911	0,029	0,914	0,069	0,166	0,629	0,459	0,717	0,869	0,062	0,864	0,779	0,489	0,489	0,489	0,373
		N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	C5	Cor. Coef.	0,216	0,160	0,283	-0,329	1,000	0,020	0,282	0,209	0,366	-0,114	-0,109	0,323	-0,157	0,060	-0,102	0,304	-0,010	-,572**	-0,223	,464*	-0,278	,525*	0,417	0,063	-0,074	0,252	-0,030	,604**	0,245	,490*	,490*	0,360
		Sig. (2-tailed)	0,361	0,502	0,227	0,156		0,932	0,228	0,377	0,112	0,632	0,646	0,165	0,507	0,803	0,669	0,192	0,965	0,008	0,345	0,039	0,236	0,017	0,067	0,790	0,756	0,284	0,899	0,005	0,298	0,028	0,028	0,119
		N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	C6	Cor. Coef.	0,214	0,378	0,224	0,162	0,020	1,000	0,275	,470*	0,129	-0,115	-0,277	0,241	-0,367	-0,089	0,257	0,419	-0,009	-0,094	-0,192	0,039	-0,163	-0,357	-0,241	-0,200	-0,072	-0,278	-0,063	0,032	-0,112	-0,126	0,100	-0,153
		Sig. (2-tailed)	0,364	0,100	0,342	0,495	0,932		0,240	0,036	0,588	0,629	0,238	0,296	0,108	0,708	0,275	0,066	0,969	0,695	0,419	0,871	0,494	0,122	0,302	0,397	0,764	0,234	0,792	0,895	0,638	0,638	0,676	0,519
		N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20

C7	Cor. Coef.	0,430	,457*	0,043	-0,321	0,282	0,275	1,000	,894**	,873**	-0,034	-0,305	0,369	-0,319	0,157	0,109	,541*	-0,093	-0,328	-0,396	0,262	-0,285	-0,056	-0,029	-0,021	-0,320	0,127	0,099	0,227	-0,014	0,271	,515*	0,204
	Sig. (2-tailed)	0,058	0,043	0,857	0,168	0,228	0,240		0,000	0,000	0,886	0,191	0,109	0,170	0,509	0,649	0,014	0,696	0,158	0,084	0,264	0,224	0,814	0,904	0,929	0,169	0,595	0,679	0,335	0,955	0,248	0,020	0,389
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C8	Cor. Coef.	0,287	,448*	-0,026	-0,125	0,209	,470*	,894**	1,000	,786**	-0,086	-0,182	0,343	-0,368	0,036	0,043	,472*	-0,168	-0,187	-0,417	0,131	-0,272	-0,142	-0,101	-0,056	-0,369	0,024	-0,030	0,345	-0,087	0,200	0,424	0,116
	Sig. (2-tailed)	0,220	0,048	0,912	0,598	0,377	0,036	0,000		0,000	0,719	0,443	0,138	0,111	0,881	0,858	0,036	0,478	0,430	0,067	0,582	0,245	0,550	0,672	0,815	0,110	0,920	0,900	0,136	0,714	0,399	0,062	0,625
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C9	Cor. Coef.	0,325	0,339	0,113	-0,270	0,366	0,129	,873**	,786**	1,000	-0,199	-0,230	0,399	-0,269	0,309	0,175	,609**	-0,017	-0,193	-0,272	0,087	-0,180	0,037	0,044	-0,063	-0,270	0,256	-0,017	0,317	0,061	0,350	0,350	0,252
	Sig. (2-tailed)	0,163	0,144	0,636	0,249	0,112	0,588	0,000	0,000		0,400	0,330	0,081	0,251	0,185	0,462	0,004	0,943	0,415	0,245	0,716	0,447	0,877	0,855	0,792	0,249	0,277	0,943	0,174	0,799	0,130	0,130	0,284
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C10	Cor. Coef.	-0,377	-0,269	0,000	-0,402	-0,114	-0,115	-0,034	-0,086	-0,199	1,000	0,433	-0,382	0,025	0,155	-0,071	-0,109	0,116	-0,077	0,141	0,333	-0,048	0,002	0,323	0,276	-0,285	-0,190	0,360	-0,083	0,283	0,228	0,265
	Sig. (2-tailed)	0,102	0,251	1,000	0,079	0,632	0,629	0,886	0,719	0,400		0,056	0,097	0,917	0,514	0,765	0,647	0,628	0,747	0,554	0,152	0,842	0,994	0,165	0,239	0,223	0,422	0,119	0,728	0,228	0,334	0,259
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C11	Cor. Coef.	-0,360	-0,425	0,097	0,126	-0,109	-0,277	-0,305	-0,182	-0,230	0,433	1,000	-0,063	0,157	0,034	0,000	-0,214	0,294	,446*	0,351	-0,094	0,170	0,130	0,212	0,238	0,181	-0,095	0,152	0,234	0,061	0,193	-0,010	,504*
	Sig. (2-tailed)	0,119	0,062	0,684	0,595	0,646	0,238	0,191	0,443	0,330	0,056		0,792	0,507	0,888	1,000	0,365	0,208	0,049	0,129	0,692	0,473	0,585	0,369	0,312	0,444	0,690	0,523	0,321	0,798	0,414	0,966	0,023
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C12	Cor. Coef.	0,412	0,196	-0,116	-0,123	0,332	0,024	0,369	0,343	0,399	-0,382	-0,063	1,000	-0,008	0,110	,478*	0,397	0,298	-0,174	-0,041	0,286	0,109	0,303	0,211	0,094	0,069	,526*	-0,089	,601**	0,398	0,268	0,398	,487*
	Sig. (2-tailed)	0,071	0,407	0,627	0,607	0,152	0,919	0,109	0,138	0,081	0,097	0,792		0,974	0,643	0,033	0,083	0,202	0,464	0,864	0,222	0,649	0,194	0,371	0,694	0,774	0,017	0,710	0,005	0,082	0,252	0,082	0,029
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C13	Cor. Coef.	-,481*	-,602**	0,198	-0,123	-0,157	-0,367	-0,319	-0,368	-0,269	0,025	0,157	-0,008	1,000	0,057	-0,322	-0,148	0,082	0,015	-0,351	-0,350	0,128	-0,042	0,169	-0,140	-0,073	0,253	-0,199	-0,098	0,328	-0,152	-0,421	-0,010
	Sig. (2-tailed)	0,032	0,005	0,403	0,604	0,507	0,111	0,170	0,111	0,251	0,917	0,507	0,974		0,811	0,167	0,535	0,731	0,950	0,129	0,130	0,591	0,861	0,476	0,556	0,761	0,281	0,401	0,682	0,159	0,522	0,064	0,967
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20

C14	Cor. Coef.	0,034	0,106	0,110	-0,148	0,060	-0,089	0,157	0,036	0,309	0,155	0,034	0,110	-0,057	1,000	0,380	0,349	0,306	-0,158	-0,141	0,355	0,141	0,085	,471*	-0,280	-0,190	-0,105	0,273	0,043	0,301	0,301	0,124	0,213
	Sig. (2-tailed)	0,888	0,655	0,645	0,533	0,803	0,708	0,509	0,881	0,185	0,514	0,888	0,643	0,811		0,098	0,132	0,189	0,506	0,554	0,125	0,552	0,723	0,036	0,233	0,422	0,661	0,244	0,856	0,198	0,198	0,601	0,366
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C15	Cor. Coef.	0,353	0,193	0,000	-0,027	-0,102	0,257	0,109	0,043	0,175	-0,071	0,000	,478*	-0,322	0,380	1,000	,459*	,656**	0,135	0,167	0,290	0,358	-0,094	0,189	0,188	0,255	0,273	0,079	0,075	0,218	0,218	0,218	,467*
	Sig. (2-tailed)	0,127	0,416	1,000	0,910	0,669	0,275	0,649	0,858	0,462	0,765	1,000	0,033	0,167	0,098		0,042	0,002	0,570	0,482	0,215	0,121	0,693	0,424	0,429	0,277	0,244	0,741	0,752	0,355	0,355	0,355	0,038
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C16	Cor. Coef.	0,250	0,021	0,397	-0,148	0,304	0,419	,541*	,472*	,609**	-0,109	-0,214	0,397	-0,148	0,349	,459*	1,000	0,260	-0,021	0,123	0,277	-0,021	0,130	0,323	-0,304	-0,148	0,021	0,207	0,254	0,350	0,350	0,350	0,359
	Sig. (2-tailed)	0,287	0,931	0,083	0,533	0,192	0,066	0,014	0,036	0,004	0,647	0,365	0,083	0,535	0,132	0,042		0,269	0,931	0,607	0,237	0,931	0,586	0,165	0,193	0,533	0,930	0,381	0,280	0,130	0,130	0,130	0,120
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C17	Cor. Coef.	-0,054	-0,224	,523*	-0,027	-0,010	-0,009	-0,093	-0,168	-0,017	0,116	0,294	0,298	0,082	0,306	,656**	0,260	1,000	0,138	0,404	0,207	,637**	0,170	0,428	0,378	0,060	0,235	0,285	0,020	0,415	0,135	-0,067	,641**
	Sig. (2-tailed)	0,820	0,343	0,018	0,911	0,965	0,969	0,696	0,478	0,943	0,628	0,208	0,202	0,731	0,189	0,002	0,269		0,562	0,078	0,381	0,003	0,473	0,060	0,100	0,801	0,318	0,222	0,933	0,069	0,571	0,778	0,002
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C18	Cor. Coef.	-0,287	-,488*	0,010	,488*	-,572**	-0,094	-0,328	-0,187	-0,193	-0,077	,446*	-0,174	-0,015	-0,158	-0,135	-0,021	0,138	1,000	,685**	-,573**	0,257	-0,066	-0,206	0,001	0,233	-0,134	-0,119	-0,154	0,010	-0,216	-0,344	0,084
	Sig. (2-tailed)	0,220	0,029	0,965	0,029	0,008	0,695	0,158	0,430	0,415	0,747	0,049	0,464	0,950	0,506	0,570	0,931	0,562		0,001	0,008	0,273	0,782	0,382	0,997	0,323	0,573	0,617	0,517	0,967	0,360	0,138	0,724
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C19	Cor. Coef.	-0,379	-,748**	0,278	0,026	-0,223	-0,192	-0,396	-0,417	-0,272	0,141	0,351	-0,041	0,351	-0,141	0,167	0,123	0,404	,685**	1,000	-0,325	0,349	0,255	0,109	0,122	0,108	0,227	0,416	-0,037	0,408	-0,107	-0,311	0,388
	Sig. (2-tailed)	0,099	0,000	0,236	0,914	0,345	0,419	0,084	0,067	0,245	0,554	0,129	0,864	0,129	0,554	0,482	0,607	0,078	0,001		0,162	0,131	0,278	0,648	0,608	0,651	0,336	0,068	0,878	0,074	0,654	0,182	0,091
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C20	Cor. Coef.	,459*	0,379	-0,032	-0,415	,464*	0,039	0,262	0,131	0,087	0,333	-0,094	0,286	-0,350	0,355	0,290	0,277	0,207	-,573**	-0,325	1,000	0,072	0,252	,470*	0,041	-0,097	-0,120	0,095	0,228	0,172	,486*	,608**	0,388
	Sig. (2-tailed)	0,042	0,100	0,893	0,069	0,039	0,871	0,264	0,582	0,716	0,152	0,692	0,222	0,130	0,125	0,215	0,237	0,381	0,008	0,162		0,765	0,284	0,037	0,865	0,685	0,616	0,690	0,334	0,468	0,030	0,004	0,091
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20

C21	Cor. Coef.	-0,031	-0,092	0,238	0,322	-0,278	-0,163	-0,285	-0,272	-0,180	-0,048	0,170	0,109	0,128	0,141	0,358	-0,021	,637**	0,257	0,349	0,072	1,000	0,143	0,086	0,178	-0,161	-0,008	0,203	-0,141	0,156	-0,039	-0,332	0,351
	Sig. (2-tailed)	0,897	0,700	0,312	0,166	0,236	0,494	0,224	0,245	0,447	0,842	0,473	0,649	0,591	0,552	0,121	0,931	0,003	0,273	0,131	0,765		0,548	0,718	0,453	0,498	0,973	0,391	0,554	0,510	0,870	0,152	0,129
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C22	Cor. Coef.	-0,114	-0,304	0,218	-0,021	,525*	-0,357	-0,056	-0,142	0,037	0,002	0,130	0,303	-0,042	-0,085	0,094	0,130	0,170	-0,066	0,255	0,252	0,143	1,000	0,376	0,251	-0,088	0,216	0,372	,590**	,524*	0,298	0,298	,459*
	Sig. (2-tailed)	0,632	0,192	0,357	0,929	0,017	0,122	0,814	0,550	0,877	0,994	0,585	0,194	0,861	0,723	0,693	0,586	0,473	0,782	0,278	0,284	0,548		0,102	0,285	0,712	0,361	0,107	0,006	0,018	0,202	0,202	0,042
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C23	Cor. Coef.	-0,272	-0,374	0,412	-0,176	0,417	-0,124	-0,029	-0,101	0,044	0,323	0,212	0,211	0,169	,471*	0,189	0,323	0,428	-0,206	0,109	0,470*	0,086	0,376	1,000	0,225	-0,021	0,213	,460*	,767**	,767**	,472*	,499*
	Sig. (2-tailed)	0,246	0,105	0,071	0,459	0,067	0,602	0,904	0,672	0,855	0,165	0,369	0,371	0,476	0,036	0,424	0,165	0,060	0,382	0,648	0,037	0,718	0,102		0,340	0,930	0,931	0,041	0,000	0,000	0,036	0,025
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C24	Cor. Coef.	-0,190	-0,158	0,041	-0,086	0,063	-0,200	-0,021	-0,056	-0,063	0,276	0,238	0,094	-0,140	-0,280	0,188	-0,304	0,378	0,001	0,122	0,041	0,178	0,251	0,225	1,000	0,144	0,424	0,096	0,292	0,289	0,366	0,298	,448*
	Sig. (2-tailed)	0,423	0,506	0,865	0,717	0,790	0,397	0,929	0,815	0,792	0,239	0,312	0,694	0,556	0,233	0,429	0,193	0,100	0,997	0,608	0,865	0,453	0,285	0,340		0,545	0,063	0,686	0,212	0,217	0,113	0,201	0,048
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C25	Cor. Coef.	0,255	-0,086	-0,087	0,025	-0,074	-0,072	-0,320	-0,369	-0,270	-0,285	0,181	0,069	-0,073	-0,190	0,255	-0,148	0,060	0,233	0,108	-0,097	-0,161	-0,088	-0,021	0,144	1,000	0,096	-0,329	0,036	0,000	0,000	0,000	-0,021
	Sig. (2-tailed)	0,278	0,718	0,716	0,915	0,756	0,764	0,169	0,110	0,249	0,223	0,444	0,774	0,761	0,422	0,277	0,533	0,801	0,323	0,651	0,685	0,498	0,712	0,930	0,545		0,686	0,157	0,881	1,000	1,000	1,000	0,931
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C26	Cor. Coef.	-0,058	-0,166	-0,189	-0,425	0,252	-0,278	0,127	0,024	0,256	-0,190	-0,095	,526*	0,253	-0,105	0,273	0,021	0,235	-0,134	0,227	-0,120	-0,008	0,216	0,213	0,424	-0,329	1,000	0,137	0,383	0,288	0,079	0,079	0,341
	Sig. (2-tailed)	0,808	0,484	0,424	0,062	0,284	0,234	0,595	0,920	0,277	0,422	0,690	0,017	0,281	0,661	0,244	0,930	0,318	0,573	0,336	0,616	0,973	0,361	0,931	0,063	0,157		0,564	0,096	0,218	0,739	0,739	0,141
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C27	Cor. Coef.	-0,334	-0,396	0,240	-0,041	-0,030	-0,106	0,099	-0,030	-0,017	0,360	0,152	-0,089	0,199	0,273	0,079	0,207	0,285	0,119	0,416	0,095	0,203	0,372	0,213	0,096	-0,329	0,137	1,000	0,086	0,354	0,069	0,167	0,418
	Sig. (2-tailed)	0,150	0,084	0,309	0,864	0,899	0,658	0,679	0,900	0,943	0,119	0,523	0,710	0,401	0,244	0,741	0,381	0,222	0,617	0,068	0,690	0,391	0,107	0,367	0,686	0,157	0,564		0,718	0,125	0,773	0,481	0,067
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20

C28	Cor. Coef.	-0,060	-0,094	-0,023	-0,067	,604**	0,032	0,227	0,345	0,317	-0,083	0,234	,601**	-0,098	0,043	0,075	0,254	0,020	-0,154	-0,037	0,228	-0,141	,590**	,460*	0,292	0,036	0,383	0,086	1,000	,516*	,604**	,604**	,511*
	Sig. (2-tailed)	0,800	0,694	0,923	0,779	0,005	0,895	0,335	0,136	0,174	0,728	0,321	0,005	0,682	0,856	0,752	0,280	0,933	0,517	0,878	0,334	0,554	0,006	0,041	0,212	0,881	0,096	0,718		0,020	0,005	0,005	0,021
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C29	Cor. Coef.	-0,248	-,495*	0,378	-0,164	0,245	-0,112	-0,014	-0,087	0,061	0,083	0,061	0,398	0,328	0,301	0,218	0,350	0,415	0,010	0,408	0,172	0,156	,524*	,767**	0,289	0,000	0,288	0,354	,516*	1,000	,524*	0,286	,531*
	Sig. (2-tailed)	0,291	0,027	0,100	0,489	0,298	0,638	0,955	0,714	0,799	0,728	0,798	0,082	0,159	0,198	0,355	0,130	0,069	0,967	0,074	0,468	0,510	0,018	0,000	0,217	1,000	0,218	0,125	0,020		0,018	0,222	0,016
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C30	Cor. Coef.	0,000	-0,059	0,126	-0,164	,490*	-0,112	0,271	0,200	0,350	0,280	0,193	0,268	-0,152	0,301	0,218	0,350	0,135	-0,216	-0,107	,486*	-0,039	0,298	,767**	0,366	0,000	0,079	0,069	,604**	,524*	1,000	,762**	,569**
	Sig. (2-tailed)	1,000	0,804	0,597	0,489	0,028	0,638	0,248	0,399	0,130	0,231	0,414	0,252	0,522	0,198	0,355	0,130	0,571	0,360	0,654	0,030	0,870	0,202	0,000	0,113	1,000	0,739	0,773	0,005	0,018		0,000	0,009
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C31	Cor. Coef.	0,248	0,208	-0,126	-0,164	,490*	0,100	,515*	0,424	0,350	0,228	-0,010	0,398	-0,421	0,124	0,218	0,350	-0,067	-0,344	-0,311	,608**	-0,332	0,298	,472*	0,298	0,000	0,079	0,167	,604**	0,286	,762**	1,000	0,427
	Sig. (2-tailed)	0,291	0,379	0,597	0,489	0,028	0,676	0,020	0,062	0,130	0,333	0,966	0,082	0,064	0,601	0,355	0,130	0,778	0,138	0,182	0,004	0,152	0,202	0,036	0,201	1,000	0,739	0,481	0,005	0,222	0,000		0,061
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
TOPLAM	Cor. Coef.	0,088	-0,179	0,311	-0,210	0,360	-0,153	0,204	0,116	0,252	0,265	,504*	,487*	-0,010	0,213	,467*	0,359	,641**	0,084	0,388	0,388	0,351	,459*	,499*	,448*	-0,021	0,341	0,418	,511*	,531*	,569**	0,427	1,000
	Sig. (2-tailed)	0,713	0,450	0,182	0,373	0,119	0,519	0,389	0,625	0,284	0,259	0,023	0,029	0,967	0,366	0,038	0,120	0,002	0,724	0,091	0,091	0,129	0,042	0,025	0,048	0,931	0,141	0,067	0,021	0,016	0,009	0,061	
	N	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20

**. Correlation is significant at the 0.01 level (2-tailed). %99)

*. Correlation is significant at the 0.05 level (2-tailed). %95

If correlation coeffient is 0,0-0,2 (very weak), 0,2-0,4 (weak), 0,4-0,6 (medium), 0,6-0,8 (strong), 0,8-1,0 (very strong).