

Urban Morphology within Architecture and Urban Planning Curricula: The Case of Educational Programs in Turkey and Northern Cyprus

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Abstract

Cities are the settlements where the physical, social and natural structures that make up their formal diversity come together. Urban patterns created by the combination of urban areas (streets, squares), parcels and buildings, which are the basic physical components of the city, form the shapes of the cities. Urban morphology can be defined as the study of urban form in the most general sense. According to the definition of Whitehand (2001), urban morphology forms a basis for generating ideas to produce urban form in the future, while examining the cyclical nature of urban growth, adaptation, and redevelopment processes in the production of urban forms and the effects of different actors. The main basis of this study is that urban morphological studies will provide important inputs to the design and planning processes for architects, urban designers, and urban planners, who are the leading actors in the shaping of urban spaces.

In this context, the main purpose of this study is to reveal and explore the scope and methodologies of teaching/learning urban morphology within the architecture and urban planning programs in Turkey and Cyprus, both at undergraduate and graduate levels. For this purpose, the curricula of architecture and urban planning undergraduate and graduate programs in Turkey and Northern Cyprus will be analyzed separately, to locate the position of “urban morphology” within the whole program layout. Additionally, a survey will be conducted with scholars who teach urban morphology in relevant programs. With the findings to be obtained at the end of the study, it is expected to make predictions about the context in which urban morphological studies are handled in architecture and urban planning education and how this will be reflected in architecture and planning practices.

Keyword: urban morphology, architecture education, urban planning education, postgraduate, undergraduate

Introduction

The aim of the research is to reveal the scope, how and by which methods the field of urban morphology is taught in architecture and urban planning undergraduate and graduate programs in Turkey and Northern Cyprus, and to reflect the impact on architecture and planning practice.

In this direction, the research focused at how morphology-based research tools are used in courses on urban form and urban morphology in the architecture/planning undergraduate and graduate programs of universities, as well as how they intersect with design/planning studios-based courses. It is aimed to determine the role of the concept of Urban Form and Urban Morphology in education through undergraduate and graduate level in architecture and urban planning in Turkey and Northern Cyprus.

Therefore, one of the main reasons for doing this study is considering the scope and methodologies of teaching/learning urban morphology within the architecture and urban planning programs in Turkey and

Cyprus, both at undergraduate and graduate levels. To complete and improve the previous research the current study aims to consider on these issues and to make predictions about the context in which urban morphological studies are handled in architecture and urban planning education and how this will be reflected in architecture and planning practices. Therefore, the main questions are:

- a. **What** is the definition of urban morphology (UM)?
- b. **Which** fields of studies do we need to consider when teaching/learning UM?
- c. **Who** should teach/learn about the UM?
- d. **Why** is UM teaching/learning important?
- e. **What** should be the scope of UM teaching/ learning?
- f. **How** should the teaching/learning process of UM be?

Answering these questions provides a better understanding of the curricula of architecture and urban planning undergraduate and graduate programs in Turkey and Northern Cyprus and helps to locate the position of “urban morphology” within the whole program layout. Accordingly, the paper is organised under five main parts. Firstly, a brief historical background of urban morphology education will be presented. Secondly, the methodology of the study will be summarised. Then, based on the research findings, urban morphology education in Turkey and northern part of Cyprus will be explored. Finally, the results and discussions will be presented followed by conclusions.

Background

During the early 19th century, was not much information regarding urban pattern. Johannez Fritz was the main source of publications of this period, as a planner who was teaching morphology in history courses in high schools based on the 19th century urban pattern. Fritz was able to progress in different disciplines in morphological research in the field of history. Morphological analysis began with an examination of the work of Otto Schlüter (1899), who worked at the University of Halle in Germany. Hugo Hassinger (1912) dealt with interdisciplinary approaches of morphology through historico-geography. Hassinger's studies on the historical city of Vienna, in particular, was a step in the field of morphology, and working with the city plan was the first study together with a planned architectural morphology drawing. In the 1950s, although scientific studies started and were discussed in Central Europe, France, the United Kingdom and the United States of America, how urban morphology would be carried out was not questioned much in the world. In Italy, the first morphological studies start with Saverio Muratori (1952) and later, typo-morphological and typological issues in morphology was developed by Gianfranco Caniggia (1975), together with the typological theoretical concept, in the study and reflection on morphology. Parallel to the same features in UK; MRG Conzen (1949) threw out the basic morphology by developing the overall plan of morphology and comprehensively, complement the morphological plans of the different cities and towns in Europe. This was about approximating what morphology would be like theoretically as well as professional practice in design

and planning education. In the first morphology trainings, morphology education in planned forms was considered in the designs planned to be taken as a course for planning at the University of Glasgow in the 1960s, and in 1970, Jeremy Whitehand (1970) set the Urban Morphology Research Group at the University of Birmingham; it was the first trainings planned to be considered for urban morphology.

In Turkey, Ayse Sema Kubat, an architect and urban planner at Istanbul Technical University was the first scholar who has followed all these urban morphological studies and started the first Urban Morphology course at graduate level in an interdisciplinary level. In northern part of Cyprus, Nevter Zafer Comert, one of the authors of this paper, is the first scholar who has offered a course on urban morphology at Eastern Mediterranean University. All these initiations have then been followed lately by a continuous research on urban morphology both in Turkey and Cyprus, with an acceleration of ISUF Networks.

Methodology

The methodology of this study for data collection was based on both qualitative and quantitative methods. For reaching the aim of the study, documentary research based on literature review and website review have and a questionnaire survey have been conducted. The first step was the literature review and study of previous research about the developmental process of the concept of urban morphology education. Subsequently, the literature review through website search also focused on the curriculum of universities in Turkey and Northern Cyprus with undergraduate and graduate levels in architecture and urban planning programs. The last step was a questionnaire survey conducted with scholars who teach urban morphology in relevant programs in Turkey and North Cyprus; 170 scholars were reached through the Turkey Urban Morphology Research Network and 35 feedback has been received, which is a 20% turnover.

Results and Discussions

The findings of the research are presented in this section under two headings: website analysis results and questionnaire survey results.

Website analysis results

This study was undertaken by examining the architecture and urban planning curriculums of universities in Turkey and Northern Cyprus that offer both undergraduate and graduate levels. According to the information acquired from the websites, both at undergraduate and graduate levels and course details are listed in Tables (1-5) as follows:

Table 1. Table showing Web Data for Urban Morphology Courses at the Undergraduate Level in Architecture Programs.

ARCHITECTURE UNDERGRADUATE LEVEL – DATA FROM WEB SITES			
NO	UNIVERSITY - DEPARTMENT	COURSE NAME - CODE	
1	Abdullah Gul Uni. Department of Architecture	Urban Studies ARCH 311	Required Course

2	Balikesir Uni. Department of Architecture	Culture, Housing and Morphology	Elective Course
3	Erciyes Uni. Department of Architecture	Morphology-Based Studies in Architecture MIM S07	Elective Course
4	Eskisehir Osmangazi Uni. Department of Architecture	Urban Morphology 152014561	Elective Course
5	Eskisehir Osmangazi Uni. Department of Architecture	Dimensions of Urban Design I	Elective Course
6	Mardin Artuklu Uni. Department of Architecture	Architectural Project VII	Elective Course
7	Mersin Uni. Department of Architecture	Urban Morphology CRP332	Elective Course
8	Ondokuz Mayıs Uni. Department of Architecture	Spatial Analysis MIM 325	Elective Course
9	Trakya Uni. Department of Architecture	Traces of Cities and Life MIM 403	Elective Course
10	Alanya Hamdullah Emin Pasa Uni. Department of Architecture	Typomorphological Analysis in Urban Studies ARCH328	Elective Course
11	Cukurova Uni. Department of Architecture	Typology Analysis Techniques in Architecture MIM346	Elective Course
12	Cukurova Uni. Department of Architecture	Spatial Transformations in Architecture MIM447	Elective Course
13	Bilkent Uni. Department of Architecture	Morphology and Typology of Urban Space LAUD 324	Elective Course
14	İstanbul Kültür Uni. Department of Architecture	Urban Morphology ARC0402	Elective Course
15	İstanbul Kültür Uni. Department of Architecture	Analysis of Urban Form MIM0403	Elective Course
16	İstanbul Kültür Uni. Department of Architecture	Analysis of Urban Form ARC0410	Elective Course
17	İstanbul Medipol Uni. Department of Architecture	Urban Morphology and Design Studio MIM3157620	Required Course
18	İstinye Uni. Department of Architecture	Morphology in Architecture MIM017	Elective Course
19	İstinye Uni. Department of Architecture	Urban Morphology MIM024	Elective Course

Table 2. Table showing Web Data for Urban Morphology Courses at the Graduate Level in Architecture Programs.

ARCHITECTURE GRADUATE LEVEL – DATA FROM THE WEB SITES			
NO	UNIVERSITY - DEPARTMENT	COURSE NAME - CODE	
1	Gebze Technical Uni. Department of Architecture	Urban Morphology MM-559	Elective Course
2	Karabuk Uni. Department of Architecture	Urban Morphology CRP 521	Elective Course
3	Cukurova Uni. Department of Architecture	Urban Morphology MM-559	Elective Course
4	Baskent Uni. Department of Architecture	Urban Morphology MİM506	Elective Course
5	Eastern Mediterranean University Department of Architecture	Urban Morphology ARCH515	Elective Course

Table 3. Table showing Web Data for Urban Morphology Courses at the Undergraduate Level in Urban and Regional Planning Programs.

URBAN AND REGIONAL PLANNING UNDERGRADUATE LEVEL – DATA FROM THE WEB SITES			
NO	UNIVERSITY – DEPARTMENT	COURSE NAME – CODE	
1	Atatürk Uni. Department of Urban and Regional Planning	Turkish Cities Evolution SBP 222	Elective Course
2	Dokuz Eylül Uni. Department of Urban and Regional Planning	Spatial Change Process of Historical City Centers PLN 4480	Elective Course
3	Gazi Uni. Department of Urban and Regional Planning	Urban and Spatial Change of Anatolia SBP 3154	Elective Course
4	Gazi Uni. Department of Urban and Regional Planning	Urban Morphology CRP 4312	Elective Course
5	Gebze Technical Uni. Department of Urban and Regional Planning	Urban Growth SBP411	Required Course
6	İzmir Democracy Uni. Department of Urban and Regional Planning	Urban Analysis Techniques SBP212	Elective Course
7	Karadeniz Technical Uni. Department of Urban and Regional Planning	Urban Space – Dynamics of Social Structure SBP3020	Elective Course
8	Mugla Sıtkı Kocman Uni. Department of Urban and Regional Planning	Urban Morphology CRP3502	Elective Course
9	Sivas Uni. Department of Urban and Regional Planning	Dynamics of Cities Development MSD4023	Elective Course
10	TED Uni. Department of Urban and Regional Planning	City in History CITY232	Required Course
11	TED Uni. Department of Urban and Regional Planning	Urban Morphology CITY412	Required Course
12	METU Department of Urban and Regional Planning	Urban Housing Formation and Change in Turkish Cities CRP478	Elective Course
13	Mimar Sinan Fine Arts Uni. Department of Urban and Regional Planning	Urban Analysis Methods PLN 235	Elective Course
14	Mimar Sinan Fine Arts Uni. Department of Urban and Regional Planning	Urban Morphology – Transportation PLN 236	Elective Course
15	Mimar Sinan Fine Arts Uni. Department of Urban and Regional Planning	Globalization and Spatial Transformations PLN 338	Elective Course
16	Mimar Sinan Fine Arts Uni. Department of Urban and Regional Planning	Physical Components of Urban Fabric PLN335	Elective Course
17	İstanbul Technical Uni. Department of Urban and Regional Planning	City in History SMP232E	Elective Course
18	Yıldız Technical Uni. Department of Urban and Regional Planning	Transformation in Urban Space SBP4370	Elective Course
19	Yıldız Technical Uni. Department of Urban and Regional Planning	Geography and Urban Morphology SBP4950	Elective Course

Table 4. Table showing Web Data for Urban Morphology Courses at the Graduate Level in Urban Planning Programs.

URBAN AND REGIONAL PLANNING - GRADUATE LEVEL			
NO	UNIVERSITY - DEPARTMENT	COURSE NAME - CODE	
1	Erciyes Uni. Department of Urban and Regional Planning	Urban Morphology ŞBP 526	Elective Course
2	METU Department of Urban and Regional Planning	Urban and Regional Development: Critical Evaluation CRP711	Elective Course
3	İstanbul Technical Uni. Department of Urban and Regional Planning	Urban Morphology KET 502E	Elective Course

In Table 5, morphology-based courses are classified according to the data received from relevant websites. As a result of the web analysis, it can be stated that 13% of the Department of Architecture courses are required courses, 87% of them are elective courses, 17% of Department of City and Regional Planning courses are required courses and 83% of them are elective courses.

Table 5. Table showing Web Data for Urban Morphology Courses.

# Architecture Departments	17	Undergraduate Level	19	Graduate Level	4
Total # Courses	23	Required Course	3	Required Course	0
		Elective Course	16	Elective Course	4
# Urban and Regional Planning Departments	15	Undergraduate Level	21	Graduate Level	3
Total # Courses	24	Required Course	5	Required Course	0
		Elective Course	16	Elective Course	3

Survey results [Heading 2]

In order to evaluate the extent of the scope and methodologies of teaching/learning urban morphology within the architecture and urban planning programs in Turkey and North Cyprus, both at undergraduate and graduate levels, 170 scholars in architecture and urban planning undergraduate and graduate programs in Turkey and Northern Cyprus have been sent questionnaire surveys. In the first run, 35 scholars have replied to our survey, which can be argued as a low number. Therefore, we should indicate that, the survey results presented here should be read as the “initial findings” of our ongoing research. The background information of the responding participants is provided in the figures as follows:

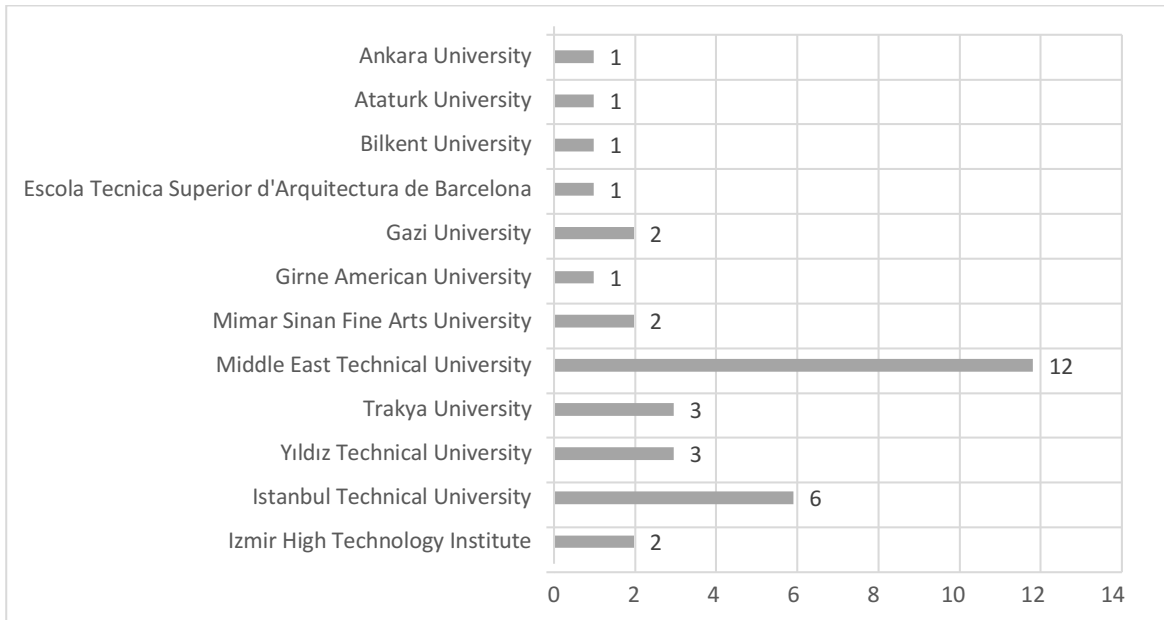


Figure 1. List of Universities from which participants have graduated.

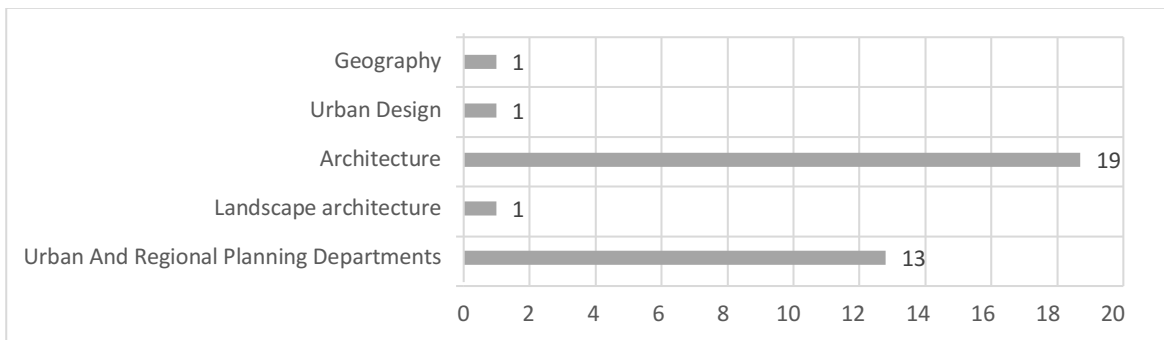


Figure 2. List of Departments/Programs from which participants have graduated.



Figure 3. Fields of expertise of the participants.

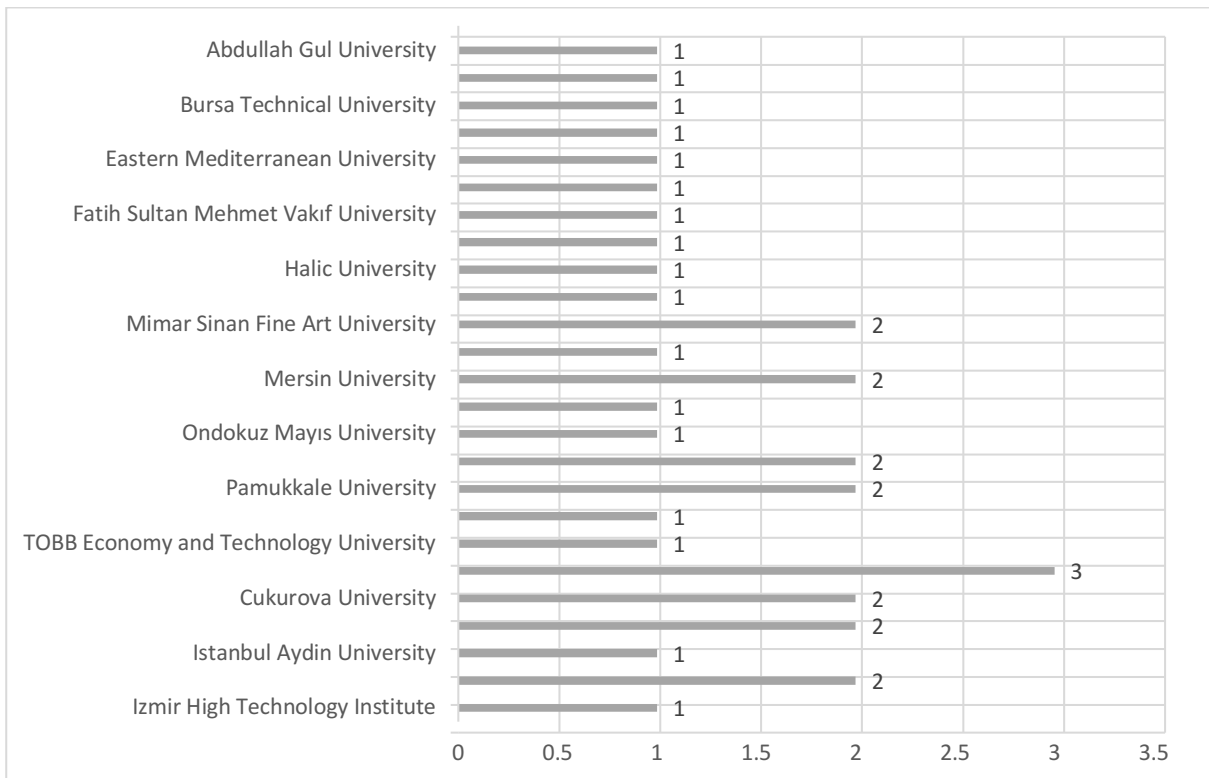


Figure 4. Universities where the participants work.

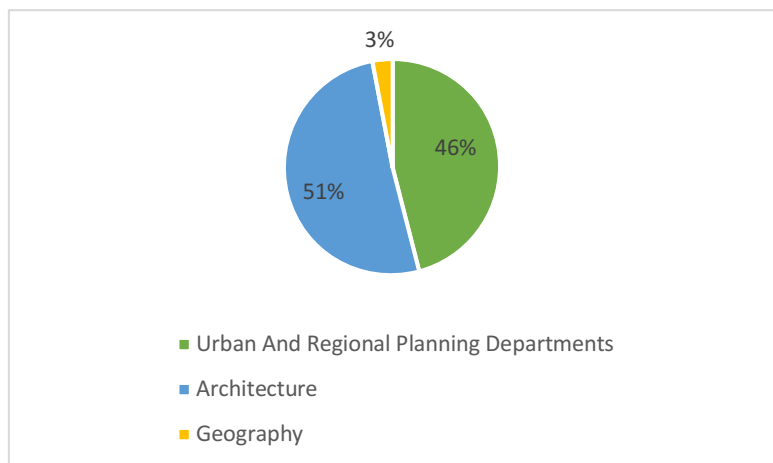


Figure 5. Departments where the participants are permanent members

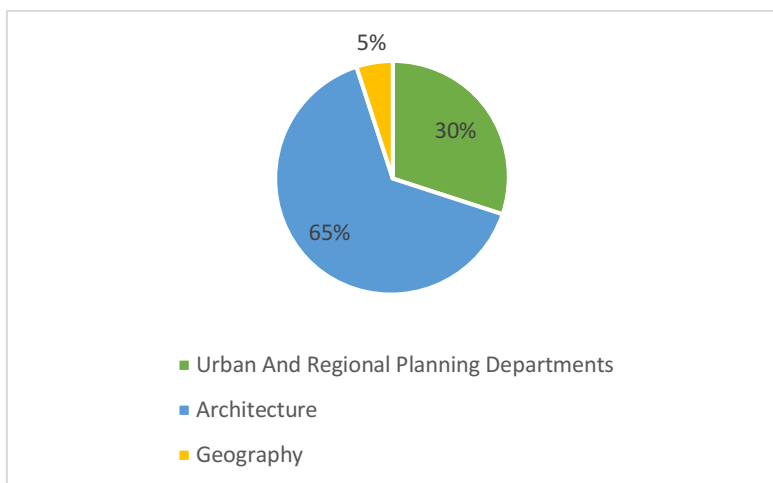


Figure 6. Departments where the participants teach.

Through the analysis of the answers, it was aimed to assess the position of “urban morphology” within the whole program layout. Extracted data from the distributed questionnaire surveys were converted into short and simple statistical significances. One of the most important questions of the questionnaire was: "What are the courses that you teach on urban morphology in related programs?" which could help a better understanding of the context in which urban morphological studies are handled in architecture and urban planning education, both at undergraduate and graduate levels. The answers of the participants are given in the tables below according to different education levels as follow:

Table 6. Table showing Survey Data for Urban Morphology Courses at the Undergraduate Level in Architecture Programs.

ARCHITECTURE UNDERGRADUATE LEVEL – DATA FROM THE SURVEY			
NO	UNIVERSITY - DEPARTMENT	COURSE NAME - CODE	
1	Bursa Uludag Uni. Department of Architecture	Public Outdoor Space and Identity MİM3034 (Seçmeli)	Elective Course
2	Eastern Mediterranean Uni. Department of Architecture	Urban Design Process Arch355	Required Course
3	Fatih Sultan Mehmet Uni. Department of Architecture	Urban Design and the City MİM352	Elective Course
4	İstanbul Aydın Uni. Department of Architecture	City and Ecology	Elective Course
5	İstanbul Bilgi Uni. Department of Architecture	Production of Space and Urban Conditions ARCH309	Elective Course
6	İstanbul Bilgi Uni. Department of Architecture	Introduction to Urban Design ARCH310	Elective Course
7	Maltepe Uni. Department of Architecture	Urban Design	
8	Maltepe Uni. Department of Architecture	Urban Design Studio	

Table 7. Table showing Survey Data for Urban Morphology Courses at the Graduate Level in Architecture Programs.

ARCHITECTURE GRADUATE LEVEL – DATA FROM THE SURVEY			
NO	UNIVERSITY - DEPARTMENT	COURSE NAME - CODE	
1	Abdullah Gul Uni. Department of Architecture	Sustainable Urban Design ARCH 542	Elective Course
2	Cukurova Uni. Department of Architecture	Urban Morphology MM559	Elective Course
3	Eastern Mediterranean Uni. Department of Architecture	Typo-morphological Analysis in Urban Studies UDES 515	Elective Course
4	Halic Uni. Department of Architecture	Urban Space and Identity MİM568	Elective Course
5	Trakya Uni. Department of Architecture	Urban Patterns MİM724	Elective Course
6	Duzce Uni. Department of Architecture	Typo-Morphological Analysis in Architecture: Theory and Principles MMR523	Elective Course

7	Maltepe Uni. Department of Architecture	Sustainable Urban Planning	Elective Course
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Table 8. Table showing Survey Data for Urban Morphology Courses at the Undergraduate Level in Urban Planning Programs.

URBAN AND REGIONAL PLANNING UNDERGRADUATE LEVEL – DATA FROM THE SURVEY			
NO	UNIVERSITY - DEPARTMENT	COURSE NAME - CODE	
1	Bursa Technical Uni. Department of Urban and Regional Planning	Urban Planning Studio II SBP0126	Required Course
2	Bursa Technical Uni. Department of Urban and Regional Planning	Urban Planning Studio IV SBP0228	Required Course
3	İzmir Democracy Uni. Department of Urban and Regional Planning	Urban Planning Studio III	Required Course
4	İzmir Democracy Uni. Department of Urban and Regional Planning	Urban Planning Studio IV	Required Course
5	Pamukkale Uni. Department of Urban and Regional Planning	Urban Morphology SBP485	Elective Course
6	Mimar Sinan Fine Arts Uni. Department of Urban and Regional Planning	Urban Planning Studio PLN102	Required Course
7	Mimar Sinan Fine Arts Uni. Department of Urban and Regional Planning	Introduction to Urban Design	
8	Mimar Sinan Fine Arts Uni. Department of Urban and Regional Planning	Urban Planning and Design	
9	Ondokuz Uni. Department of Urban and Regional Planning	Urban Planning KENT102	Elective Course
10	METU Department of Urban and Regional Planning	Collective Husing: Planning and Design CRP355	Elective Course

Table 9. Table showing Survey Data for Urban Morphology Courses at the Graduate Level in Urban Planning Programs.

URBAN AND REGIONAL PLANNING UNDERGRADUATE LEVEL – DATA FROM THE SURVEY			
NO	UNIVERSITY - DEPARTMENT	COURSE NAME - CODE	
1	İzmir Democracy Uni. Department of Urban and Regional Planning	Urban Morphology	Elective Course
2	İzmir Democracy Uni. Department of Urban and Regional Planning	Human and Settlements	Elective Course
3	Mimar Sinan Fine Arts Uni. Department of Urban and Regional Planning	Urban Typo-Morphologies	Elective Course
4	Mimar Sinan Fine Arts Uni. Department of Urban and Regional Planning	Space Syntax as a Morphological Method	Elective Course

5	Konya Technical Uni. Department of Urban and Regional Planning	Urban Morphology	Elective Course
6	Konya Technical Uni. Department of Urban and Regional Planning	Urban Morphology and Typology	Elective Course
7	Konya Technical Uni. Department of Urban and Regional Planning	Urban Pattern and Perception	Elective Course
8	METU Department of Urban and Regional Planning	Parametric Urban Design UD755	Elective Course

According to the survey shown in Table 10, 56% of respondents mentioned that the Architecture Department courses are given as required courses, 44% are electives, and 52% of the City and Regional Planning Department courses are required courses and 48% of them are electives.

Table 10. Table showing Survey Data for Urban Morphology Courses.

Data From the Survey					
Number of Architecture Departments	11	Undergraduate Level	6	Graduate Level	7
Total Number of Courses	15	Required Course	1	Required Course	0
		Elective Course	5	Elective Course	7
Number of Urban And Regional Planning Departments	8	Undergraduate Level	11	Graduate Level	8
Total Number of Courses	21	Required Course	5	Required Course	0
		Elective Course	3 (+2*)	Elective Course	8

These results indicate that 8% of courses implemented theoretical framework, 25% are practical framework, while 67% are both of them (Figure 7). The approaches of the mentioned courses are expressed as 11% quantitative, 29% qualitative and 60% both (Figure 8).

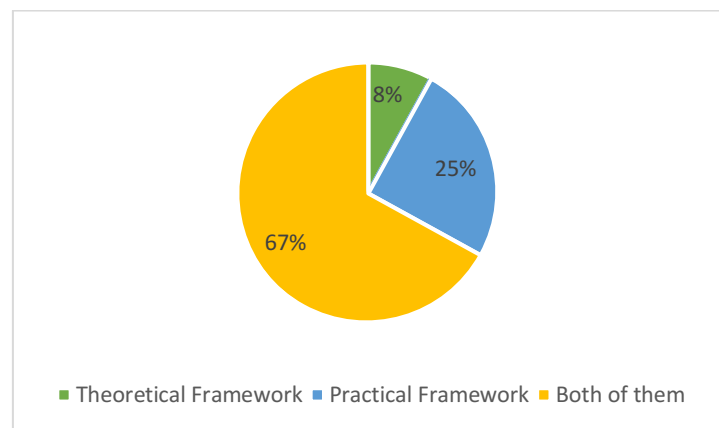


Figure 7. Research aspects that participants use in their courses.

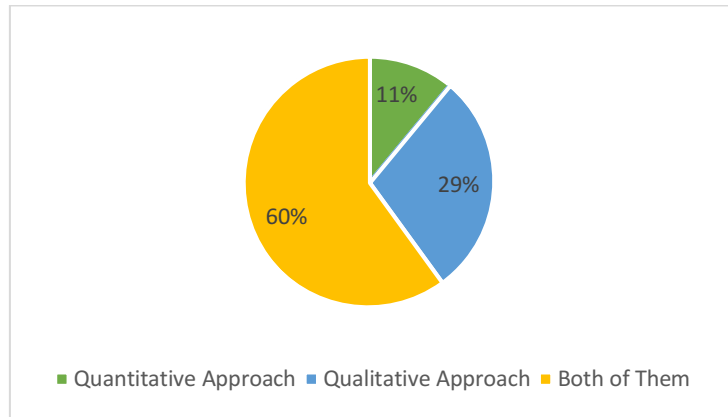


Figure 8. Research Methods Used by Participants in Their Courses.

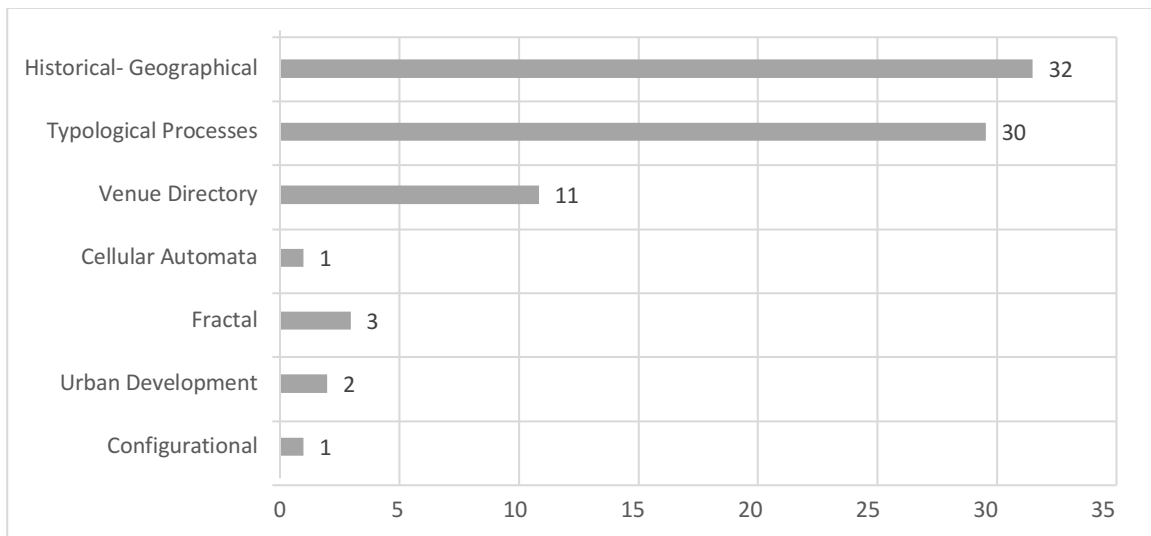


Figure 9. Various Morphological Approaches that participants imply.

The results also indicated that the concept of urban morphology deals with different dimensions besides the physical urban form (Figure 10).

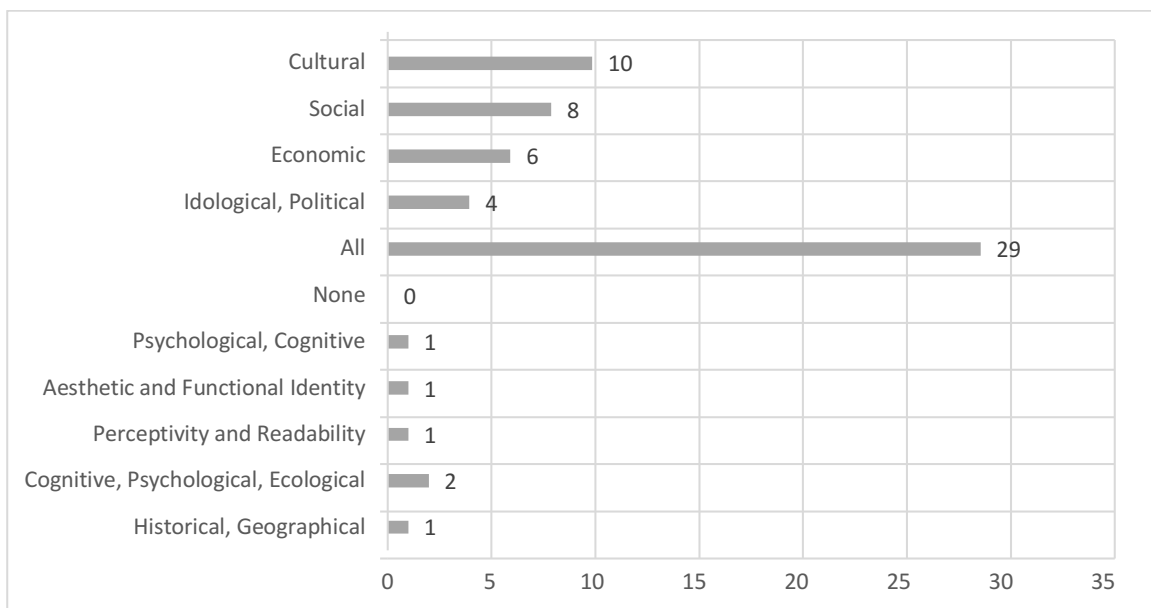


Figure 10. Besides the Physical Urban Form in Morphological Studies other notable Dimensions.

The respondents claim that the concept of morphology is more coordinated with practice-based design courses. In the 6th and 7th semesters, as well as at the graduate level, this coordination is more intense.

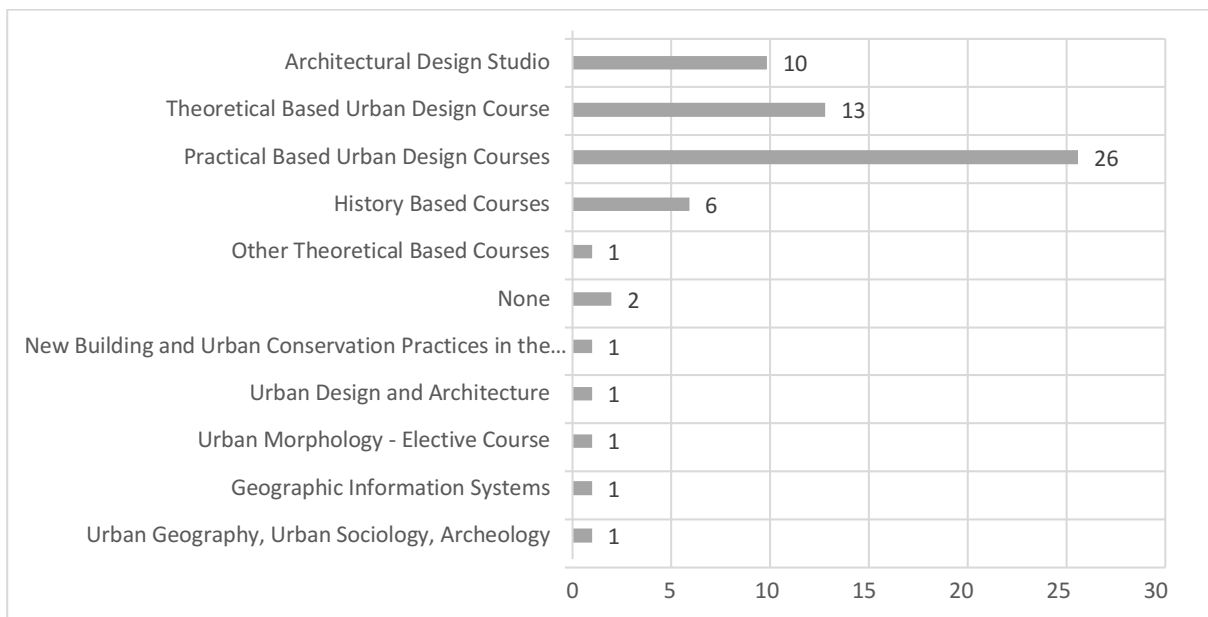


Figure 11. Coordinated courses with morphology concept.

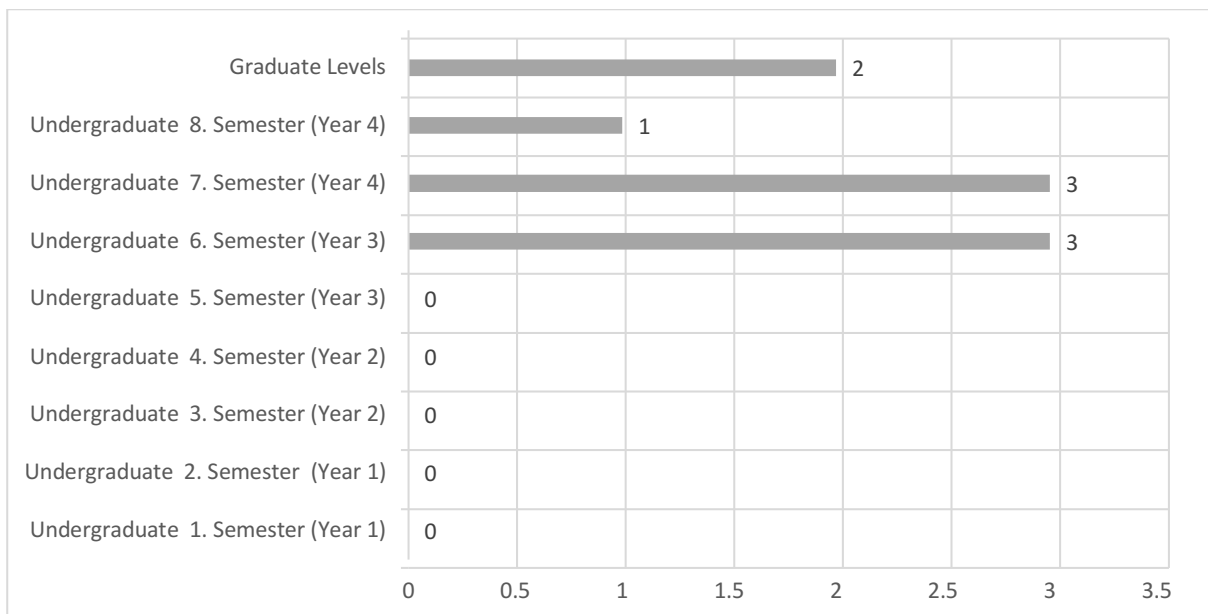


Figure 12. Coordinated the design studios with morphology concept.

Conclusions

Based on the overall research findings we may summarise our conclusions referring to our initial research questions. Thus, answers to each of the research questions are presented below:

Which Fields of Studies Do We Need to Consider When Teaching/Learning Urban Morphology?

- Architecture
- Urban Planning
- Urban Design
- Landscape Architecture

- History
- Urban Conservation
- Archaeology
- Geography
- Sociology
- Social and Human Sciences

Who Should Teach/ Learn About Urban Morphology?

- Architects
- Urban Planners
- Urban Designers
- Landscape Architecture
- Historians / Urban Historians
- Urban Conservation Experts
- Archaeologists
- Geographers
- Sociologists

Why Urban Morphology Teaching/ Learning?

- It aids architects and urban planners in comprehending and explaining the physical form and quality of urban space as a study and practices.
- To be able to conduct an analytical study in order to describe the characteristics and physical forms of settlements that indicate their identity and historical significance, as well as to comprehend how the built environment took on its physical shape during the historical process.
- Understanding the circumstances of the urban context
- Understanding the origins of the urban form and, as a result, defining the relationship between architecture and other disciplines as well as the historical context.
- To learn morphological analysis techniques in the fields of urban perception, urban texture, urban form, urban conservation, urban design, the continuity of urban memory and historical context.
- In order to work within historical textures and to develop these areas; taking into consideration the factors that influence development; and making conservation and site management decisions.
- Preserving and emphasizing the local character, as well as offering background for new urban design practices
- Collecting data and criteria that will provide feedback to the Architecture and Planning fields.
- Understanding the development processes of cities
- Morphology studies should be conducted during the educational term in order to encourage creativity
- Involvement in the success of architectural and urban design initiatives during the design process.
- Contributing to the development of the ability to develop abstraction and cross-scale design strategy
- Providing the opportunity to examine architectural and urban change and development in a more holistic manner.

What Should Be the Scope of Urban Morphology Teaching/ Learning and How Should It Be Proceeded?

Various approaches available in morphological studies:

- Spatial
- Philosophical
- Cultural / Social
- Practice
- Multidisciplinary & interdisciplinary

- Scale
- Context
- Relevant discipline area

To conclude, an *Integrated Education Model for Urban Morphology* can be suggested in which various morphological approaches, qualitative and quantitative methods, theory and practice are all integrated within architecture, planning, landscape architecture and urban design with further integration of related spatial sciences.

Acknowledgements

We are grateful to our colleagues who have participated our survey. Without their input this research would not have been possible.

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