

# Review of architectural education processes applied by Turkey and member countries of the European Unions

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## Abstract

The architectural profession incorporates the contexts of many disciplines by enabling many professions to work together. Therefore, candidates who will perform the architectural profession need to improve themselves in working along with these disciplines. Professional practice studies ensure that the theoretical lessons learned are combined with practice. They are internship practices that appear in the architectural education curriculum and professional practice experiences attended by candidates who have completed their academic education. In this study, it is aimed to comprehend the place and importance of professional practice studies in the architectural education process. Besides the 27 member countries of the European Union Turkey was also investigated, where the article has been prepared. The method of the study is the descriptive comparison method based on literature review. According to the obtained data, although architectural education of the countries that were analyzed have not shown great diversities, it is seen that architectural education in many countries have a period five-years, while this process in Turkey is four-years. Unlike member countries of the European Union, the professional practice studies in Turkey include limited internship practices. In other countries, however, has been observed that architect candidates have developed their skills by taking part in their professional life before having authorization of practice, whereby professional practice experiences. As a result, this study has revealed that the requirement of the process of architectural education being implemented in Turkey to be equivalent to those in the member countries of the European Union needs the inclusion of internship programs.

**Keywords:** Architectural Education, European Union, Internship Practice, Professional Experience, Professional Practice.

## INTRODUCTION

The investigation of the concept of architecture was first made upon Vitruvius's book "The Ten Books on Architecture". According to Vitruvius, the basic principles of architecture are *venustas*, *firmitas* and *utilitas* (Vitruvius, 1914: 13). Architecture which is the activity of regulating physical environments; is associated with subjects such as an act of shelter, art, science and technique. In addition, architecture changes according to technology, geography, culture and the needs of the society (Hasol, 2012: 324). Architecture is a profession that interacts with the individual. Therefore, architects must be able to respond to the needs of society and adapt to cultural changes occurred within the society (Soygeniş, 2010: 11). The architect is the technical person who has an artistic identity and designs both small and large scale physical environments. The main purpose of architects is to produce a functional and aesthetic product in line with the data in the design field by combining appropriate materials, workmanship and technology. In addition to these features, the architect should be able to understand the relationship between space-environment-structure-human, also have a perception of scale. Besides, he/she be able to make designs that provide user comfort, and also has to have a grasp of the necessary regulations, and should be able to manage projects. An expert architect should be

equipped with a perception of aesthetics, technical information and knowledge on other related professions (Nalçakan, 2006: 15). Due to the requirements of this particular profession, architects have to work in cooperation with many other disciplines. Therefore, architects should have knowledge on different subjects such as building physics, installations, structure and urban planning (Hasol, 2012: 323). For this reason, it is important to integrate the theoretical lessons, which take a large place in the architectural education process, with professional practice studies. In this way, it will be ensured that architect candidates will gain experience before they get the authorization of practice.

When the literature is examined, there are many studies on architectural education. Some of these studies are; Celadyn (2020), Soliman ao. (2019), Ferro ao. (2020), Charalambous and Christou (2016), Czafik ao. (2020), etc. Certain of the studies on architectural education and internship practices are as follows; Gündeş and Atakul (2017), Marti and Thakkar (2019), Abdullah (2007), Navas-Carillo ao. (2019). During the reviews, it has been observed that there is a lack of literature on professional practice studies in architectural education, and for this reason, it has been researched this subject.

A number of organizations and societies, which aim to create a universal architectural education, are working on this subject. They set targets in terms of the productivity of the architectural education curriculum as well as determine standards and criteria in architectural education. In the study prepared in this direction; the architectural education processes of the countries that make arrangements in line with the opinions of the organizations and societies in question was examined. The conducted research aims to comprehend the place and importance of professional practice studies in the architectural education process. Within the scope of this study, besides the 27 member countries of the European Union, Turkey was also investigated, where the article has been prepared. This research study exploits the descriptive comparison method based on literature review.

### **Professional Practice Studies in Architectural Education**

Architectural education, which constitutes the first step of the profession, provides students' knowledge about the equipment, technical and artistic infrastructures, which will be necessary in their professional life. Besides that, this education aims give information about the current social, cultural and historical issues (Bakır & Sungur, 2010: 181). The aim of the lessons in architectural education, which is based on the principles of generating and examining ideas, is to ensure that the resulting product is of high quality, thus it reflects the experience of the designer (Aydın & Korkmaz, 2004: 381).

In architectural education, so as to communicate with other professions and to gain technical and managerial skills, application and management lessons should be given in addition to theoretical lessons. The education process should be supported by various professional practice studies such as worksite and office internships in parallel to theoretical lessons, eventually providing students a better understanding about the subjects and adaptation to business life (Akıncıtürk, 2001: 30). With the work done, it has been understood that the professional practice studies which enable students to increase their knowledge and skills through learning by applying and to make theoretical lessons more understandable improve the quality of architectural education. In the countries that are members of the European Union, there are two types of professional practice studies; the first type is internship practices in the education curriculum, and the second type is professional practice experiences that are made to have authorization of practice after the training is completed (Güner ao., 2019: 63). The professional practice studies carried out during the architectural education have also additional benefits, such as providing students with the opportunity to practice, creating a sense of responsibility and gaining the ability to collaborate with different disciplines (Küçük, 2006: 77).

Organizations and societies that determine the equivalence criteria in architectural education in the international arena and work with the aim of universalization set standards in subjects such as architectural education curriculum, objectives, authorization of the professional practice and teaching staff (Barkul & Tönük, 1998: 39). Architects' Council of Europe (ACE), which compose of the European Union architectural professional organizations, was founded in 1990 (Selçuk, 2020: 91). The aim of the ACE, which works on this subject, is to increase the quality of the architectural profession carried out throughout Europe. For this purpose, ACE tries to set a common standard in architectural education applied in European countries through the Professional Qualifications Directive (PQD). In the new PQD, which comes into force on 17 January 2014, two alternatives are proposed for the architectural education process. According to these proposals, architect

candidates should either take five-years of education at the university level or have a four-year academic education followed by at least a two-years of professional practice experiences (4+2). However, ACE does not give up its call for at least five-years of academic education supported by a minimum of two-years of professional practice experiences (5+2) as a European standard. In addition to these, ACE that emphasizes the importance of professional practice studies also supports Continuous Professional Development (CPD) programs. CPD programs keep the knowledge and skills of architects up to date. To this end, ACE strives to develop the "European CPD Register" to generalize continuous professional development programs for architects across Europe (ACE, 2021).

### **Architectural Education Processes**

In order to understand the importance of professional practice in architectural education, the architectural education processes in the countries that work on this subject are examined in this section. The architectural education process, which is implemented in 27 member countries of the European Union (EU) as well as Turkey has been investigated. As mentioned previous sections, as a result of descriptive comparison method based on literature review it has been determined that there are not sufficient number of up to date publications, which focus on professional practice studies in architectural education in the international area which contain Turkey. In this study; Turkey, as the country where the study was prepared, has been examined, even though it is not a member of the European Union. In addition, it has been deemed necessary to look into Turkey, because it is at a negotiation stage with the European Union.

To make more understandable to the comparison of architectural education processes applied in countries, table representation is used in the expression. Tables are expressed in three columns. In the first column, information about educational alternatives is given. In the second column, the educational processes in alternatives, which students are subjected to, are stated. These architectural education processes are given in detail, such as entrance and professional examinations, bachelor and/or master, professional practice experiences, continuous professional development and registration in the professional institution. In the third and last column, authorization of professional practice, which is following the education process received, is specified.

Certain abbreviations are used in the article, which is reinforced with table representations, so as to facilitate the comprehension of the expressions. These abbreviations are as follows;

- The undergraduate education level of candidates is stated as "Bachelor".
- "BA", which is the abbreviation of Bachelor of Art, is a type of undergraduate program that includes arts-based programs.
- "BSc", which refers to the Bachelor of Science, is known as a science-based undergraduate program and candidates receive technical training.
- "B.Arch" is an undergraduate degree in architecture.
- In some countries, candidates are promoted to "MA", "MSc" and "M.Arch" degrees at the end of their "Master's" training.
- "MA", which is the abbreviation of Master of Art, is a type of graduate program that includes arts-based programs.
- "MSc", which refers to the Master of Science, is known as a science-based master program and candidates undergo a technical training.
- "M.Arch" is a master's degree in architecture.
- "PhD" is used to refer to doctoral-level education.
- Professional Practice Experiences that are compulsory after academic education are indicated with the expression "PPE".
- Continuous Professional Development systems are referred to as "CPD".
- Registration in the Professional Institution, which was applied before having authorization of practice in most of the countries, was expressed as "RPI" in this study.

Information on the architectural education processes of the countries has been created by using ACE (2021) and e-FIADE (2021) organizations' websites, which contain up to date data. At the time of this study, there

was no source other than related sites that provide access to collective and up-to-date information in this area. Besides, detailed data on CPD systems implemented in these countries were obtained from Borman (2014).

### **Austria**

**Table 1.** Architectural education process of Austria

Universities	5 years Academic Education + 3 years PPE + Professional Examination + CPD + RPI	Authorization of Practice
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In Austria, candidates attend the PPE after getting a five-years architectural education that includes a graduate education at the university. Candidates who receive the diplomas required for the PPE complete the three-years PPE process, which is the requirement to take the professional examination. During the PPE, the candidates are not audited separately as the normal employment contract and labor law rules apply. In this process, candidates can work in a commercial firm, a public service or as a self-employed person. The profession profile undertaken by the candidate in the process should serve at least one-year in the field. The PPE process can be done in Austria or another country. Candidates prepare a report that describes the content of the tasks they have undertaken in the PPE process and the projects they have prepared in order to apply for the professional examination. Finally, candidates participating in CPD programs can get authorization of practice by registering with the professional institution (ACE-Austria, 2021).

### **Belgium**

**Table 2.** Architectural education process of Belgium

Universities	3 years Bachelor + 2 years Master's + 2 years PPE + Professional Examination	Authorization of Practice
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Architect candidates in Belgium receive a five-years academic education which includes three-years undergraduate and two-years graduate education. After academic training, candidates must complete the two-years compulsory PPE process. In this process, they are given an additional six-month or one-year extension. Candidates must pass the professional examination so as to get a diploma (ACE-Belgium, 2021).

### **Bulgaria**

**Table 3.** Architectural education process of Bulgaria

Universities	Entrance Examination + 5 years Academic Education + 2 years PPE + Professional Examination + RPI	Authorization of Practice
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In Bulgaria, architect candidates are accepted through an entrance examination. In addition to a five-years academic education, candidates participate in a diploma project, which is assessed by a state commission. Candidates have two options to get authorization of practice; either they must complete the mandatory PPE process or at least two-years as an employment contract with a designer with full design capacity or four-years as a freelance designer. Then they have to register with the professional institution. In addition, candidates are encouraged to CPD programs in Bulgaria (ACE-Bulgaria, 2021).

### **Croatia**

**Table 4.** Architectural education process of Croatia

Universities	Entrance Examination + 3 years Bachelor + 3 months Internship Practices + 2 years Master's + Professional Examination + 2 years PPE	Authorization of Practice
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In Croatia, where students are admitted with an entrance examination, candidates receive a three-years undergraduate education. Subsequently, they receive a master's degree for two-years in addition to a three-months of practical student-level internship practices. Candidates who are successful in the professional

examination which administered by the authorized board must complete the two-years compulsory PPE process in order to get authorization of practice (ACE-Croatia, 2021).

### ***Czech Republic***

**Table 5.** Architectural education process of Czech Republic

Universities	Entrance Examination + 5 years-6 years Academic Education + 3 years PPE + Professional Examination (+Oath) + RPI	Authorization of Practice
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Candidates are accepted through the entrance examination. They receive a five-years or a six-years academic education depending on the institution and graduate with a master's degree from the university. Afterward, candidates who have completed the compulsory PPE process for at least a three-years under supervision take an oath, after passing the compulsory professional examination made by the professional institution. Finally, candidates registered in the professional institution get the authorization of practice (ACE-Czech Republic, 2021).

### ***Denmark***

**Table 6.** Architectural education process of Denmark

Universities	5 years Academic Education + Professional Examination	Authorization of Practice
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Architect candidates who have completed a two-years + three-years of a five-years academic education in Denmark have to take a professional examination so as to receive a diploma. During architectural education, internship practices with the professional application are not required and it is not necessary to participate in PPE in order to obtain authorization of practice. Besides, the CPD courses offered by the professional institution have been structured, but a general regulation system has not been established (ACE-Denmark, 2021).

### ***Estonia***

**Table 7.** Architectural education process of Estonia

Universities	5 years Academic Education + 3 years PPE + RPI	Authorization of Practice
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In Estonia, candidates graduate from the university with a master's degree by taking a five-years academic education. Except for architects in the public service, there is a three-years mandatory PPE requirement for architects who are "Chartered" by the professional institution. There is no compulsory professional examination to be able to apply, but there is a requirement to register with the professional institution. CPD programs for architects is not available in Estonia (ACE-Estonia, 2021).

### ***Finland***

**Table 8.** Architectural education process of Finland

Universities	Entrance Examination + 3 years BSc + 2 years MSc	Authorization of Practice
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Architect candidates who are accepted through the entrance examination in Finland receive a three-years undergraduate education, including a non-compulsory internship practice. After that, candidates who receive a master's degree in two years can participate in a three or four-years doctoral-level education program if they wish. CPD programs are implemented on a voluntary basis in Finland (ACE-Finland, 2021).

## France

**Table 9.** Architectural education process of France

Universities	Entrance Examination + 3 years Bachelor + 2 years Master's + 6 months PPE + CPD + RPI	Authorization of Practice
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Candidates, who are accepted by passing the entrance examination (interview) of the university in France, receive a "Master's Degree" by completing the three-years undergraduate education and a two-years graduate education. Subsequently, architect candidates, who participate in the six-months compulsory PPE process in an architectural office and under the supervision of an architect, can get authorization of practice by registering in the professional institution. In addition to these, CPD programs are compulsory in France (ACE-France, 2021).

## Germany

**Table 10.** Architectural education process of Germany

Alternative 1	3 years BA (2,5 years Education + 6 months Internship Practices) + 1 year-2 years MA + 2 years-3 years PPE + CPD + RPI	Authorization of Practice
Alternative 2	3 years BA + 2 years MA or 4 years BA + 1 year MA + 2 years-3 years PPE + CPD + RPI	Authorization of Practice
Alternative 3	3 years BA + 4 years-6 years PPE + CPD + RPI	Authorization of Practice

While 40% of the architects in Germany graduate with Alternative 1 education; 60% of them graduate from Alternative 2 education. In Alternative 1; the architectural training consists of a one or two-years graduate education in addition to the three-years undergraduate education, covering a six-months of an internship practice period. Candidates, who have completed their academic education, fulfill the PPE, which takes two or three-years, by obtaining the diplomas required for PPE. In some states, candidates are expected to participate in CPD programs before having authorization of practice. In Alternative 2, in addition to the three-years undergraduate training, the education consists of a two-years graduate program or a four-years of undergraduate education and one-year of graduate training. After this point, the steps that the candidates must follow in order to have authorization of practice are the same as the candidates who chose Alternative 1.

PPE is carried out under the supervision of the employing architect. In some states, an eight-hours seminar training is compulsory for candidates during this period. At the end of the program, candidates prepare an experience list or portfolio. Successful candidates are given authorization of practice.

Candidates with at least a four-years of architectural education can register with the professional institution. Each region has its own professional regulations and architects must register with the relevant institution in order to be authorized to practice. The professional rights of architects differ in each state and these rights are protected by the professional institutions of the states. In some states exceptionally, candidates who have received a three-years of undergraduate education can complete the compulsory PPE process between four to six-years, and they can also register in the professional institution by successfully completing the professional examination which is applied in some states (ACE-Germany, 2021).

## Greece

**Table 11.** Architectural education process of Greece

Alternative 1	Entrance Examination + 5 years Bachelor + 3 months-4 months PPE + Professional Examination + RPI	Authorization of Practice
Alternative 2	4 years Bachelor (3,5 years Education + 6 months Internship Practices) + RPI	Authorization of Practice

Architect candidates in Greece are admitted to Alternative 1 through an entrance examination. After a five-years of academic education, they attend the PPE for three or four-months. Subsequently, they can get

authorization of practice when they are successful in the professional examination made by the professional institutions, without needing to have a professional experience. In Alternative 2, a four-years academic education model consisting of a three-years and six-months education and a six-months internship practice is implemented. In addition to Alternative 1 and Alternative 2 education, students can also attain a two-years Master's degree education and three-years for the PhD. When the candidates graduate from the school, they receive the title of architect or architect-engineer. These professional titles vary depending on the courses offered in six types of architecture schools in the country.

In addition, there are foreign colleges that provide architectural education in Greece. These colleges do not have the right to use the naming and privilege of the university, so they are unable to award candidates an architectural degree that will provide professional rights. Although CPD programs are not compulsory in Greece, candidates must register with the professional institution in order to obtain authorization of professional practice (ACE-Greece, 2021).

### ***Greek Administration of Southern Cyprus***

**Table 12.** Architectural education process of Greek Administration of Southern Cyprus

Universities	4 years Academic Education + 1 year PPE	Authorization of Practice
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Architect candidates who receive a four-years of academic education in the Greek Administration of Southern Cyprus have to participate in the one-year compulsory PPE process. There is no professional examination requirement for candidates to gain authorization of practice (e-FIADE, 2021).

### ***Hungary***

**Table 13.** Architectural education process of Hungary

Alternative 1	Entrance Examination + 5 years Academic Education + 2 years PPE + CPD + RPI	Authorization of Practice
Alternative 2	Entrance Examination + 5 years Academic Education + 2 years PPE + CPD	Authorization of Practice
Alternative 3	4 years BSc + 1,5 years MSc + 2 years PPE + CPD	Authorization of Practice
Alternative 4	3 years BA + 2 years MA + 2 years PPE + CPD	Authorization of Practice

In Hungary, four different educational alternatives are offered to candidates who are admitted to the university with an entrance examination in order to gain authorization of practice. In Alternative 1, candidates receive a "Master's (MSc) Degree" by completing a five-years academic education at universities. Then, candidates who have completed the two-years compulsory PPE must register with the professional institution. In addition, candidates can optionally get a three-years doctoral-level education. Alternative 2 has a more artistic content. Candidates who receive a five-years academic education, receive less training in construction and establish a good level of student-teacher communication in this process. Architect candidates who received a "Master (M.Arch) Degree" at the end of five-years were actually trained as designers. Candidates who want to get authorization of practice have to participate in a two-years PPE process in an architectural office. In Alternative 3; after a four-years of undergraduate education, candidates who have a "Degree of Bachelor of Science (BSc)" receive a "Degree of Master of Science (MSc)" after a one-year and six-months graduate education. After that, those who participate in PPE for two-years are accepted as architects. In alternative 4; candidates who receive their "Degree of Bachelor of Arts" after three-years of undergraduate education get a "Degree of Master of Arts" after two-years of graduate education. Candidates who attend the PPE for two-years are considered as Architect-Artist.

PPE, which is being implemented in Hungary, is carried out under the control of the supervisor. The success status of the candidates is decided according to the portfolio prepared by the students at the end of the process.

In addition, there are mandatory CPD programs in Hungary so as to be authorized of practice in four alternatives (ACE-Hungary, 2021).

### ***Ireland***

**Table 14.** Architectural education process of Ireland

Universities	3 years B.Arch + 2 years M.Arch + 2 years PPE + Professional Examination	Authorization of Practice
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Architect candidates in Ireland receive a five-years academic education, including a three-years of undergraduate training and a two-years of graduate training. Later on, candidates participating in the two-years compulsory PPE must pass the professional examination organized by professional institutions or schools. CPD programs are also implemented in Ireland (ACE-Ireland, 2021).

### ***Italy***

**Table 15.** Architectural education process of Italy

Alternative 1	Entrance Examination + 3 years Bachelor Education (1,5 years Education + 6 months Internship Practices) + 1,5 years PPE + CPD + RPI	Authorization of Practice
Alternative 2	Entrance Examination + 5 years Academic Education + 1,5 years PPE + CPD + RPI	Authorization of Practice

Another country that accepts students through the entrance exam is Italy. Two different educational alternatives are offered to architect candidates in the country in order to get authorization of practice. In Alternative 1, candidates receive a two-years academic education after three-years of undergraduate training. During the academic education process, candidates can make six-months internship practices, but these internship practices are not compulsory. In Alternative 2, candidates undergo a five-years undergraduate education. In both alternatives, architect candidates participate in CPD programs after a one-year and six-months of PPE process. In Italy, CPD systems have been compulsory for architect candidates since 2013. Doctor in Architecture title; after obtaining the title of academic qualification, it is given by a professional examination made by the state. Candidates get the authorization of practice by registering with the professional institution (ACE-Italy, 2021).

### ***Latvia***

**Table 16.** Architectural education process of Latvia

Universities	Entrance Examination + 5,5 years Academic Education + 3 years PPE + CPD + Professional Examination	Authorization of Practice
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In Latvia, architect candidates are admitted with an entrance examination and receive a five-years and five-months of academic education. Then, they are included in the three-years compulsory PPE process under the control of the supervisor. At the end of this process, it is decided whether they are successful or not by preparing a portfolio presentation. Candidates who are registered to the professional institution can receive authorization of practice if they are successful in the professional examination prepared by this board. Although mandatory CPD programs are implemented in Latvia, the system has not been fully developed yet (ACE-Latvia, 2021).

### ***Lithuania***

**Table 17.** Architectural education process of Lithuania

Universities	Entrance Examination + 4 years Bachelor + 3 years PPE + Professional Examination + RPI	Authorization of Practice
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Architect candidates are accepted through an entrance examination in Lithuania. After a four-years undergraduate education, they attend a three-years compulsory PPE. Later, candidates who are successful in the compulsory professional examination made by the ministry can obtain authorization of practice provided that they are registered with the professional institution. In addition, candidates can optionally receive a two-years graduate education (ACE-Lithuania, 2021).

### **Luxembourg**

**Table 18.** Architectural education process of Luxembourg

Universities	5 years Academic Education + 2 years PPE + RPI	Authorization of Practice
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In Luxembourg, candidate architects receive a five-years academic education. Then, the candidates are included in the two-years compulsory PPE process under the control of the supervisor and at the end of this process, they can get the authorization of practice by registering with the professional institution (e-FIADE, 2021).

### **Malta**

**Table 19.** Architectural education process of Malta

Alternative 1	5 years Academic Education + 1year PPE + Professional Examination + CPD	Authorization of Practice
Alternative 2	1 year Design Foundation Studies + 3 years Bachelor + 2 years Master's + 1 year PPE + CPD	Authorization of Practice

Two different educational alternatives are offered to architect candidates in order to obtain authorization of practice in Malta. In Alternative 1, candidates receive a “Degree in Engineering and Architecture” by completing a five-years academic education at universities. Afterwards, candidates who have completed the one-year compulsory PPE process under the supervision of an architect, they can obtain authorization of practice successfully in the compulsory professional examination made by the authorized board. In alternative 2; candidates who have completed one-year of design foundation studies get a “Bachelor's Honors degree” after three-years of academic education, and in the continuation of the process, they receive a “Master's degree” with a two-years of academic training. Architect candidates who complete a total of six-years of education get a “Degree in Architecture”. So as to obtain authorization of practice, there is also a one-year PPE requirement. In addition to these, CPD programs in which candidates are encouraged are implemented in Malta (ACE-Malta, 2021).

### **Netherlands**

**Table 20.** Architectural education process of Netherlands

Alternative 1	5 years Academic Education + 2 years PPE + CPD + RPI	Authorization of Practice
Alternative 2	4 years BA + 4 years MA + CPD + RPI	Authorization of Practice

In the Netherlands, candidates must complete the two-years PPE, which has been required since 2015, after receiving a five-years academic education at Alternative 1. Later, architect candidates participate in the CPD programs and gain authorization of professional practice. In the other alternative, candidates must take a four-years academic education at the architectural academy after completing a four-years undergraduate education. In addition to this information, candidates who have completed their graduate education in Alternative 1 have a “Degree of Master of Science (MSc)”, while candidates who have completed their graduate education in Alternative 2 are promoted to “Degree of Master of Architecture (MA)”.

Candidates take the PPE under the supervision of an architect; they do it in an architectural office, municipality, government office or development branch. The CPD systems are carried out under the supervision of the

professional institution. A compulsory professional examination is not applied to architect candidates before they are authorized of practice. However, people who want to use the title of architect in the Netherlands must register with the professional institution (ACE-Netherlands, 2021).

### **Poland**

**Table 21.** Architectural education process of Poland

Alternative 1	3,5 years Bachelor + 1,5 years Master's + 3 years PPE + Professional Examination + RPI	Authorization of Practice
Alternative 2	4 years Bachelor + 1,5 years Master's + 3 years PPE + Professional Examination + RPI	Authorization of Practice
Alternative 3	4 years Bachelor + 2 years Master's + 3 years PPE + Professional Examination + RPI	Authorization of Practice

In Poland, three different educational alternatives are offered to architect candidates in order to get authorization of practice. Candidates in Alternative 1; after three-years and six-months of undergraduate education at universities, they complete a one-year and six-months of undergraduate training and obtain a "Master's Degree". Subsequently, candidates who have completed the three-years compulsory PPE have to register with the professional institution after they are successful in the professional examination. In Alternative 2; candidates who have completed a total of five-years and six-months of academic education, including a four-years undergraduate training and one-year, six-months of graduate education, they receive a "Master's Degree". The steps to be followed to obtain authorization of practice are the same as in Alternative 1. Candidates in Alternative 3; after the four-years undergraduate education, they complete a two-years graduate education and get a "Master's Degree". Afterwards, the stages that candidates must pass so as to obtain authorization of practice are as in Alternative 1 (e-FIADE, 2021).

### **Portugal**

**Table 22.** Architectural education process of Portugal

Universities	5 years Academic Education + 1 year PPE + Professional Examination + RPI	Authorization of Practice
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Candidates in Portugal receive the "Qualification of M.Arch" after a five-years academic education, which includes undergraduate and graduate training. They complete the minimum one-year mandatory PPE organized by the professional institution under the supervision of an architect who has at least a five-years professional experience. Thereafter, they register to the professional institution and get the authorization of practice. In addition, non-mandatory CPD programs are implemented in Portugal (ACE-Portugal, 2021).

### **Romania**

**Table 23.** Architectural education process of Romania

Universities	Entrance Examination + 6 years Academic Education + RPI + 2 years PPE + Professional Examination	Authorization of Practice
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Romania is another country where architect candidates are admitted to the university with an entrance examination. Candidates receive a six-years academic training, which includes academic training of six-years of undergraduate and graduate education integrated. Candidates who are registered to the professional institution take the exam after participating in the PPE for two-years under the supervision of the institution. Architect candidates who are successful in the compulsory professional examination can get the authorization of practice. Although CPD programs are available in Romania, they are not compulsory. However, studies are carried out for the National CPD program specific to members of professional institutions (ACE-Romania, 2021).

## Slovakia

**Table 24.** Architectural education process of Slovakia

Universities	Entrance Examination + 6 years Academic Education + 3 years PPE + Professional Examination (+Oath) + CPD + RPI	Authorization of Practice
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In Slovakia, architect candidates are accepted by means of the entrance examination. After six-years of an academic education, they attend the PPE for three-years under the supervision of a fully qualified architect and then take the compulsory professional examination. Candidates who are successful in this exam too, can get authorization of practice by taking an oath and registering with the professional institution. Although CPD programs are legally required in Slovakia, it is still being worked on the system (ACE-Slovakia, 2021).

## Slovenia

**Table 25.** Architectural education process of Slovenia

Universities	5 years Academic Education + 3 years PPE + Professional Examination + CPD + RPI	Authorization of Practice
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In Slovenia, candidates receive a diploma by participating in the PPE for three-years under the supervision of the professional institution after completing the five-years academic education. In Slovenia, where the CPD programs are also implemented, architect candidates are also given a complementary professional training seminar before the professional examination. Individuals, after being successful in the compulsory professional examination made by the professional institution, register to the professional institution and obtain the authorization of practice (ACE-Slovenia, 2021).

## Spain

**Table 26.** Architectural education process of Spain

Universities	5 years Bachelor + 1 years Master's + RPI	Authorization of Practice
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Candidates of architects in Spain receive a total of a six-years academic education, including a five-years undergraduate and one-year graduate education. There is no PPE requirement for candidates to obtain authorization of practice, it is only sufficient to register with the professional institution (e-FIADE, 2021).

## Sweden

**Table 27.** Architectural education process of Sweden

Universities	5 years Academic Education + RPI	Authorization of Practice
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Architect candidates in Sweden receive a five-years academics education. There is no PPE requirement for candidates to get authorization of practice. Candidates, who are registered to the professional institution in order to obtain authorization of practice, are given the title of “professional architect” by the said institution if they have a two-years of professional experience (ACE-Sweden, 2021).

## Turkey

**Table 28.** Architectural education process of Turkey

Universities	4 years Bachelor + RPI	Authorization of Practice
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For architect candidates so as to get authorization of practice in Turkey, after the completion of the four-years undergraduate education it is enough to register in the professional institution. There is no requirement to

attend a mandatory PPE or CPD program for candidates who are not subject to any professional examinations (e-FIADE, 2021).

UCTEA (Union of Chambers of Turkish Engineers and Architects) Chamber of Architects of Turkey, joined ACE in 2002 as an observer member. Since 2002, it has been following the decisions taken by the organization in order to improve the architectural profession (Selçuk, 2020: 91). Even though ACE's proposed system is on the agenda of the UCTEA Chamber of Architects of Turkey which is the competent authority, any concrete steps on this subject have not taken yet. Thus, in the four-years architectural education, students participate only in internship practices in Turkey. In the academic education process, students do internships at worksites, offices, academic institutions or restoration sites. The duration of these internships varies for each university. The theoretical and professional skills required for architect candidates are expected to be learned within the scope of these internship practices. (Gündeş & Atakul, 2017: 357).

Regarding the architectural education in Turkey, some steps have been taken about the educational process of integration into member countries of the European Union. Just as the majority of these studies carried out lead by the UCTEA Chamber of Architects of Turkey, there are also labors conducted under the pioneering of universities. (Selçuk, 2020: 90-99). For the development of architectural education in Turkey; Communication Group of Department Heads of Architecture Schools (MOBBIG), Council of Deans of the Faculty of Architecture (MIDEKON) and Architectural Accreditation Board (MIAK) have worked.

MOBBIG was constituted in 1996 and is an advisory body aiming to establish communication between institutions that provide architectural education. The heads of the architecture departments of the universities, their assistants and the proposed representatives are the participants of the MOBBIG meetings. At the first meeting held at Istanbul Technical University, the possibility of prolonging the five-years architectural education in Turkey was discussed, and works have been started on this subject (MOBBIG, 2021). However, as seen in Table 28, no changes have been made in the architectural education process yet.

MIDEKON engaged in works related to the discipline of architectural education in Turkey was founded in 2006. During their study; views are exchanged among the members about the problems of education, management and research, considering developments in the architectural education in the EU and in the rest of the world. Moreover, recommendations are developed to ensure that the architectural curriculum is carried out efficiently and effectively (MIDEKON, 2021).

The main purpose of MIAK, which was set up in 2006, is to evaluate the education given in the department of architecture in the focus of the universities and to provide accreditation between the universities. In line with this mission, it is aimed that architect candidates will get the authorization of professional practice by receiving a higher quality education (MIAK, 2021).

## DISCUSSION AND CONCLUSION

The architectural profession changes in parallel with the developments such as cultural, economic and technology. For this reason, the necessity of reorganizing the authorizations, knowledges and skills of architects arises. In line with the regulations in question, the need for updating the architectural education process and curriculum are among the discussion topics. In the 28 countries investigated within the scope of the study, it is seen that the architect candidates are subjected to different processes so as to have authorization of practice. Although ACE aims to create a universal architectural education, it has been observed that each country has its own architectural education process. In many countries, it is seen that theoretical courses and professional practice studies are integrated.

The data obtained as a result of the study are as follows;

- In 12 countries, candidates are admitted via an entrance examination to architecture schools.
- In 24 countries, it is implemented that at least the five-years of academic education.
- In 4 countries including Turkey, the academic education process is four-years.
- In 23 countries, it is carried out that the professional practice experiences, which enable architect candidates to gain experience in a professional practice environment.

- In 16 countries, candidates must pass the professional exam in order to have authorization of practice.
- In 20 countries, registration in a professional institution is compulsory.

These data are expressed collectively in Table 29.

**Table 29.** Architectural education process of countries

NUMBER	COUNTRY	ALTERNATIVES	ENTRANCE EXAMINATION	ARCHITECTURAL EDUCATION PROCESS	PPE	PROFESSIONAL EXAMINATION	CPD	RPI	AUTHORIZATION OF PRACTICE
1	AUSTRIA	Universities	X	5 years	3 years	✓	✓	✓	✓
2	BELGIUM	Universities	X	5 years	2 years	✓	✓*	X	✓
3	BULGARIA	Universities	✓	5 years	2 years	✓	✓*	✓	✓
4	CROATIA	Universities	✓	5 years 3 months	2 years	✓	✓*	X	✓
5	CZECH REPUBLIC	Universities	✓	5 years-6 years	3 years	✓	✓*	✓	✓
6	DENMARK	Universities	X	5 years	X	✓	✓*	X	✓
7	ESTONIA	Universities	X	5 years	3 years	X	X	✓	✓
8	FINLAND	Universities	✓	5 years	X	X	✓*	X	✓
9	FRANCE	Universities	✓	5 years	6 months	X	✓	✓	✓
10	GERMANY**	Alternative 1	X	4 years-5 years	2 years-3 years	X	✓	✓	✓
		Alternative 2	X	5 years	2 years-3 years	X	✓	✓	
		Alternative 3	X	3 years	4 years-6 years	X	✓	✓	
11	GREECE	Alternative 1	✓	5 years	3 months-4 months	✓	✓*	✓	✓
		Alternative 2	✓	4 years	X	X	✓*	✓	
12	GREEK ADMINISTRATION OF SOUTHERN CYPRUS	Universities	X	4 years	1 year	X	✓*	X	✓
13	HUNGARY**	Alternative 1	✓	5 years	2 years	X	✓	✓	✓
		Alternative 2	✓	5 years	2 years	X	✓	X	
		Alternative 3	X	5,5 years	2 years	X	✓	X	
		Alternative 4	X	5 years	2 years	X	✓	X	
14	IRELAND	Universities	X	5 years	2 years	✓	✓*	X	✓
15	ITALY**	Alternative 1	✓	5 years	1,5 years	X	✓	✓	✓
		Alternative 2	✓	5 years	1,5 years	X	✓	✓	
16	LATVIA	Universities	✓	5,5 years	3 years	✓	✓	X	✓
17	LITHUANIA	Universities	✓	4 years	3 years	✓	X	✓	✓
18	LUXEMBOURG	Universities	X	5 years	2 years	X	✓*	✓	✓
19	MALTA	Alternative 1	X	5 years	1 year	✓	✓	X	✓
		Alternative 2	X	6 years	1 year	X	✓	X	
20	NETHERLANDS	Alternative 1	X	5 years	2 years	X	✓	✓	✓
		Alternative 2	X	6 years	X	X	✓	✓	
21	POLAND	Alternative 1	X	5 years	3 years	✓	✓*	✓	✓
		Alternative 2	X	5,5 years	3 years	✓	✓*	✓	
		Alternative 3	X	6 years	3 years	✓	✓*	✓	
22	PORTUGAL	Universities	X	5 years	1 year	✓	✓*	✓	✓
23	ROMANIA	Universities	✓	6 years	2 years	✓	✓*	✓	✓
24	SLOVAKIA	Universities	✓	6 years	3 years	✓	✓	✓	✓
25	SLOVENIA	Universities	X	5 years	3 years	✓	✓	✓	✓
26	SPAIN	Universities	X	6 years	X	X	✓*	✓	✓
27	SWEDEN	Universities	X	5 years	X	X	X	✓	✓
28	TURKEY	Universities	X	4 years	X	X	X	✓	✓

✓\* : CPD systems are not mandatory but are available in the country.  
\*\* : See country description for differences between alternatives.

As a result, with carried out descriptive comparison method based on literature review it is foreseen that the architectural education process applied in the member countries of the European Union also expected to be useful for Turkey's architectural education. Based on the information in table 29 which compared Turkey and

member countries of the European Union, Turkey lacks some of important processes. In many countries, architect candidates take part in additional processes as well as five-years of academic education to get authorized of professional practice. However, it has come into the foreground that candidates are given the authorization of professional practice immediately after four-years of academic education and registration in the professional institution in Turkey. The processes of the candidates, they attended in other countries before getting the authorization of professional practice, have not been adopted in Turkey yet. Although UCTEA has been working on this issue, there still has been no concrete change in the architectural education system.

Turkey, which not only is in the process of negotiating with the European Union but also is an observer member of ACE, should adapt to the training program proposed by ACE in architectural education processes. Furthermore, professional practice experiences, with which candidates are able to integrate their academic education into real life, internship practices should be obligatory for architect candidates to get the authorization of professional practice. In this way, candidates will learn more about professional practice before starting to practice the profession as an architect. Thus, Turkey will approach the level of professional knowledge and skills provided by the architectural education practices in member countries of the European Union.

With more studies focused on this subject and in the light of the data shared in this article, it is possible to evaluate the efficiency of the architectural education curriculum in countries with different educational processes in terms of candidates. In countries where professional practice experiences are applied, the contribution of this process to the professional knowledge and skills of architects who are authorized to professional practice can be investigated. Besides, differences can be identified between architects in countries where the professional practice experiences are mandatory and architects in countries where the professional practice experiences are not obligatory.

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