PREDICAMENTS IN THE ARCHITECTURE AND DESIGN EDUCATION (TURKEY AS AN EXAMPLE)

Selma Tunalı, Assistant Prof.
Maltepe University, Turkey
Kamuran Öztekin, Prof. Doctor
Doğuş University, Turkey

Abstract
Architectural education −as the world's oldest design oriented vocational training− is being tried to improved in our country dependent on the central enforcing institutions. Due to this situation, educational institutions that have devoted themselves for centuries to raising salutary and distinctive generations in this profession have become unsuccessful.

Disregard for an intense and a supervised information obtaining process that should be applied in universal standards, the qualitative weakness of the legislation and the rules and the acceptance of the quality of the current vocational graduation in design education as adequate, have caused a significant decrease in the value of the offered structures and designs.

In an educational environment where the modern education is unfulfilled and the institutions that offer education in architecture, interior design, urban planning are destroyed and the traditional behavior and universal knowledge is not observed, future dynamics of professions remain inadequate.

When all these responsibilities are carried out by only one unifying and rule-making administration, and when chambers as nongovernmental organizations try to stay away from the common, contemporary, universal and liberal education policies, a vocational formation in which conceptual developments never mature is created.

The enforcing and the repressive administration system is trying to adapt a traditional education model that is consentient to the students' current capabilities (never requiring more) in our education system.

Expecting a low-level success −and being contended with that success− from students who have no background in design, who have no conceptual intelligence, who are only middle-school graduates and who enter vocational education institutions by chance, and expect them to practice a profession that is creative, constructive and authentic should be considered a huge mistake.

In this study, in the extent of the concrete reality of our country, we will examine the adverse developments in design education, the spacial insufficiencies, the difficulties in the training of teaching staff and repressive sanctions in education while considering the international contemporary design education systems and programs. We will also try to offer some options for solution.

Keywords: Architecture, design, Turkey, education

Architecture and Design Education

Architecture is a key profession that isrelated with the production of all sorts of designed-environments where life takes place.In another words,

"Architecture is an adventure, an experimentation and a continuous innovation. Architecture can be polemic, critical and self-critical."(Yürekli, 2009).

Architecture is a human activity that provides people with quality living environments and that increases the quality of life. In order to recognize architecture and to improveits education, we need torecognize the society and the culture first.

Architectural history dates back to the beginning of mankind. The need for human shelteringconstitutes the root of this profession.For many centuries, it was taught and studied by the master-apprentice relationship.But the social structures began to change in the 18thcentury with the revolution in art.The emergence and the development of the industry have created new classes in the society.The new capitalist order, the transition from the peasantry to the working class and the formation of the bourgeoisie hascreated a need for new housing.The ever evolving technology necessitated the production of new and various types of buildings. However, the current production of that time could not meet these requirements.Therefore, in that environment, schools of architecture began to spread and develop from the beginning of the 19th century.

"Styles from the beginning of the 19 centurywere taught to young studentsin educational instituitions called "the School of Fine Arts" and hence in a shorter time.However, being a graduate from one of these schooldid not qualify one to implement his/her skills in the practical world. All work remained in the hands of the masters."(Yürekli 2009)

In the beginning of the 20th century, the world of architecture emphasized on a form of education that is capable of meeting the needs and perceptions of the versatile human life. The schools of architecture also began to take shape according to this new approach.Nowadays, the architectural education is carried out inthe faculties of manyuniversities around the world. The flow of information and the information technologies are developing rapidly and the world is rapidly shrinking and becoming more and more colorless due to the impact of globalization. We (as architects under UIA/UNESCO CHARTERFOR ARCHITECTURAL EDUCATION)are quite concerned with the qualitative development of the built environment in the future.We believe thateverything that influences the way in which the built environment is made, used, furnished, landscaped and maintained should belong to the domain of architects. We feel responsible for the improvement of education for the future architects to enable them to work for a sustainable development in every cultural heritage.

Architectural education in our country is provided in different faculties withinvarious universities under various majors such as architecture, architectural design, engineering, architecture and engineering, fine arts and art design. The education systems are shaped by the political structure in all countries of the world. This approachhas been a valid system for all periods. In essence, it is the political powers that shape the entire education system. This is a fundamental problem especially in the developing countries.We make a transition to universities coming from an educational process (elementary, middle and high)thatis formed by the political powers.The current approach in our education system is creatingmany difficulties in terms of creativity, aesthetics and visual expression all of which constitute the basis of architectural education.Whereas, the design education should reflect people's versatile lives, their multi-dimensional perceptions, routines, cultural &social values, traditions and needs *objectively*. Therefore, an education system that is unique, independent, modern and capable of developing its own rules will have positive benefits for the design education.

"Well-known architects of the twentieth century often mentioned the infertility of architectural education in schools. They pointed out that the architecture is a profession of culture and creativity. If Wright's Taliesin workshops, Gropius' Bauhaus and his works in the

USA and Architectural Association in the UK were able to school and graduate successful architects, that was due to one reason only: they created an environment in which the students could express their creativity in the most effective way."(Erzen 1976)

The new political restructuring process that began in the 1970s started a restructuring process in the social and political / economic structures as wellwith factors such as production and globalization.During this process, political volatilityaffected(naturally)all universities directly.Changes and transformationsgreatly changedthe functions of all universities.They turned them into buildings of mass education. YÖK (Higher Education Council) was established during this proccess and with the authority granted, the council started to shape our universities in a standardizing approach.

Political Fluctuation and Higher Educationin Turkey

In our country, the first university was founded in 1933, ten years after the founding of the Republic.In 1946, the University Law was isssued.Universities were made into general autonomies and legal personalities while the faculties were made into science and management autonomies and legal entitties.The universitytookits place in the constitution as a public entityand a scientific & administrative autonomyaccording to the Article 120 of the 1961 Constitution. Academics could now become members of a political party and get actively involved in their operations. The university members and academics could no longer be dismissedby authorities outside of the university's ownadministration.

With the military coup d'état on 12 March 1971, all acquired freedoms, the right to strike and organize walks, the right to do meetings and demonstrations were banned.Magazines and newspapers were shut down.Dissenting voices of all sorts were silenced. The Article 120 was changed and if the freedom of education in universities was compromised,outside interference could be allowed according to the new clause.Mass political cases were opened and progressivist university students were executed. The scientific world felt the impact of the revolution very closely. The universities were formed by the political authorities.The loss of university autonomy statusbegan in this period.For example, the daily life at the universities was highly affected, the studies of the academics were limited to the university resources, the number ofyearsfor which an academic can work at the same position were re-defined and only those publications pre-determined by the political authorities were indoctrinated.In1973, the Universities Act was passed. YÖK (The Higher Education Council)was placed in Article 4 of this Act. However, it was later annulled by the Constitutional Court.

The military coup d'état which occured on 12 September, 1980 is is one of the most important turning points of the Turkish political life and highly affected our country and still continues to affect all the way from our current educational system to oursocial, economical and cultural life.

"The military coup d'état which occured in 1980 and the subsequent military regime left deep scars in the country's political life. And the multi-party systemto which we switched afterwards (or returned to) has been carrying these scares until today. We faced problems and painful periods caused not only by the military regime, but by the transition period.The search for a new economic model and the fundamental changes in the political geography of the world (especially in the early 1990s, such as the collapse of the socialist block, and so forth) turned this transition period into an even more challenging process."(Tanör, Boratav, & Akşin, 1997)

The political change which was brought about by this occurrence caused many social, cultural and economic changes in our society. The military government that was established in 1980 changed almost every area of our country including thelifestylesof our society.

The internationalization of the capital on a global scale, the economic, cultural and political integration, the use of technology on a global level, the free movement and the worldwide growth of the market (the world becoming a single market) have created a form of interaction that is beyond the nation-state boundaries.As a result of this process, in our country

"Eveyone accepted in time that the impact of all sorts of national regulations were restricted and that it is not possible to challenge the global logic of the capital in the real sense and that the material world (from production to consumption; from land to construction)has gradually expanded its boundaries and that the globalization proccess has rapidly integrated with the accelerating trendsdetermined by the choice of the private capital." (Keyder 2000)

1980's was an era where the education system, and the social, the cultural and the economical lives in our countrywere re-shaped.The pressure of that time was felt at all periods including today. Political power of that period decided to discharge 3854 teachers from the primary and secondary educational institutions and 120 academics from the universities.The same political power established a council in order to maintain discipline and order at the universities.   Its effect is still ongoing and it varies according to each new political party'sregime. It is centralized, authoritarian and standardizing. We are talking about YÖK(the Higher Education Council).According to the higher education law (numbered 2547)which was passed in 1981, all universities wereplaced under the authority ofYÖK (the Higher Education Council) in the institutional, the administrative and the academic sense. The first action of the Council was to…

"suppress the academics and the studends of the left wing. The instatements of the academisc (of the left wing) for professorship or assistant professorship were delay-ed.Their academic identities were offended by checking their hair and beards. The universities were no longer a center of free-thought, development and change, but a base for the police and the gendarmerie."(http://politikakademi.org/2011/09/12-eylul-1980den-gunumuze-Türkiye)

Until 1981, the higher education system in our country consisted of various institutions.

"Universities,

Academies under the authority of the Ministry of Education,

Two-year vocational schools and conservatories (some under the authority of other ministiries, but majority wasunder the Ministry of Education),

Three-year education institutes under the authority of the Ministry of Education,

Yaykur (Education by mail)"(http://www.yok.gov.tr/web/guest/tarihce)

Until 1961, alluniversities were established by the government, but after 1962, with certain rights bestowedby the 1961 Constitution, private higher education institutions began to be established. They were called a private highereducation institutions. Their number reached 44 in between the years of 1962-1969.

"However, according to a law which was passed in 1973, these private higher education institutions were place under the authority of the government. But another law which was passed in 1982 allowed private foundations to establish universities with no affiliation with the government whatsoever. 19 foundation universities were established between the years of 1990 and 2000. And their number is ever increasing."(Günay D ve Günay A.2011)

Foundation-State Universities in Turkey and a Brief History of Architecture Schools

Between 1933 and 1982, the number of universities (all of which were established by the government) increased to19. The number was 27in 1982. The first private university was founded in 1984.In 1992 the number was 53 (with 1 foundation university). According to 2014 data, we have now 108 government and 71 foundation universities in Turkey.

Table 1. Foundation Universities In Turkey. (Based on 2014 Higher Education Data)

Category	Number
Professor	3236
Associate Professor	1783
Assistant Professor	6069
Academic	3600
Academic Doctor	934
Lecturer	2906
Expert	290
Research Assistant	2908

Table 2. Government Universities In Turkey. (Based on 2014 Higher Education Data)

Category	Number
Professor	17634
Associate Professor	11669
Assistant Professor	25920
Academic	15538
Lecturer	6949
Expert	3447
Research Assistant	41156

According to 2013data, there are 83 universities (government and foundation combined) in Turkey that provide architectural education. And it has been observed that since 2009, the number of students in these universities increased exponentially.

The history of architectural education in Turkey dates back to many years ago.The firstarchitectural education in the Western sense started according to the Ecole des Arts Beaux model in an institution called Sanay-i Nefise, which was founded by Osman Hamdi Bey in 1882. This institution was later named the Academy of Fine Arts in 1928. Then it was called Mimar Sinan University until 1982 and then finally the Mimar Sinan University of Fine Arts.

"The Imperial School of Naval Engineering (Ottoman Turkish: Mühendishane-i Bahr-i Hümayun) was founded in 1773 and then it was expanded as the The Imperial School of Land Engineering in 1795 and started to offer architectural education in 1847.It was named Mühendis Mekteb-i Alisi in 1909 and then The School of Master Engineering in 1928.And finally, In 1944, the Istanbul Technical University (ITU) which opened its faculty of architecturein the same year and started to raisemaster engineer-architects, based on the German Technical University model. Yıldız Technical University was first founded in 1937. The faculty of architecture was openned in 1942, howeverin that period the school educated mostly technical staff. It was named Istanbul Government Academy of Engineering and Architecture in 1969, Yıldız University in 1983 and Yıldız Technical University in 1992. These two schools determined the architectural education in our country until the late 1950s. Maçka Technical School that started in 1954 (within the ITU) and the Middle East Technical University that started in 1956. They both established the foundation of today's architecturaleducation. Karadeniz Technical University (KTÜ) was founded in 1963 and started to offer architectural education in the Faculty of Construction and Architecture." (Dostoğlu, Bilsel, 2003)

Between the years of 1962–1969, we encountered private universities that pursued commercial goals rather than educational success. They offered education in a shorter time in highlylimited buildings. They mostly offeredengineering and architectural education. They had evening departments that provideddiplomas (in a very short period of time) for those who

had to work during the daytime. They loweredthe quality of the architecture profession.They acted contrary to the equality opportunity principle in the constitution.This is a topic that was discussed a lot and the first reaction came from the Chamber of Architects.

"These schools were not recognized by the Chamber of Architects and they were closed down in 1971 according to the higher eduction law numbered 1472. But later, with the establishment of the government engineering and architecture academies, they were turned into higher education institutions under the authority of such academies."(Dostoğlu, Bilsel 2003)

Instead of these private universities that were closed in the 1970s, came the foundation universities in the 1990s.They opened divisions mostly in architectural education. Therefore, architectural education in Turkeywas offered not only in government universities, but in foundation universities also. Architectural education (which is highly non-ordinary and versatile) is in a lot of trouble due to thechanges in the economical, political and cultural arenas, the political and economical structure of our country, the fundamental changes in the higher education system, the impact of globalization (especially since 2000s), the volatile policies followed by the governments, the new extent of YÖK's (Higher Education Council's) authorities, the administration of the universities in a silent and non-autonomous approach, the attacks on the Chamber of Architects (by trying todecrease its authorities, cut down on its resources, severe its ties with the academic world and eliminate it completely).Insufficiencies in the secondary educational institutions,increasing demand for the design departments, insufficient number of faculty members and YÖK'sreorganization and sovereignty over universities make it extremely difficult for the architectural education in our country.

"The fact that we live in a country that has a prime-miniser and a mayor who once lived in illegally-constructed homes is an issue that is highly worth investigating." (Yürekli 2009).

Based on the above discourse, the difficulty of establishing a design education that is creative, unique and independent,under the current conditions of our country should be a whole another matter of discussion by itself.

Architectural Education and The Related Problems:

"In comparison with the educational methods of other disciplines, architectural education is a unique area in which large differences are experinced."(Nalçakan, Polatoğlu 2008)

To acquire the knowledge, the skills and the competencies that areprovided by the architectural education curriculum, some basic conditions (quality and quantity wise) must be pre-set.Architectural education grounds on design activities that take place face-to-face between an academic and a small group of students.It involves many applications and theories that are prerequisite of each other. These applications and theories may surface in anycorner of the study period.The students must constantly question, research and view the social and the cultural world in three-dimension.Architectural education is a student-oriented education system and it requires long hours of non-stop study.The students must develop designs underthe critiques ofa group leader (the lecturer). At the end of the each term, they are required to do visual presentations via drawing boards (mostly fortheir project, studioandworkshop classes).On the other hand, there many other applied courses that require long class hours and they must be carried out under the supervision ofmultiple lecturers only with a small group of students.All of the courses (theoric, applied and both)are desgined to feed the project, studio and workshop classes.

Also, the field of architecture is fed from many disciplines.It consists of theory versus practice and technical training versus art education.Urban planning, interior design, landscape

architecture and industrial products used to be different departments under the major of architecture, but in time,they divided into separate majors.

The field of architecture is different than all other disciplines, because;only a small group of students are (and should be) allowed to take classes from a large number of faculty members, the education and the training period is quite long, practice architects are appointed temporarily, technical and study trips are made, students and teaching staff can work outside the legal workhours, there are many researcher and practitioner architects, conferences, panels and speeches must be made quite frequently, model workshops, computer labs and patented software programs are used, it requires numerous workshops /classrooms (open and closed),it must provide exhibition spaces, rich libraries and archives/storage spaces.

Various research was done in order to evaluate the current architectural education in Turkeyand to compare the domestic and the foreign systems.

In one of these researches *(Küçükdoğu, Alioğlu, Dostoğlu, Esin, Coşgun, Enginöz&Aslan 2013)*a survey was conducted in the architecture faculties of 11 univerisities that had different education periods and that were in differenet georaphic locations and that were selected equally among the government and the foundation univerisities. The results were compared and they are as follows:

In the architecture graduate curriculum
Number of students: 19-420 (undergraduate and graduate)
Total number of students: 179-1297.

In the architecture undergraduate curriculum
Quota: 40-134.
Number of students: 177-877 (undergraduate and graduate)
Number of full-time academics: 8-64.
Total number of academics: 23-99.
Total number of students(undergraduate and graduate) / Total number of academics: 9.21-19.02.
Total training space(incl studios)/ Number of students (undergraduate and graduate): 1.22-8.94 m^2.
Total space/ Number of students (undergraduate and graduate): 2.93-35.67 m^2;
Totalarchitectural design studio space / Totalnumber of students (undergraduate and graduate): 1.12-6.1m^2;
Total exhibition space / Total number of students (undergraduate and graduate): 0.08-3.75 m^2;
Model workshop space / Total number of students (undergraduate and graduate): 0.03-0.54 m^2;
Computer & Lab space / Total number of students (undergraduate and graduate): 0.1-0.69 m^2;
Library space / Total number of students (undergraduate and graduate): 0.15-27.4. m^2;
Total other labs and workshop space / Total number of students (undergraduate and graduate): 0. 25-5, 13m^2.

According to the research in terms of the physical conditions, there is no $m^2$and/or quantity criterionin the documents of the international accreditation agencies, however, in general, the classrooms, the laboratories, the network infrastructure, the materials, the equipment,the physical and technological resources involving the buildings and the landare designed properly enough to serve the purposes of the institutions, their care is provided and are in sufficient capacity. Nevertheless, areas for the private use of the students such asarchitectural design studios, water areas, didactic and interactive learning environments,

course and seminar areas, full-time faculty members, areas providing education in a studio environment, seminar rooms, lecture halls, offices, project study areas, exhibition areas, libraries, computer rooms, workshops and research areas are inadequate.

According to the research, the criteria in terms of the physical conditions should be as follows:

The number of full-time academic per student: 15

Classroom space per student: 8.00m^2

Studio space per student: 5.00m^2

Exhibition space per student: 3.0m^2

Computer lab space per student: 0.50m^2

Library space per student: 5.0 m^2

Other spaces per student: 2.00m^2

Total spaces per student: 20m^2

(Küçükdoğu, Alioğlu, Dostoğlu, Esin, Coşgun, Enginöz&Aslan 2013)

The same research revealed the following increase in the numberthe students studying inarchitectural schools:

2011: 4098

2013: 5631

When we compare the number of students versus the number of academics in our universities, we observe that we are not able to provide sufficient education and that needs to be the subject of another research

In another study, they compared architecture schools in our country versus the onesin Europe and in the USA (Nalçakan, Polatoğlu 2008). According to the study, the educaion period is usually 5 years in architecture schools in Europe and America.In Canada 6, France 5,5 and usually 5 years in Switzerland. Some universities are four years, but the courses are pretty intense.In Europe and in America, usually the undergraduate education and the responsibility of professional practice are given.Graduate studies are done in 1to 3 years of training.The scopes of the courses aresimilar.Design, technology, architectural history, law and landscape are joint courses. The credits and the percentages of the design courses are different from the credits needed for graduation. In these countries, the compulsory education periods are very close to each other. Pre-school education is quite common. Students in high schoolcan make their university choices according to their field of interest.In the same study, six government universities in our country and their architecture departments, courses, academics and the number of students were compared and the results showed that they apply different systems from the ones that are in Europe and in the USA.The study suggested that; to improve the quality of architectural education in our country,the secondary education system should be revised, separate questionpackages should be prepared for the architect candidatesfor university entrance exam, arts and sciences courses should be offered also, educadion period should be increased to at least 5 years and students should be in continuous contact with the educational process.

Table 3.Architectural Education in the World Universities and the Curriculum Coverage

Country	University	Curriculum Coverage	Design course credit-Ratio in total (%)	Education Period (yrs)	Credit
USA	Pratt University	Design. Technical training. Visual Communication. History of Architecture. Shaping. Cultural Training. Media. English. Social and Natural Sciences. Statistics. Professional Practice.	50-%28.57	5	175
Canada	Mc Gill University	Basic Courses. Design. Technical Training. Architectural Law. Economy. Architectural History. Landscaping.	24-%13.48	4+1,5	133+45
England	Cardiff University	Design. Technical Training. Architecture. Technology. Architectural History.Landscaping. Economy.	320-%53.33	5	360+240=600
Germany	Berlin Technical University	Design. Architectural History. Visual Presentation. Shaping. Technical Training. Architectural Law. Technology.	77-%42.77	5	180
France	Nancy School of Architecture	Design. Architectural History. Visual Presentation. Shaping. Technology. Landscaping.	No credit system	6	No credit system
Italy	Milano Politeknik	Design. Architectural History. Visual Presentation. Shaping. Technical Training. Technology. Math. Landscaping. Photogrammetry. Interior Design.Architectural Law	70-%20	5	350
Switzerland	ETH	Design. Technical Training. Architecture. Technology. Architectural History. Landscaping. Architectural Law. Computer Science. ProjectManagement. Mathematics.	98-%36.98	4	265

Table 4.Architectural Education in Turkish Universities and the Curriculum Coverage

University	MSGSÜ	İTÜ	YTÜ	ODTÜ	DOKUZ EYLÜL	KTÜ
Credit	167	153	180	188	169	240
Hours	194	198	224	243	197	200
# of Courses	72	49	63	53	63	46
Project Course Credit	48	38	46	56	42	76
Project Course Credit %	%28.74	%24.84	%25.56	%29.79	%24.85	%31.67
Project Course Hours	32	62	62	84	56	62
Optional Course Credit	26	27	20	30	10	26
Project Course Hours	26	27	20	30	10	12
Building Knowledge Course Credit	16	-	8	-	8	4
Building Knowledge Course Hours	20	-	12	-	8	4

Construction Knowledge / Building Construction / Building Materials Courses Credits	15	7	12	-	10	12
Construction / Construction Practice Hours	26	8	15	-	10	12
Practice Project Credits	6	5	6	-	-	-
Practice Project Hours	8	8	8	-	-	-
# of Students (1. Year)	82	134	123	62	62	62
# of Academic	65	143	118	79	45	41
# of studens/# of Academics %	%126	%90	%104	%78	%130	%150

Conclusion

      Architectural education in our country dates back to a long long time ago and it is on huge demand. However, due to the preferences, the educational understanding and the intervention of political powers, it has undergone rather difficult times and still continues to do so. Current higher education policies are damaging our educational system.On one hand, they require the information, the skills and all the competencies expected from the architectural education, but on the other hand, they limit our ability to question, research and have a disciplined educational system. That is why the architecture departments are not in match with the other disciplines (that are within the same institution) and thus are constantly wearing and falling into a contrary position.

      With the number of students increasing constantly and the architecture schools openningplanlessly, the architectural education in our country is getting away from its goal. Because Turkey is an earthquake country, the architecture carries a vital importance. Next to medical andlegal professions, it is the third most important profession. Therefore, it imperative that we bring the Turkish architecture and architects to the desired levels and the non-governmental organizationslike the Chamber of Architects, and the public must use their best endeavor to support us. The numbers should be increased on research on architectural education.Instead of opening new departments, the existing departments should be improved and their improvement should be encouraged.

References:

Yürekli Ferhan. Architecture, Our Architecture. Yem Publication. October 2011. (3rd edition). Istanbul.
Küçükdoğu Mehmet. Alioğlu Füsun. Dostoğlu Neslihan. Esin Nur. Coşgun Nilay. Engizöz Burak. Aslan Emre. "A Study on Minimum Requirements for Opening and Sustaining an Architecture Department" Architecture Journal374.Nov –Dec 2013. İstanbul.
Erzen Jale Nejdet."The Review of Educationas an Aesthetics Process and Architectural Education."ODTÜ Publication. Ankara.1976.
Bülent Tanör. Korkut Boratav. Sina Akşin.History of Turkey. 5. volume.Turkey of Today 1980 – 1995. CemPublishing House.March 1997 (2ndprint). İst.page 25.
Çağlar Keyder.İstanbul Between the Local and the Global.İstanbul. Metis Publishing House. Nov 2000 (1st print).Page: 21
http://politikakademi.org/2011/09/12-eylul-1980den-gunumuze-turkiye.Access date: 26.11.2014 *(http://www.yok.gov.tr/web/guest/tarihce) .Access date:25.11.20014*
Günay Dursun. Günay Aslı. *"Quantitative Developments in the Turkish Higher Education, 1933-present. "* Journal of Higher Education and Science.Issue: 1Volume: 1. 2011. Zonguldak

Dostoğlu Neslihan. Bilsel Cana."Architectural Education in Turkey in 2003: A Case Detection Over Digital Data." Architecture 314, November-December 2003. Istanbul

Nalçakan Hande.Polatoğlu Çiğdem."A Comparative Analysis of Architectural Education in Turkey and in the world. Evaluation of the Effect of Globalization on Architectural Education." Megaron YTÜ Faculty of Architecture E-Journal.Volume 3.Issue1. 2008. İstanbul.

Tanyeli Uğur.Actors of Architecture in Turkey, 1900 -2000. Garanti Galeri Publication House. 1st Print, 2007. İstanbul.

Tunalı Selma.Spatial Reflections of Changes Associated with Socio-Cultural Factors in Sales Environment Based On Food: 1980 and after in Kadıköy BazaarExample.Doctoral Thesis, 2011. İstanbul

Dostoğlu Neslihan. Bilsel Cana."Architectural Education in Turkey in 2003: A Case Detection Over Digital Data." Architecture 314, November-December 2003. Istanbul