

REAL ESTATE VALUATION TRAINING IN TURKEY

Mehmet Ertaş

Turkey

SUMMARY

In scientific terms, the real estate valuation is first started in Spain (to recover Castilian treasure from the bad condition) on 10th October 1749 in the world. The first study based on the cadastral valuation in the Ottoman Empire mentioned in the Cadastre Law dated on 5th February 1912, but has dealt with the technical and legal aspects of the cadastre without taking of valuation into account. After the Republic of Turkey founded, although some of the Cadastre Laws (10th April 1924, 22nd April 1925, 15th December 1934, 15th March 1950, 21st June 1987 and 22nd February 2005) include the term "valuation" again only the technical and legal aspects were used since they are not exactly evaluative. The first scientific studies on the valuation in Turkey was started to at Yıldız Technical University on graduate training and undergraduate training with the course called Land Valuation in 1978 and Real Estate Valuation in 1988. The studies remained at the academic level. Within the Customs Union agreement in 1st January 1996 between Turkey and European Union, a great deal of foreign capital is started to enter into our country. Since there is no reliable, real time and correct records of the real estate values, some of the foreign capital owners were deceived. As a result of these events, the need for the "honest people who can make valuations according to the scientific criteria" became obvious. Because of the applications of the foreign capital owners to the Turkish Government, the authorization of making licensing exams was given to the Capital Markets Board in order to find out the required valuers for the country. The need is partly satisfied by the licensing exams. However the necessity and importance of the valuation training in Turkey is started with these licensing exams. Today, valuation training is given at many universities (in associate, undergraduate and postgraduate degrees) in our country. The subject of this paper is on the quality and content of the training given in our country.

Key words: Valuation, valuation training

ÖZET

Bilimsel anlamda taşınmaz değerlemesi dünyada ilk defa 10 Ekim 1749 yılında İspanyada (Castilian hazinesini güç durumdan kurtarmak için) başlamıştır. Osmanlı'da değere dayalı ilk kadastro çalışması 5 Şubat 1912 tarihli Kadastro Kanununda bahsedilmiş ancak değerlendirme kısmı hiç dikkate alınmadan kadastronun teknik ve hukuki yönleriyle ilgilenilmiştir. Türkiye Cumhuriyeti kurulduktan sonra (10 Nisan 1924, 22 Nisan 1925, 15 Aralık 1934, 15 Mart 1950, 21 Haziran 1987 ve 22 Şubat 2005) yürürlüğe konulan Kadastro Kanunlarının bazılarında değerlendirme ifadesi geçmesine rağmen (değerlemeci olmadığından) yine sadece teknik ve hukuki yönleriyle işlem yapılmıştır. Türkiye'de değerlendirme ile ilgili ilk bilimsel çalışmalar Yıldız Teknik Üniversitesinde lisansüstü eğitimle 1978 yılında Toprak Değerlemesi

dersi ile lisans eğitimi de yine aynı üniversitede 1988 yılında Taşınmaz Değerlemesi dersiyle başlamıştır. Bu çalışmalar akademik düzeyde kalmıştır. Türkiye'nin Avrupa Birliği ile yapmış olduğu Gümrük Birliği anlaşmasının 1 Ocak 1996 tarihinde yürürlüğe girmesiyle ülkemize büyük bir yabancı sermaye girişi olmuştur. Taşınmazların değer ile ilgili özelliklerinin güvenilir, gerçek zamanlı ve doğru bir kaydı tutulmadığından bazı yabancı sermaye sahipleri aldanmıştır. Bu olayların sonucunda "bilimsel ölçütlere göre değerlendirme yapabilen dürüst değerlemecilere" ihtiyaç olduğu ortaya çıkmıştır. Bunların Türkiye Hükümetine yaptığı girişimler sonucu Sermaye Piyasası Kuruluna, ülke içingerekli olan değerlemecileri bulmak amacıyla lisanslama sınavları açma yetkisi verilmiştir. Lisanslama sınavlarıyla kısmen bu ihtiyaç giderilmiştir. Ancak Türkiye'de değerlendirme eğitiminin verilmesinin gereği ve önemi bulisanslama sınavlarıyla başlamıştır. Bugün ülkemizdeki pek çok üniversitede (ön lisans, lisans, lisans üstü) oldukça farklı düzeyde değerlendirme eğitimi verilmektedir. Bu makalenin konusu ülkemizde verilen bu eğitimlerinin kalitesi, içeriği ve olması gerekenler üzerinedir.

INTRODUCTION

As is known, Market Value is defined as " an estimated amount of a property on the valuation date after the appropriate marketing between independent willing seller and willing buyer without any enforcement and under the circumstances that parties will not affected form any relationship, and behave in the frame of a treaty that is informed, foresighted and rightminded manner" [1].

Again according to IVS Professional Property Valuer is a person who has the quality, ability and experience on real estate that is to given as an assurance to loan or mortgage including transferring the property rights, property as a subject to trial or tax payment problem to be solved, and many kinds of operations that need generally property valuation like the properties dealt as immovable assets in financial reports. In addition, Professional Property Valuers must have the sepecial expertise needed for other valuation categories on personal property, financial rights and benefits.

Real Estate Valuation Experts are *special occupational group* that carry out the valuation and making reports from the results as a economic activity. Professional valuation experts must have quite difficult training, education and pass from qualification tests and show their skills. In addition, these people must obey working principles (ethical principles and competencies) and professional activity standards and protect them and conform to Generally Accepted Valuation Principles.

Valuation Expert isa person who has the necessary qualification, skill and experience to make valuation [1]. Working as a Valuation Expert in some countries requires a license. Valuation Expert is a person who:

- a) Has received an education degree from an institution or equivalent recognized center of education with appropriate academic qualifications,
- b) Has gained experience and skills to do valuation in the market and asset categories,
- c) Knows, understands and uses accepted methods and techniques properly for reliable valuation,
- d) Member of a recognized national professional valuation organizations,
- e) Follows a professional training program during his career,

- f) Conducts the requirements of the Behaving Rules,
- g) Respected [2].

VALUATION TRAINING IN TURKEY

Real estate valuation in the world in scientific sense was born in Europe in the early 1900 where large rural migration took place. Valuation was suspended due to the World Wars I and II. Mathematical modeling was started to be done especially in Germany in 1946. Today, real estate management and valuation has been performed by the people educated on this field in developed countries especially in Germany and the UK.

In our country, real estate management, valuation and the economy has begun to gain importance due to urbanization, industrialization and economic development since 1990[3]. Now the necessity of making real estate valuation by using scientific method was felt instead of trading, managing and valuating the real estate and their additions in the usual sense in our country. The private sector and some civil organizations connected to the private sector noticed the case has started some education and re-establishment activities since 1998. As it is known, since the real estate valuation and management wasn't carried out with scientific methods in our country until 2000s, especially EU countries demanded a very important task from the ministry that manages economy and the ministry gave the duty to CMB (Capital Market Board). The task was scientific valuation and management of real estate. Because;

- a) The firms of EU countries wishing to investment,
- b) Multi-national corporations,
- c) Insurance companies,
- d) Social Security Organizations,
- e) EU citizens who want to live in Turkey after they retired

were cheated previously, the EU countries wanted real estate and their additions valuation to be made according to the *valuation* based on scientific and mathematical valuation instead of *value estimation* as real estate agents are doing today (which is open to all kinds of speculation) [4]. On the other hand, since our country's public and private sector have suffered from this issue, they began to work immediately to make arrangements for the legal and educational regulations. But because of recent studies show multi-headiness, they will be explained in groups.

Postgraduate Education

The first post-graduate training on this issue was started with the course called *Land Valuation* at Yıldız Technical University in 1978. Similar courses were started at Science Institutes of some of the universities which have Surveying Engineering Department Since 1991 and some Civil Engineering and Agricultural Engineering departments followed them [3]. Many universities like Yıldız Technical University, Istanbul Technical University, Karadeniz Technical University, Selcuk University, Istanbul University and Ankara University can be given example. In addition, Ankara University, Institute of Science established Real Estate Development Department independently. This institute has 35

instructors and 75 courses [5]. The related courses on valuation have been given in Social Sciences Institutes since 2000.

27 universities of our country have given post-graduate training on the relevant subject. 6 of the universities have given doctoral education. The number of thesis completed and continuing in the inquiry system of HEC (Higher Education Council) under the keyword *immovable (real estate) valuation* is given in (Table 1) and its distribution to the departments are given in (Table 2) [6].

Table 1: The number of the thesis completed and continuing carried in universities of Turkey on immovable (real estate) valuation

Universities	Postgraduate				Doctorate			
	Science Institutes		Social Science Institutes		Science Institutes		Social Science Institutes	
	Completed	Continuing	Completed	Continuing	Completed	Continuing	Completed	Continuing
Afyon Kocatepe	1							
Aksaray		1						
Anadolu							2	
Ankara	1	1					1	
Bahçeşehir	1							
Balıkesir	1							
Başkent								
Dokuz Eylül	1							
Ege	3							
Erciyes			1					
Gazi			8	1				
Gebze YTE	2							
Gümüşhane		1						
Hacettepe			1					
İstanbul Aydın				1				
İstanbul Kültür	1							
İstanbul Teknik	15	1			1			
Karadeniz Teknik	1				1			
Ondokuz Mayıs	1		1					
Selçuk	3				1		1	
Süleyman Demirel				1				
Marmara			6				1	
Mersin			1					
Orta Doğu Teknik	1							
Yıldız Teknik	4					1		
Zonguldak BE	1							
Çukurova	1							
<i>Total</i>	<i>38</i>	<i>4</i>	<i>18</i>	<i>3</i>	<i>3</i>	<i>1</i>	<i>5</i>	<i>0</i>

According to Table 1 the sum of the completed thesis in science institutes is 38, the most dissertation managing university is ITU with 15 dissertations. Currently, there are 4 theses continuing in our 4 universities. The total number of doctoral studies completed in this institute is 3 and the universities are Istanbul Technical, Karadeniz Technical and Selçuk University and 1 thesis study is still continuing. Total postgraduate work done in the institutes of social sciences is 18 and Gazi University has 8 theses and Marmara University has 6 theses. 3 postgraduate works are also underway. Again, the number of completed doctoral study in this institute is 5, and there is no continuing doctoral study.

The first postgraduate study completed in 1992 and the first doctoral study completed in 2000 in science institute. Similarly, the first postgraduate study completed in 2001 and the first doctoral study completed in 2009 in the institute of social sciences.

Table 2: The number of the theses completed on immovable (real estate) valuation according to their main science departments in Turkey

Main Science Department	Postgraduate				Doctorate			
	Science Institutes		Social Science Institutes		Science Institutes		Social Science Institutes	
	Completed	Continuing	Completed	Continuing	Completed	Continuing	Completed	Continuing
Surveying	15	4			3			
Civil	7							
Urban	5							
Architecth	2					1		
Agriculture	2							
Environment	2							
Others	5							
Administration			9	2			1	
Economy			4				2	
Banking			2				1	
Public			1					
Law			1					
Finance			1	1			1	
<i>Total</i>	<i>38</i>	<i>4</i>	<i>18</i>	<i>3</i>	<i>3</i>	<i>1</i>	<i>5</i>	<i>0</i>

When Table 2 is studied we can clearly see that Surveying Engineering is coming first with 15 completed dissertations and 4 continuing postgraduate dissertations in science institutes. There is no doctoral dissertation completed in other science departments except Architecture Department, there is 1 study going on in that department.

Administration department is leading with 9 completed and 2 continuing postgraduate theses among social sciences. There is no continuing doctoral study in the social sciences.

Surveying Engineering is coming first about completed and continuing postgraduate studies. I think there are two main reasons for this;

- a) The interest of the profession itself is already real estates,
- b) The first study on this subject was made by Mr. Açlar in 1975 and it helped us to open our horizons. So, the first study was made by the department of Surveying Engineering.

Undergraduate Education

Undergraduate education in the universities in our country is given by has [7] and Istanbul Arel University [8]. In these universities, Real Estate and Property Valuation department take part in Applied Departments Faculty (College). Courses taught here are; 26% *common courses*, 47% *survey + construction + architecture*, 27% *accountancy + economy + law*. Teaching staff have engineering and economy backgrounds. Total quota of these two departments is (40 + 34) 74 including students won scholarship.

Vocational courses in the department of Kadir Has University were carried out by 4 instructors (1 instructor, 1 lecturer, and 2 guest instructors). All of the instructors have economics origin. Vocational courses in the department of Istanbul Arel University were

carried out by 5 instructors (2 instructors, 1 lecturer, and 2 guest instructors). 3 of the instructors have Survey and 2 instructors have economics origin. Each of these departments has not got the expected demand by students.

Associate Education

To respond the need of intermediate staff in this area Real Estate and Property Management Programs were opened in Istanbul University in 2000 [9]. However, when the program definition and working fields of the graduates were studied, it is obvious that the issue is perceived as *real estate agent*. The task definition is given as “a person who gives consulting service on real estate sale and hire like houses, lands and shops, and establishing the house construction cooperatives based on the transitory and indefinitely contract prepared in a workplace”. Their work areas are explained as;

- a) Mediator of all the work of property owned by sale, mortgage and inheritance in the registry offices,
- b) Provides consulting services about property buying and selling,
- c) Helps in making the contract of sale at notary,
- d) Provides consulting services, gives choices and presents comparative examples on making the construction contracts in exchange for flat,
- e) Fills the declaration on behalf of clients,
- f) Makes recommendations on construction projects to facilitative marketing,
- g) Conducts market research and helps establishing cooperatives,
- h) Finds lands and members for cooperatives,
- i) Informs the owner or his representative about the economic and social status of the renter candidates,
- j) Prepares rent agreement.

However, these tasks have already fulfilled by Estate Brokers in the free market. Real Estate Brokers are opening their offices according to the Article 8; paragraph B of “Regulation on the Business Counted Industry, Trade, Agriculture and Forestry Affairs” [10]. So there is no condition that Real Estate Brokers must graduate from Real Estate and Property Management Department. Graduates of this program have to be registered to the Chamber of Real Estate Agents and they have to succeed the courses organized by the chamber.

In addition, Compulsory Standard Communiqué (Communiqué No: OSG-2003/59) has been published based on the Law No. 3143 published in 08 July 2003 Official Journal No. 25162. In the Communiqué, all matters relating to the profession of Real Estate Brokerage are described in detail. There is no condition of graduating *Real Estate Management* department. Then the Institute of Turkish Standards stated the standards on the issue in the enacted TS 11816 standard dated 13.04.2010[11]. Again there is no condition of graduating *Real Estate Management* department as a standard. Ministry of Industry constituted a speciality committee including members of the Chamber of Real Estate Agents from various cities and Survey and Cadastre Engineers Chamber members while they were making studies on TS 11816 standard. This speciality committee took the view of Survey and Cadastre Engineers Chamber.

There are 32 Real Estate and Real Estate Management program in 18 state universities (26 vocational college) and 6 private universities. Among these universities Istanbul University

Social Sciences Vocational College is clearly leading the others in terms of students' interest. The quota of the department is 50 [9], vocational courses are conducted by a total of 3 instructor who are economic origin. In addition, the program was opened at the Vocational Colleges of private universities like İstanbul Beykent, Doğuş, Arel, Aydın, Kadir Has. This program also took place in Anadolu University Eskişehir Vocational College and Open University Vocational College. Many Courses in other universities in Real Estate and Real Estate Management Program has been modified on the basis of this university. Courses taught here are; 35% common courses, 25% map + construction, 40% accountancy+ economy. The courses are carried out by the teaching staff that have architecture, economy and law backgrounds.

Licensing Examinations

After our country accepted the International Valuation Standards in 2000, Valuation Certificate of which validity was accepted by Europe was needed. However, at that time, there was no organization giving education on this issue, SPK took licensing duty because valuation is related in terms of international capital for Europe. Foreign companies, banks, mediator organizations which want to operate in our country need values which valued by independent organizations and its responsibility is taken. The task was given to CMB on that day.

CMB, started to make licensing exams in 2002 by means of ASPC (Assessment Selection and Placement Center) in the leadership of Proffessor Dr. Ahmet AÇLAR one of the lecturers of Yıldız University Surveying Engineering Department [12].

These exams are called

- a)** Real Estate Valuation Expertise,
- b)** Residential Valuation Expertise,

and they are conducted two and three times a year. The only prerequisite for entry into these exams is being a graduate of any 4-year undergraduate department. Whereas Real Estate Valuation Expertise exams were held out of 5 modules in early years, but today they are carried out of 4 modules;

- a)** Narrow extent capital market legislation and professional rules,
- b)** Real Estate Valuation principles,
- c)** Construction and Real Estate accounting,
- d)** Real Estate Legislation

Examination is made on the topics of 4 modules. Residential Valuation Expertise exam is made from 2 modules;

- a)** Narrow extent capital market legislation and professional rules,
- b)** Real Estate Valuation principles,

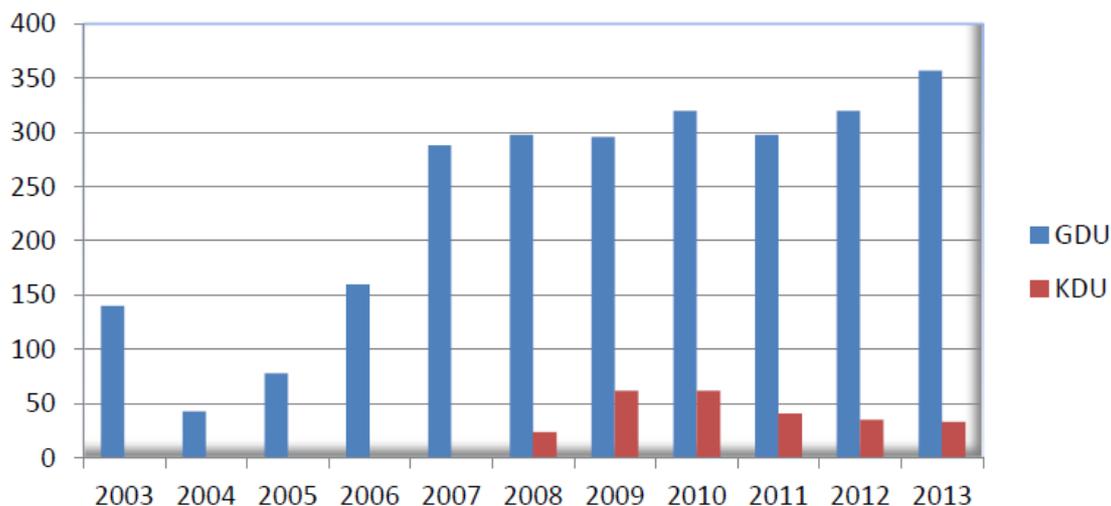


Figure 1: The number of licensed value experts by year
Table 3 shows the distribution of these experts by province [13].

Table 3: Distribution of valuation experts by province

Cities	Number
Adana	52
Ankara	619
Antalya	78
Bursa	53
Denizli	51
Gaziantep	26
İstanbul	1136
İzmir	181
Kayseri	25
Kocaeli	56
Konya	26
Mersin	24
Muğla	26
Diğerleri	229
Total	2582

When table 4 is examined we can see that the average success is 6%. In fact, this ratio shows us that the exam is not easy. The distribution of 6% succeeds according to the profession are;

- a) Engineers (*Survey + Construction + architecture + urban planners*) 67%
- b) The Economists (*Economist + Administration + Banking + Finance + Lawyer*) 33%.

Table 4: Number of students taking the exam and success rate by year

Exam Date	Candidate number	Candidates getting certificate	Success rate (%)
September 2002	108.00	6.00	0.06
January 2003	102.00	27.00	0.26
May 2003	95.00	18.00	0.19
September 2003	112.00	16.00	0.14
January 2004	119.00	12.00	0.10
May 2004	150.00	18.00	0.12
September 2004	176.00	26.00	0.15
January 2005	197.00	29.00	0.15
May 2005	342.00	10.00	0.03
September 2005	389.00	28.00	0.07
January 2006	642.00	39.00	0.06
May 2006	1342.00	68.00	0.05
September 2006	1838.00	83.00	0.05
January 2007	2114.00	97.00	0.05
May 2007	2441.00	117.00	0.05
September 2007	2468.00	91.00	0.04
January 2008	2680.00	71.00	0.03
May 2008	2579.00	224.00	0.09
September 2008	2112.00	123.00	0.06
January 2009	2743.00	78.00	0.03
May 2009	1826.00	141.00	0.08
September 2009	1389.00	108.00	0.08
Total	25964.00	1430.00	0.06

HOW SHOULD BE THE TRAINING?

Every stage of the valuation education in Turkey is formed by the initiative of the people and cyclical effect. Thus continuity, levelling and power sharing cannot be seen much in education. So, undergraduate training is not the continuation of associate training; postgraduate training is not the continuation of undergraduate training, because each stage has emerged in a different conjectural effect. This continues sometimes in a positive and sometimes in a negative manner.

Each step of the profession training in our country completes each other under normal conditions and shares authorization and responsibility in parallel. For example, authorization, task and responsibility in an institution or a project of each of the *Survey Technician* and *Survey Engineer* were defined separately according to the regulations. The valuation

authorization was only given to *valuation experts* who were succeeded in *licensing examination*, and graduates of

- a) Associate,
- b) Undergraduate,
- c) Postgraduate

training don't have any authorization on preparing valuation reports. Therefore, each stage of the education should be revised and a curriculum and continuation should be formed for each stage.

As real estate valuation profession that hosts various disciplines is a new content is known in our country. For our country, this profession is very important for our country (anti-money laundering, preventing speculation, capital shift trade, ...) that it cannot be fit in it is licensing examinations. So the new members of the profession must take enough education of;

- a) Engineering,
- b) Law,
- c) Economics,

to respond the needs of the field.

Training will be given should respond the needs of;

- a) Banks,
- b) Public Institutions,
- c) Municipalities,
- d) Courts,
- e) Citizens,
- f) Shareholders of real estate investments.

The issue is multicultural, so the training can be accredited by the institutions like RICS and TEGOVA [14]. The training can include the courses like [4];

- a) Architectural design and aesthetics,
- b) Construction knowledge,
- c) Construction accounting,
- d) Accounting,
- e) Economics,
- f) Financial mathematics,
- g) Basic Law,
- h) Real Estate Law,
- i) Real Estate Financing,
- j) Real Estate Development,
- k) Real Estate Marketing,
- l) Real Estate Management,
- m) Real Estate Economy,
- n) Real Estate valuation,
- o) Urban and Rural Areas Development,
- p) Geographic Information System,
- q) Cadastral Information,
- r) Map Drawing,
- s) Value Map Generation,
- t) Urban Science and Planning,

u) Error Information and Statistics

v) Business ethics,

Course time should be adjusted according to the importance of the issue.

The last word to be said is real estate valuation is a very important profession that cannot be allotted into one discipline.

REFERENCES

- [1] <http://www.dud.org.tr/images/pdf/degerleme-standartlari-tebligi.pdf>
- [2] <http://www.tdub.org.tr/degerleme-uzmanlari.html>
- [3] ERTAŞ M., 2000, *Kentsel Alanlarda Taşınmaz Değerlemesi* doktora tezi, İTÜ Fen Bilimleri Enstitüsü, İstanbul
- [4] ERTAŞ M., 2011, Frances Plimmer'e rapor, *The Occupation of Valuation in Turkey*, Konya
- [5] <http://fenbilimleri.ankara.edu.tr/tr/anabilim-dallari/abd/50171/tasinmaz-gelistirme>
- [6] <https://tez.yok.gov.tr/UlusalTezMerkezi/tezSorguSonucYeni.jsp>
- [7] <http://ubyo.khas.edu.tr/index.php?page=1005>
- [8] <https://www.arel.edu.tr/tr/akademikbolum/81/gayrimenkul-ve-varlik-degerleme>
- [9] <http://sosyalbilimlermyo.istanbul.edu.tr/?p=6373>
- [10] <http://www.resmigazete.gov.tr/eskiler/2008/09/20080903-5.htm>
- [11] https://www.alomaliye.com/emlak_komisyonculari_standart.htm
- [12] <http://www.spk.gov.tr/indexcont.aspx?action=showpage&showmenu=yes&menuid=1&>
- [13] <http://www.tdub.org.tr/>
- [14] <http://www.erolkokturk.net/?pnum=59&pt=Almanya%27da+Ta%C5%9F%C4%B1nmaz+De%C4%9Ferlemesi>

PUBLICLY APPOINTMENT, THE ROLE OF GERMAN SURVEYORS

Clemens Kiepke

BDVI, Germany
c.kiepke@kiepke.de

ABSTRACT

BDVI is the German association for publicly appointed surveying engineers. Publicly appointed surveying engineers act in behalf of the state and instead of the state. They are in Europe organised in CLGE (The council of European geodetic surveyors) and in IG-PARLS, the Interest Group of Publicly Appointed and Regulated Liberal Surveyors. The focus of the BDVI working together with other associations in Europe is ownership protection and possible tools for establishing and maintaining such a system. Ownership protection is a pillar of economic success in a state. It has to be stipulated by law, and the state has to extend guarantee for it. Consequently, the descriptive part of the system of ownership protection, i.e. the land register, has to be a basic responsibility with sovereign public structures assumed by the state. The amount of modifications in the proof of ownership is naturally subject to variability depending on the economic situation or legal modifications. Consequently, appointed professionals have the possibility to carry out a large part of operations in the land register. They are appointed professionals because commitment to and supervision by the state are compulsory in view of the legal consequences of modifications in the land register in order to guarantee the protective function of the state. However, the state does not have to provide all resources in such a system and can considerably reduce costs by transferring a part of the sovereign responsibilities. Professionals are more competent in meeting the demands of the market than the state. Publicly appointed surveyors are able to combine the advantages of economic freedom with protection by the state. The important decision to establish a system of ownership protection guaranteed by the state has truly not been taken by the German state although international experts recognise Germany as a successful example.

Keywords: publicly appointed, ownership protection

**Full paper is not submitted.*

E-LEARNING APPROACH IN HIGHER EDUCATION IN CADASTRE AND CADASTRAL LEGISLATION

Gheorghe Badea, Ana - Cornelia Badea

Technical University of Civil Engineering Bucharest, Faculty Of Geodesy, Surveying and
Cadastral Department
badeacadastru@yahoo.com

ABSTRACT

This paper emphasizes modern teaching methods implemented in Romanian cadastral higher education and cadastral legislation. The paper shows the main means and methods provided by online platform for higher education in the area. This platform was developed by the Faculty of Geodesy of Bucharest, Technical University of Civil Engineering. It was developed in a consortium with other three universities in Romania, within a European project which is currently in sustainability, and students can be learning better through interactive courses.

Keywords higher education, cadastre, blended learning

**Full paper is not submitted.*

OUTCOME-BASED APPROACH IN ENGINEERING EEDUCATION (OBE): ITU GEOMATICS ENGINEERING CASE

Doğan Uçar

Geomatics Engineering, ITU, Istanbul, Turkey
ducar@itu.edu.tr

ABSTRACT

The Washington Accord (WA), signed in 1989, is an international agreement among bodies responsible for accrediting engineering degree programs. It recognizes the substantial equivalency of programs accredited by those bodies and recommends that graduates of programs accredited by any of the signatory bodies be recognized by the other bodies as having met the academic requirements for entry to the practice of engineering. ABET (Accreditation Board for Engineering and Technology, Inc.) is one of the signatory member of the WA from USA. Many engineering programs of the renowned Universities in Turkey are accredited by ABET. The Geomatics Engineering Program of Istanbul Technical University (ITU) has Accreditation from ABET for more ten years. The Geomatics engineering program is now at the end of two-year effort to design program curriculum and related components in accordance with the criteria outcomes based education paradigm. In this paper will be informed about the challenging work in this difficult project, perhaps unparalleled in engineering education in Turkey.

Keywords: ITU, Geomatics, Education

**Full paper is not submitted.*