THE SIGNIFICANT ISSUES WHICH AFFECTS THE QUALITY OF HIGHER EDUCATION SYSTEM IN TURKEY

TÜRKİYEDE YÜKSEKÖĞRETİMİN KALİTESİNİ ETKİLEYEN ÖNEMLİ SORUNLAR

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ÖZ

There are 184 higher education institutes (112 states owned, 67 foundation owned universities and 5 foundation community collages) in Turkey as of the end of 2017. The number of the students in the tertiary education is now 7,764, 607. Although the quantitative figures are encouraging the future of the higher education in Turkey, unfortunately many studies and reports show there are severe problem areas in the quality. These problems are laid in a large spectrum covering scientific autonomy, the quality of lecturers, new registered students, graduates, research studies, accreditation, international recognition, cooperation with industry etc. The aim of this study is not to produce proposals for these problems but a research to define high priority and important issues needs to be solved in short or medium term. To achieve that an expert group established to made a research on the previous studies and available data. As a result of this step a questionnaire for university lecturers has been designed based on the hypothesis created by expert group. The evaluation of this questionnaire is used to introduce most significant problem areas which need quick remedies. This is a prospecting study of results may be used by other researcher intents further studies to produce proposals to create remedies.

Keywords: Higher Education in Turkey; Quality in Higher Education; Problems in Higher Education

ABSTRACT

2017 yılı sonu itibari ile Türkiye'de 184 yükseköğretim kurumu (112 devlet, 67 vakıf, üniversite ve 5 vakıf topluluğu üniversitesi) bulunmaktadır. Yükseköğretimdeki öğrenci sayısı 7,764, 607'dir. Nicel rakamlar Türkiye'de yükseköğretimin geleceğini umutlandırırken, maalesef birçok çalışma ve raporda kalite konusunda ciddi sorunlu alanlar bulunmaktadır. Bu sorunlar bilimsel özerklik, öğretim elemanlarının kalitesi, yeni kayıt olan öğrencilerin ve mezunların durumları, araştırma çalışmaları, akreditasyon, uluslararası tanınırlık, endüstri ile işbirliği gibi geniş bir yelpazede yer almaktadır. Bu çalışmanın amacı, bu sorunlara yönelik öneriler sunmak değil, kısa veya orta vadede çözümler üretebilmek için yüksek öncelikli ve önemli konuları tanımlayan bir araştırma yapmaktır. Bunu başarmak için önceki çalışmalar ve mevcut veriler üzerinde araştırma yapmak için bir uzmanlar grubu oluşturulmuştur. Bunun sonucunda, uzman grup tarafından oluşturulan hipotezlere dayalı olarak üniversite öğretim görevlileri için bir anket tasarlanmıştır. Bu anketin değerlendirilmesi sonucu hızlı çözümlere ihtiyaç duyan en önemli sorun alanlarını tanımlamak için kullanılmıştır.. Bir arama çalışması olan bu araştırma sonuçlarının, bu konuda öneriler ve çareler üretecek diğer araştırmacıların kullanabileceği faydalı veriler sağlayacağı değerlendirilmektedir.

Anahtar Kelimeler: Türkiye'de Yüksek Öğretim; Yüksek Öğretimde Kalite; Yüksek Öğretimdeki Sorunlar

1. INTRODUCTION

There are 184 higher education institutes (112 states owned, 67 foundation owned universities and 5 foundation community collages) in Turkey as of the end of 2017. The number of the students in the tertiary education is now 7,764, 607. In according to the OECD Education at a Glance Report (2017a), the share of 25-34 year-olds with a tertiary degree has increased by 17 percentage points, from 26% in 2000, to 32% in 2005, 37% in 2010 and 43% in 2016 and it is now 22 percentage points in Turkey. Comparing with Canada (61%), Ireland (52%), Japan (60%), Korea (70%), Lithuania (55%) and the Russian Federation (60%) it is unlikely too low.

Although the quantitative figures are encouraging the future of the higher education in Turkey, unfortunately many studies and reports show there are severe problem areas in the quality. These problems are laid in a large spectrum covering scientific autonomy, the quality of lecturers, new registered students, graduates, research studies, accreditation, international recognition, cooperation with industry etc. All these issues require comprehensive and long duration studies.

It is a discussion topic all over the world that universities need change. There are two very contradictory theses on this subject in according two Martin and Etzkowitz (2000).   On the one hand, there is the 'declinist' thesis, with some pessimists believing that the very future of the university is under threat from governments and others expecting universities to do more useful things – to produce more applied knowledge, to develop more useful skills in its students. Such a trend is seen as potentially threatening the very integrity of the university along with its long-cherished autonomy. On the other hand, there is the optimistic thesis. According to this, we are moving into the so-called 'knowledge-based economy' or 'knowledge society' (e.g. Stehr, 1994).

In this changed environment, universities, as arguably the primary source of new knowledge and of the skills that are required for knowledge economy, could become the 'engine' of that economy. In this scenario, universities, rather than being under threat, will become more central. Far from losing their autonomy, they may conceivably become more powerful.

Indeed, students, with their challenges to received ideas and their inspiration of new ones, represent a crucial comparative advantage of universities as economic actors in knowledge based society (Martin and Etzkowitz, 2000).

The higher education affects social life in particular in the labour sector. The rate of employment increases with the level of education in all the countries. In Italy, for example, only 50% of the 25- to 64-year-old female cohort was in the labour force, whereas 80% of this cohort that has university education was gainfully employed in 2001. Similarly in Turkey, 27% of the 25- to 64-year-old female cohort was in the labour force, but 71% of this university educated group was in the labour force in 2001 (Michael S.O. & Kretovics, 2005). The higher education plays a significant role to increase the female participation into labour market.

2. METHOD

The aim of this study is not to produce proposals for these problems but   a research to define high priority and important issues needs to be solved in short or medium term.

To achieve that an expert group established to made a research on the previous studies and available data. The expert group is consist of 7 academician from social and engineering science all holds a PhD degree and experienced in teaching between 12 to 20 years.

As a result of expert group study, a questionnaire for university teaching staff has been designed and it is based on the hypothesis created by expert group. The evaluation of this questionnaire is used to introduce most significant problem areas which need quick remedies.

This is a prospecting study of results may be used by other researcher intents further studies to produce proposals to create remedies

3. FIELD STUDY

3.1. Evaluation of the Pre-University Education

General Directorate of Secondary Education National Education Ministry has published Monitoring and Evaluation Report 2016 in July 2016. The aim of the report is to evaluate the academic year of 2015-2016 at secondary level. The document covers the following chapters: (i) student absenteeism, (ii) academic achievement, (iii) student discipline, (iv) transition to primary school and (v) appropriate use for the purpose of the technology. The report was designed using the cross-sectional survey screening model. The universe of study is 277 thousand 188 secondary school teachers, while the sample used seven layered and unselected methods, seven geographical regions and seven schools of the 941 members of the same group. The three significant findings are (TED, 2017);

(İ) Absenteeism: more than half of the teachers participating in the survey (56%) are stated that a significant problem of student attendance in their schools. 27% of the teachers requested clear or implicit goals to reduce student absenteeism. Student absenteeism was also an important agenda in informal talks between teachers. In according to the lecturers 31% of student absenteeism is because they perceive themselves as failing academically. 75% stated that students were arbitrarily absent; 21% of the students are due to peer pressure, bullying, violence they think they are absent.

(ii) Academic Achievement: 91% of the teachers who participated in the survey stated that the important factor which affects the academic success is attendance. The most important factor determining success is the level of readiness of learners; 77% of the school environment; 81% thinks it is the family.

(iii) Student Discipline: 93% of teachers assume that discipline issues affect the academic success. 86% of teachers believe that they are living disciplinary problems. 24% of the disciplinary problems are largely due to the teachers' attitude; 70% of the disciplinary problems that are being experienced due to largely inadequacy of student to get education. Again, 47% of teachers stated that disciplinary punishments in the Disciplinary Regulation are incompatible to solve the problems.

3.2. Evaluation of the Higher Education System

Kücükcan & Gür (2009) made a very comprehensive study on the Higher Education System. The important results from 240 pages study are as follows;

- ✓ The current higher education system is over-centralized and higher education and it does not allow the differentiation of institutions.
- ✓ Present shape the purpose of higher education in Turkey, do not overlap with contemporary universities' universal standards.
- ✓ There is still a large gap between the quotas and existing with the number of students wishing to study at universities in Turkey. I
- ✓ Because there is no balance between supply and demand in higher education, students require enter the university entrance exam many times. Selection exam system has been changed repeatedly by HEC but it is still unsatisfactory to solve problems.
- ✓ Turkey, the OECD in terms of higher education enrolment rates is in the last order among the countries. Also in Turkey schooling rates are much lower, especially for people over 25 years of age. While YÖK is making capacity increases, this increase is due to a certain planning in a balanced way between being in the frame and the faculties has not been able to disperse until now.
- ✓ There is inequality in access to tertiary education.
- ✓ Lack of qualified manpower for industry is an obstacle for growth. But universities are not ready to meet this requirement.
- ✓ There are strict limitations to hamper vertical mobility to the university and horizontal mobility between universities and departments
- ✓ As the enrolment rate in higher education is increasing, there is not sufficient number of faculty members. With the opening of new universities, various teaching staff is needed.
- ✓ Universities in Turkey traditionally have avoided establishment of links with society and reluctant for social problems. Compared with other countries Turkish universities do not develop links with state institutions and non-governmental organizations in the fields of education, health, energy, agricultural and municipal cooperatives.
- ✓ Programs in universities could not respond the needs of the business world. There is a mismatch between the taught skills and the business world's requirements. Vocational Higher Schools have not been able to establish successful relationships with the sectors
- ✓ The economic power of the economy and the future of societies based on knowledge. But higher education in Turkey compared to other countries institutions cannot give the expected support to economic development. Despite positive developments in patenting, licensing and especially technology transfer in the world, they are behind the developments.
- ✓ Many of faculty members are not equipped with pedagogy. In order to increase the quality of education given at universities, the faculty members should be encouraged to have a comprehensive pedagogical formation [The author is not fully agree with this approach because pedagogical formation is necessary for primary and secondary education but not for tertiary education. University lecturer requires different qualification which are in line with the expectations for Level-6, 7 and 8.]
- ✓ Lack of independent external quality assessment agencies, higher education management, undergraduate and graduate level teaching, academic qualities, research and teaching outputs are assessed with objective criteria not a reliable accreditation system.
- ✓ On Higher Education system regulated Law No. 2547 by should be rearranged. The new regulation should increase the institutional autonomy of universities. Academic freedom and decentralized higher education system should be obtained. The authority of YÖK for the appointment of rector

candidates and deans, permission to open the program, program development etc. should be determined directly by each university to the trusteeship committee. [The author is not fully agree with this approach because every nation has different approaches for university management system. pedagogical formation is necessary for primary and secondary education but not for tertiary education. University lecturer requires different qualification which are in line with the expectations for Level-5, 6, 7 and 8.]

✓ Turkey has the reputation of a small number of universities at international level. Some universities should work for being scientific research institutions. Other universities are to provide services to meet educational and technological needs of the society [The universities are now grouped as Applied Science and Scientific universities in European area. A similar system may also be considered in Turkey.]

✓ Academic liberties for students and faculty members are vital for development. Universities have academic freedom and demonstrating exemplary performance in matters such as freedom of expression, they should contribute to democratization in the country. Universities, should be places for freely learning, teaching, researching and publishing to serve universal purposes.

✓ Improvement in the Student Selection Exam and in the university entrance system, the harmony between the Ministry of National Education and YÖK should be obtained to create a holistic system supporting higher education. The maturity exams are to be brought to evaluate the success of secondary education. The university entrance exam should be able to measure how the students are ready to follow intended program.

✓ Capacity increase in higher education should be made without sacrificing quality.

✓ Total number of higher education students studying in my Open University is too high in Turkey comparing with OECD countries rate. Open University should not be used as an alternative to the capacity increase.

✓ Periodic evaluation of higher education institutions by independent quality agencies should be established.

✓ The modern universities are increasingly playing a global role. Turkish universities should be globalized to get share from expanding global higher education market. This will also help to create financial support.

3.3. A glance on Higher Education by OECD

OECD report "Education at a Glance 2017" resumes the situation of higher education in OECD countries. These are the important excerpts for this report.

✓ In most OECD countries, the most popular tertiary degrees held by adults are in business, administration or law. On average across the OECD, 23% of tertiary-educated 25-64 year-olds hold a degree in one of these three fields of study, compared to 5% in natural sciences, statistics and mathematics; 4% in information and communication technologies; and 17% in engineering, manufacturing, and construction.

✓ However, interest in science, technology, engineering and mathematics (STEM) grows with higher levels of education, with almost double the share of students graduating from these fields at doctoral level than at bachelor level in 2015. One-third of those studying in OECD countries are doing so in a science-related field.

✓ Interest in engineering is higher for upper secondary vocational pathways than at tertiary level due to these programmes' strong ties with the industry sector. Approximately one-third of students graduate from upper secondary vocational programmes with a degree in engineering, manufacturing and construction – more than double the share at tertiary level.

✓ STEM-related fields also benefit from higher employment rates, reflecting the demands of an increasingly innovation driven society: information and communication technologies (ICT) graduates can expect an employment rate that is 7 percentage points higher than those graduating from arts and humanities, or from social sciences, journalism and information.

✓ Gender parity improves at the tertiary level, though women still represent approximately only one in four entrants to engineering, manufacturing and construction. On the other hand they represent close to three out of four entrants in health and welfare fields of study.

✓ Teachers are the backbone of the education system, yet the profession is increasingly unattractive to young students and the teaching population is getting older, particularly at higher levels of education. On average across OECD countries, 33% of primary to secondary teachers were at least

50 years old in 2015, up 3 percentage points from 2005. In addition, the profession is still largely dominated by women, who make up seven out of ten teachers on average across OECD countries Teachers' salaries are low compared to other similarly educated full-time workers.

- ✓ General upper secondary education programmes are more popular than vocational programmes: 37% of 15-19year-olds are enrolled in general upper secondary education programmes, compared to 25% in vocational programmes though vocational programmes are a strong component in the educational systems of many countries.
- ✓ Financial support helps to set the burden of high tuition fees charged by certain tertiary institutions; 75% or more of students in Australia, England (United Kingdom) and the United States benefit from public loans or scholarships/grants.
- ✓ Open admissions systems to public and/or private tertiary institutions can be found in more than half the countries and economies with available data. National/central examinations taken towards the end of upper secondary education, and entrance examinations administered by tertiary institutions, are most widely used for entry into first-degree tertiary programmes.

3.4. Financial Support

Experience has shown that most higher education decision makers have little or no background in economics or finance and, frankly speaking, may not be interested in economics. Many people have thin patience for complex equations, and those equations are hardly called to mind when one is confronted with real life challenges. While some contributors may have succeeded better than others in simplifying complex concepts, it is my hope that the majority of this book's readers will find it useful, informative, and readable (Michael S.O. & Kretovics, 2005).

Ashe state universities have limited funds granted by the governments, the foundation universities are in a situation to provide funds to survive. This condition they are in apposition to take necessary action to find suitable funds which are enable them to continue operation.

3.5. Teaching and Research

A university has two major roles; teaching and research. Martin and Etzkowitz (2000) made a study on this issue. "The How great a threat is the separation of research and teaching? Will the university remain a multi-function institution"?

Most universities may remain multi-functional but certainly not all of them. Some may choose to focus primarily on undergraduate education (as many have done during the 20th Century or earlier), some largely on research and graduate education. Others may embrace the third function and become entrepreneurial universities. One contributing factor here is likely to be the decreasing time lag between the creation and use of knowledge. This may encourage the convergence of certain 'classical' and 'technical' universities, swelling the population of the 'entrepreneurial university' species in which are combined the functions of knowledge creation, knowledge transfer (particularly through trained students) and knowledge exploitation – i.e. the integration of the three functions of teaching, research and contributing to the economy.

To sum up, the university will, over coming decades, inhabit a fast-moving and complex environment. Political and economic circumstances will be constantly changing. New technologies will offer universities and other institutions innovative ways of offering higher education and of doing research. Competition among universities and with other institutions will become fiercer and more global. New competitors will appear. In this environment, the rate of evolutionary change on the part of universities will almost certainly be more rapid than in earlier centuries. Existing university species will continue to adapt. New hybrids (such as the 'clicks and bricks' university) and new species of universities (for example, the networked university) will emerge. At the institutional level, there will be mergers and acquisitions, and perhaps even the occasional 'death'. But the university will survive.

3.6. International Citation Indices

The articles cited in international citation indices in 1983 situated as the number of publications addressing Turkey, while it ranked 45th in the world, it ranked 18th in 2010. Between 2001 and 2010, in general, an increase in the number of publications per faculty member is observed. Especially in the 2001-2004 periods the increase is remarkable. The teaching staff of 0.12 in 2001 the number of publications per publication rose to 0.27 in 2009 It decreased to 0.26 as of 2010. While the number of publications per member was 0.34 in 2001, but in 2010 it decreased to 0.66 in 2010 (Günay and Günay, 2011).

The number of the pier reviewed publication of Turkish Universities have increased in the last decade, but most of them could not be included in SCI or SSCI indexes.

3.7. University Culture

Each university has a unique and cherished culture. This culture is born from the institution's history and is steeped in tradition. This tradition in turn reinforces that history and works to incorporate newcomers into the culture by instilling defined cultural values. A university's culture, tradition, and values are not only important, they are vital to the wellbeing of the institution because they provide stability and continuity (Simplicio, 2012).

Simplico (2012) states that "A university is like a living organism. At times it grows adding new programs, constructing new buildings, and hiring needed personnel. At other times it is forced to modify its focus by shedding obsolete policies, eliminating outdated curricula, and adjusting short term goals. Over time a university matures, and so does its culture". 6In order to remain viable though the campus culture must also evolve and adapt to meet change". The university culture sometimes resists against the changes and hamper evolvement. So, when redesign the modus operandi of a university, planners should be very careful not to create conflict between the proposed system and core traditional values of university which may change for any university.

Any drastic change in the university management system which is contrary to conventional university culture may cause reaction by teaching staff. So, before making any change in modus operandi of the university, the effects of this change to university culture should be carefully investigated.

3.8. PİSA Performances of Turkey

PISA ((Pogramme for International Student Assessment) Performances of Turkey in between 20013 and 2015 is shown in the Figure 1.
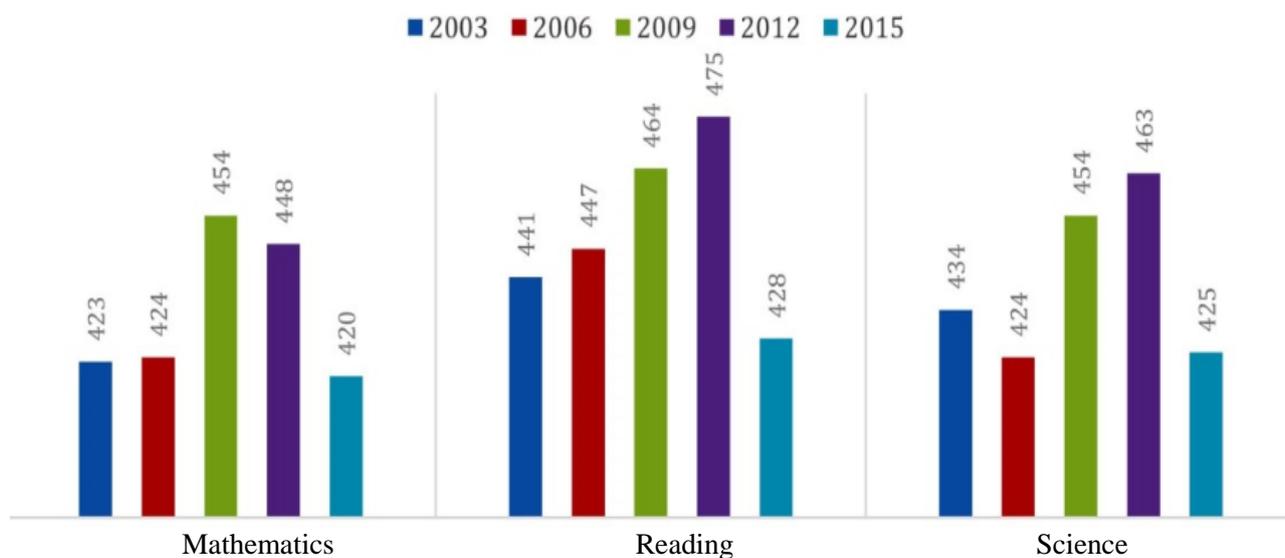

Figure 1: PİSA Performances of Turkey (Resource: OECDb, 2017)

Turkey has dropped from 33 to 52 in Mathematics, 35 to 49 in reading and 35 to 50 in the Science between 70 countries in the past 13 years.   As a result of comparing these tables, Turkey take places far behind the OECD average.

Another problem area related to Turkey is the 'Problem Solving' skills of the students. In Turkey, students perform significantly worse in problem solving, on average, than students in other countries who show similar performance in mathematics, reading and science, particularly among strong performers in mathematics (OECD, 2013). Students in Turkey found it particularly difficult to solve problems where the main cognitive challenge was to learn about the problem situation (e.g. setting up an experiment to understand the effect of their actions on an unfamiliar device, and representing the cause-effect linkages in a diagram). This may mean that students are not well-prepared to apply the learning strategies and the reasoning skills that they are taught in school when confronted with real-life challenges. With a mean score

of 454 points, students in Turkey perform below the OECD average in problem solving (500 score points). The rank of Turkey among all 44 countries and economies is estimated to lie between ranks 33 and 36.

4. EXPERT GROUP STUDY

An expert group established to make a research on the previous studies and available data. The expert group is consist of 7 academician from social and engineering science all holds a PhD degree and experienced in teaching between 12 to 20 years. All available data is introduced to the expert group. As a result of expert group study the findings are defined and a questionnaire for university teaching staff has been designed which is based on the hypothesis created by the group. The evaluation of this questionnaire is used to introduce most significant problem areas which need quick remedies.

The findings of the Expert Groups are introduced following paragraphs. These are also assumed as hypothesis (H) for the questionnaire.

H1: The legislative arrangements related to higher education hampers development of universities

- ✓ HEC (Higher Education Council) forces our universities to apply a certain standard and prevents innovation.
- ✓ Unusual rector assignments prevented universities from creating a free mind environment.
- ✓ The existing structure and management style of the universities are not suitable for conuct of scientific studies.
- ✓ Universities are prohibited from producing new programs and developing their existing programs.

H2: The quality of the academicians are not suitable to create an innovative for higher education

- ✓ At every level, the choice of academicians is done by subjective methods.
- ✓ Highly successful graduates do not prefer to be academicians for financial and other reasons.
- ✓ Foreign language knowledge level of academician's is not sufficient to handle scientific studies.
- ✓ Academicians are not given the opportunity to do effective scientific research.

H3: The background of new entrances of university is not sufficient to get education in university level.

- ✓ Mathematics and science education acquired in high school is inadequate.
- ✓ Social studies and Turkish education in high school are inadequate.
- ✓ Foreign language knowledge acquisition in high school is inadequate
- ✓ Foreign language preparation education in the university is insufficient.

H4: The quantity of academician is insufficient to handle university education

- ✓ The number of professors and associated professors who are experienced in some special subjects is insufficient.
- ✓ Due to the fact that it is difficult to find academicians in some specialized branches, academicians who are not expert these subjects teaching these courses and this situation is adversely affecting the qualifications.
- ✓ Even though it is possible to find specialist lecturers for some subjects from outside the university, strict HEC rules prevent it to be applied. .

H5: Existing infrastructure of universities is insufficient to achieve research and development.

- ✓ The resources (laboratory, simulator, IT, etc.) are insufficient for research and development of universities for conducting scientific research.
- ✓ Universities are lack of financial support for research and development.
- ✓ University-industry cooperation opportunities are insufficient.
- ✓ There is a system which enables to handle research activities

✓ The university is participating a techno park/handles incubators or having a liaison office with companies

✓ The university obtains a significant income by the way of university-industry cooperation

H6: Universities are not able to apply Bologna Process

✓ Application of Bologna Process practices in universities.

✓ The existing practices in our universities are not consistent with the standards of the European Union.

5. SURVEY RESULTS

The questionnaires has been distributed as hard and soft copies to the 256 lectures in the 11 universities. 86 response is received and 82 of them which are fully filled has been taken into consideration. The findings of the Expert Groups are introduced following paragraphs. These are also assumed as hypothesis (H) for the questionnaire.

The distribution of the of the participants' academic rank are 12 full professor, 4 associated professor, 12 assistant professor and 42 lecturers and 12 research assistant. 52 of them are male and 8 of them are female, 22 participants did not declared their gender. There is no significant difference between the participants considering gender and academic status.

The average of the semantic test is 4.24 % which proves that the participants are familiar and eligible to respond these questions.

Assessment of the Hypothesis depending upon the answers to questionnaire is as follows:.

H1: The legislative arrangements related to higher education hampers development of universities: ***Proved***

✓ HEC (Higher Education Council) forces our universities to apply a certain standard and prevents innovation. ***Yes: 83% - No: 17 %***

✓ Unusual rector assignments prevented universities from creating a free mind environment. ***Yes: 88% - No: 12%***

✓ The existing structure and management style of the universities are not suitable for conduct of scientific studies. ***Yes: 83 % - No: 17 %***

✓ Universities are prohibited from producing new programs and developing their existing programs. ***Yes: 56 % - No: 44 %***

H2: The quality of the academicians are not suitable to create an innovative for higher education: ***Proved***

✓ At every level, the choice of academicians is done by subjective methods ***Yes: 63 % - No: 37 %***

✓ Highly successful graduates do not prefer to be academicians for financial and other reasons. ***Yes: 72 % - No: 28 %***

✓ Foreign language knowledge level of academician's is not sufficient to handle scientific studies. ***Yes: 24 % - No: 76 %***

✓ Academicians are not given the opportunity to do effective scientific research. ***Yes: 29 % - No: 71 %***

H3: The background of new beginners of university is not sufficient to get education in university level: ***Proved***

✓ Mathematics and science education acquired in high school is inadequate.

✓ *Highly Sufficient: 5   Mostly Sufficient: 4 Sufficient: 3   Insufficient: 22 Highly Insufficient: 16*

✓ Social studies and Turkish education in high school are inadequate.

✓ *Highly Sufficient: 0   Mostly Sufficient: 0 Sufficient: 11   Insufficient: 19 Highly Insufficient: 11*

✓ Foreign language knowledge acquisition in high school is inadequate

✓ *Highly Sufficient: 0   Mostly Sufficient: 0 Sufficient: 2   Insufficient: 13 Highly Insufficient: 26*

- ✓ Foreign language preparation education in university is insufficient.

- ✓ *Highly Sufficient: **0**   Mostly Sufficient: **0** Sufficient: **7**   Insufficient: **23** Highly Insufficient: **11***

H4: The quantity of academician is insufficient to handle university education: ***Proved***

- ✓ The number of professors and associated professors who are experienced in some special subjects is insufficient.

- ✓ *Highly Sufficient: **0**   Mostly Sufficient: **3** Sufficient: **5**   Insufficient: **23** Highly Insufficient: **13***

- ✓ Due to the fact that it is difficult to find academicians in some specialized branches, academicians who are not expert these subjects teaching these courses and this situation is adversely affecting the qualifications. *Yes: %77 - No: %23*

- ✓ Even though it is possible to find specialist lecturers for some subjects from outside the university, strict HEC rules prevent it to be applied. *Yes: %71 - No: %29*

H5: Existing infrastructure of universities is insufficient to achieve research and development: ***Proved***

- ✓ The resources (laboratory, simulator, IT, etc.) are insufficient for research and development of universities for conducting scientific research.

- ✓ *Highly Sufficient: **1**   Mostly Sufficient: **6** Sufficient: **16**   Insufficient: **17** Highly Insufficient: **5***

- ✓ Universities are lack of financial support for research and development.

- ✓ *Highly Sufficient: **1**   Mostly Sufficient: **31**Sufficient: **7** Insufficient: **27** Highly Insufficient: **5***

- ✓ There is a system which enables to handle research activities *Yes: %44 - No: %56*

- ✓ The university is participating a techno park/handles incubators or having a liaison office with companies *Yes: %71 - No: %29*

- ✓ The university obtains a significant income by the way of university-industry cooperation *Yes: %15 - No: %81*

- ✓ University-industry cooperation opportunities are insufficient. *Yes: %69 - No: %31*

H6: Universities are not able to apply Bologna Process: ***Proved***

- ✓ Application of Bologna Process practices in universities.

- ✓ *Highly Sufficient: **4**   Mostly Sufficient: **4** Sufficient: **15**   Insufficient: **9** Highly Insufficient: **9***

- ✓ The existing practices in our universities are not consistent with the standards of the European Union. *Yes: 37% - No: 63 %*

5. CONCLUSION

a. The existing legislative arrangements related to higher education obstructs development of universities in particular access standardization hampers developments of the programmes. Political appointment of the rectors is hampering university autonomy and the formation of free mind and innovative environment.

b. The existing legislative and administrative regulations are not suitable to develop high quality academic staff. There is not sufficient support to create a suitable research environment in universities. Selection and promotion methods for academicians are highly subjective and foreign language standards need to be improved

c. The mathematics and science background gained in the secondary education of new beginners of university is not sufficient to start education in university level in particular subjects. Foreign language education in at prep schools is unlikely capable to support education in English at university.

d. The number of the academician in many universities is insufficient to handle an effective education university education in particular newly established universities in remote areas. The strict rules for selection of lecturers inhibits deployment of lecturers from business and industry.

e. Existing infrastructure of universities is insufficient to achieve research and development.

✓ The resources (laboratory, simulator, IT, etc.) are insufficient for research and development of universities for conducting scientific research.
✓ Universities are lack of financial support for research and development.
✓ University-industry cooperation opportunities are insufficient.

f. Although it is formally intended application of Bologna Process in Turkish universities in 2010, still it could not been fully implemented. So, the existing practices in universities are not consistent with the standards of the European Union.

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