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# New Image Qualities in Education: A Comparative Study

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**Abstract**

The aim of this study is to compare Turkish and European Union Countries Educations in terms of the new image qualities such as data like access to online education, digital access, foreign languages learnt per pupil, research & development investments, human resources employed in science and technology, the study opportunities offered to international students mobility and the scientific patents. It is a study in the descriptive scanning model. The data have been taken from the Eurostat, OECD and UNESCO databases. Qualities of Turkish Education is at a disadvantage in the face of European Union education qualities in terms of access to education, internet use, access to online education, R & D investment rates, number of specialists working in the field of science and technology, part-time employment opportunities offered to international graduate students, foreign languages learnt per pupil, and scientific patents.

**Keywords:** New image qualities in education, Information society, Turkish education, European Union countries education

## 1. Introduction

Developments in information technology have caused social relations to change and values to be reshaped. The values that are very important in the last century leave their place to new values. In the sustainable development of countries, physical capital has left the place to intellectual capital that produces knowledge, develops knowledge and transforms it into a product of knowledge. The digital revolution in the world has removed the distance between manager and managed, teacher and learner, accelerating the interaction (Görgü & Mutioğlu, 2017). The period in which we live is a time when global has come to the forefront and a rapid change has taken place. This era is called information society because of information

plays a strategic role in this change (Drucker, 2010; Castells, 2015).

Information society can be regarded as a social stage in which knowledge is the basic determinant of change. The information technology makes it compulsory to produce information and to use information all over the social fields from economy to education. Rapid change in information technologies necessitates the internet, the use of social media and online services, and openness to continuous learning (Çalık & Sezgin, 2005).

Digital developments in the age of information society force individuals and organizations to adapt to new arrangements. There is a need for a new policy in the information society where individuals, communities, and institutions go through the transformation process. In this framework, almost all organizations are eyeing their administrative, economic and social policies in order to benefit from the opportunities offered by the information society and to avoid the risks associated with the information society. New policies for information society are emerging. For example; International organizations such as the United Nations (UN), the European Union (EU), the Economic Cooperation and Development Organization (OECD) have been conducting studies aimed at ensuring harmony with information society (Turkish Ministry of Development, 2014).

*1.1 Problem State*

In order to provide appropriate transformations to the information society, it is necessary to recognize the importance of image qualities that stand out in the information society. Increasingly important new image qualities in the information society can be listed as follows:

> *a) To have qualified human resources; b) Internet usage network; c) To use information technologies; d) Individualization in education and online education; e) Graduate education and lifelong learning activities; f) Use of social media and access to digital databases; g) education branding; h) Access to higher education; i) International student mobility view; j) Employability in education* (Aktan, 2017).

Among the qualities that determine social disadvantage in the transition from industrial society to information society were female population, immigrant population, ex-convict population, disabled population and low-income population. In the information society, these qualities have been replaced with qualities such as the level of access to education services the level of access to digital platforms, educational funding ratios, R & D investment rate, human resource employment rate in science and technology, employability of university graduates, preference rate of international students and scientific patent application. Risk assessment of education systems in the age of information society is made by taking the above-mentioned qualities into account. For example; Organizations such as the OECD, the ILO, the World Bank and UNICEF evaluate countries' education systems in terms of the above-mentioned qualities (OECD, 2017; ILO, 2017). In this direction, a national data monitoring and evaluation center should be established in order to make systematic risk assessment in terms of information society qualities within the Turkish Education System. A data monitoring and evaluation center for information society qualities have not yet been

established in Turkey.

*1.2 Aim of Study*

The aim of this study is to compare Turkish and European Union Countries Educations that are available for giving suggestions to Turkish education policy. The following questions were aimed to be answered in the study:

- How is the outlook of Turkish and European Union Education quality when compared in terms of educational access?
- How is the outlook of Turkish and European Union Education quality when compared in terms of digital access?
- How is the outlook of Turkish and European Union Education quality when compared in terms of foreign languages learnt per pupil?
- How is the outlook of Turkish and European Union Education quality when compared in terms of R & D investments in education?
- How is the outlook of Turkish and European Union Education quality when compared in terms of human resources employed in science and technology?
- How is the outlook of Turkish and European Union Education quality when compared in terms of university students' mobility?
- How is the outlook of Turkish and European Union Education quality when compared in terms of number of scientific patents?

The digital data collected in response to these questions were evaluated.

## 2. Method

*2.1 Research Model*

The study is a quantitative research method. This study uses screening method as it analyzes an existing situation. This model tries to describe the subject matter, individual or entity as it is, without making any changes on it (Karasar, 2013; Balcı, 2015; Kalaycı, 2016).

*2.2 Data Collection Tool*

Data were obtained by scanning the source. The figures shown in graphical form are taken from the Eurostat (2017), OECD (2017) and UNESCO (2015) databases.

## 3. Findings

*3.1 Access to Training*

In this section, Tables 1, 2 and 3 show the comparison of data obtained from the Eurostat database on Turkey and European Union countries in terms of access to education.

3.1.1 18 Years-Olds in Education

Table 1. 18-Years-Olds in education

| Country | % |
|---|---|
| European Union Countries (average) | 80 |
| **Turkey** | **45** |
| Finland | 95 |
| Holland | 90 |
| Germany | 85 |
| England | 65 |

Table 1 shows that the educational access level of the youth 18 years olds is 45% in Turkey, while it is 80% in European Union countries. The educational access rate of young people 18 is 95% in Finland, 90% in Holland, 85% in Germany and 65% in England. The high level of access to education is a feature of the age of information society (Eurostat, 2017; OECD, 2017). The Turkish Education System, which has a lower level of access to education, is at a disadvantage in the face of the European Union Education System.

3.1.2 30+ Years Olds Tertiary Educational Attainment

Table 2. 30+ Years olds tertiary educational attainment

| Country | % |
|---|---|
| European Union Countries (average) | 40 |
| **Turkey** | **25** |
| Lithuania | 60 |
| Luxembourg | 55 |
| Iceland | 55 |
| Denmark | 50 |

Table 2 shows that 25% of the individuals who are 30 years of age or older attainment the higher education in Turkey and 40% in the European Union. The same rate is seen in Lithuania as 60%, in Luxembourg as 55%, in Iceland as 55% and in Denmark as 50% (Eurostat, 2017). The fact that in the age of information society access to higher education in Turkey is lower than that of the European Union countries, constitutes a disadvantageous situation for Turkey.

3.1.3 Adults Participation in Learning

Table 3. Adults participation in learning

| Country | % |
|---|---|
| European Union Countries (average) | 12 |
| **Turkey** | **5** |
| Sweden | 30 |
| Finland | 27 |

On average, the participation rate of adults aged 29-64 in learning in European Union countries is 12%. These rates are higher in Northern European Countries; 30% in Sweden and 27% in Finland. In Turkey, the participation rate of adults in learning is 5% (UNESCO, 2015; Eurostat, 2017). The constant and rapid change of information and technology is pushing individuals to learn life-long. The need for new knowledge and skills makes lifelong learning a necessity. The low participation of adults in Turkey in learning causes them to fall into a disadvantageous situation in the face of adults in the European Union countries.

*3.2 Digital Access*

In the information society and globalization process, distance education, internet usage, ability to use digital education platforms has gained importance. The acquisition of these skills is among the basic tasks of educational institutions. The comparison of Turkey and European Union countries in terms of these qualities are shown on Tables 4 and 5.

3.2.1 Participation to Online Training Courses

Table 4. Participation to online training courses

| Country | % |
|---|---|
| European Union Countries (average) | 10 |
| **Turkey** | **3** |
| Finland | 28 |
| Lithuania | 21 |

Online education participation rate is 3% in Turkey and 10% in European Union countries. Finland with 28% rate and Lithuania with 21% rate are seen as the highest participant countries in online education. In the age of information society, remote access to information is becoming increasingly widespread (Eurostat, 2017). This reduces both social disadvantages and facilitates access to education by large masses. In comparison to individuals in the European Union countries, young people and adults in Turkey have a low level of access to online education, which is a disadvantage in terms of uninterrupted learning.

3.2.2 Internet Usage

Table 5. Internet usage

| Country | % |
|---|---|
| European Union Countries (average) | 82 |
| **Turkey** | **58** |

According to Eurostat data, Internet usage rate in Turkey has increased to 58% by 2016. However, the average Internet usage rate in the European Union is 82% in 2016. The Internet is the free sharing of information and the fastest way to information (Eurostat, 2017). The Internet can be regarded as a symbol of the information society. In order to reduce the disadvantaged situation in the age of information society, sound internet access in Turkey should be made more attractive.

3.2.3 Have Digital Skills

Table 6. Have digital skills

| Country | % |
|---|---|
| European Union Countries (average) | 58 |
| **Turkey** | **34** |

On Table 6, the rate of have digital skills for learning by individuals aged 16-74 years in Turkey is around 34%. The rate of have digital skills in the European Union countries is 58% (Eurostat, 2017; OECD, 2017). Using digital teaching materials and mobile devices is a common means of communication in the era of the information society. The low level of have digital skills, especially by young and adults is a disadvantage in terms of access to information in Turkey.

*3.3 Foreign Language*

Table 7 compares the data produced by Eurostat with respect to Turkey and the European Union in terms of the number of foreign languages that can be spoken by secondary school pupils.

Table 7. Foreign languages learnt per pupil

| Country | % |
|---|---|
| European Union Countries (average) | 1,5 |
| **Turkey** | **1** |
| Luxembourg | 2.5 |
| Finland | 2.25 |
| Estonia | 2 |

In Turkey, the number of foreign languages reported by pupils at the level of secondary education is one while it is 1.5 in the European Union Countries. In Luxembourg, the average number of foreign languages spoken by secondary school pupils is 2.5, in Finland 2.25, and in Estonia, the average number of foreign languages pupils speak is 2 (Eurostat, 2017). Pupils in the Turkish Education System are seen as disadvantaged in terms of the number of foreign languages they know when compared to peers in the European Union countries.

*3.4 Research & Development Support*

Table 8 compares Eurostat-generated data on Turkey and European Union countries on the amount of support allocated to research and development studies in education.

Table 8. Research and development expenditure

| Country | % |
|---|---|
| European Union Countries (average) | 2 |
| **Turkey** | **0.25** |
| Sweden | 3.25 |
| Denmark | 3 |
| Austria | 3 |
| Finland | 3 |
| Belgium | 2.5 |
| France | 2.25 |

In Turkey, the budget allocated to R & D as a percentage of national income is below 1%. It is seen that it exceeds 2% in the European Union countries. The budget allocated to R & D is 3.25% in Sweden, 3% in Denmark, Austria, and Finland, 2.5% in Belgium and 2.25% in France (Eurostat, 2017). It should not be forgotten that the production of knowledge and its transformation to the product depends directly on R & D investments. In the age of information society, Turkey should increase the number of funds for R & D in order to get rid of its disadvantaged situation in terms of R & D support.

*3.5 Human Resources in Science and Technology*

Tables 9 and 10 show the comparison of Eurostat data on Turkey and European Union countries in terms of human resources ratio in science and technology, Ph.D students in science and technology, employment opportunities and university graduates' employability ratio.

3.5.1 Ph.D Students in Science and Technology Fields

Table 9. Ph.D students in science and technology fields

| Country | % |
|---|---|
| European Union Countries (average) | 0.5 |
| **Turkey** | **0.2** |
| Germany | 1 |

On Table 9, it is seen that 0.2% of the individuals continuing Ph.D studies in Turkey are working in the field of science and technology. This rate is 0.5% in European Union Countries (Eurostat, 2017). Further, this rate is 1% in Germany. The employment of individuals (engaged in postgraduate studies in the field of science and technology) in the same field is very important. This is a new indicator for global among education systems in the age of information society (Drucker, 2010).

3.5.2 Human Resources in Science and Technology

Table 10. Human resources in science and technology

| Country | % |
|---|---|
| European Union Countries (average) | 45 |
| **Turkey** | 27 |
| Norway | 60 |

In Turkey as of 2016, 27% of the active population is working in the field of science and technology. Looking at the general average of the European Union countries, it is seen that 45% of the active population is working in the field of science and technology. In Norway this rate is 60% (Eurostat, 2017). The transformation of knowledge into a technological product can be attributed to the nature and number of human resources working in these areas. It is necessary to develop policies that will increase the employment of human resources in the field of science and technology so that Turkey can get rid of its disadvantaged situation in the age of information society.

*3.6 International Student Mobility*

Tables 11 and 12 show the comparison of Eurostat data on Turkey and European Union countries in terms of part-time employment opportunities for international students and university students' mobility.

3.6.1 Part-time Employment Opportunities for International Students

Table 11. Part-time employment opportunities for international students

| Country | % |
|---|---|
| European Union Countries (average) | 20 |
| **Turkey** | **8** |

Table 11 shows the proportion of young people over 20 years of age employment part-time. On average 20% of young people in the European Union have the opportunity to employment part-time. Only 8% of young people in Turkey employment part-time (Eurostat, 2017; OECD, 2017). Part-time study opportunities for international students offer significant advantages both in terms of financial gain and training time. Turkey should promote part-time job opportunities in order to make education attractive.

3.6.2 University Students' Mobility

Table 12. University students' mobility

| Country | ‰ |
|---|---|
| European Union Countries (average) | 650 |
| **Turkey** | **55** |

According to Table 12, while 55 per thousand university students go abroad for education in Turkey, on average 650 per thousand university students in the European Union countries go abroad for education (Eurostat, 2017).

*3.7 Scientific Patent*

Table 13 compares the data generated by Eurostat 2016 on scientific patent application rates between Turkey and the European Union.

Table 13. Patent by population

| Country | Per Million Population |
|---|---|
| European Union Countries (average) | 56 patent |
| **Turkey** | **0.4 patent** |

According to the data from 2014, In the European Union 56 patents per 1 million population are falling while 0.4 patents are falling in Turkey (Eurostat, 2017; ILO, 2017). Taking patents in the field of science and technology in the age of information society is an important indicator in terms of branding in education.

## 4. Conclusion

In this section, there are comparative results of qualities of Turkish Education and European Union countries education in terms of information society:

- Education access rate over the age of 18 is 45% in Turkey while 80% in European Union countries (EUC).
- 25% of the population aged over 30 consists of university graduates in Turkey, compared to 40% in EUC.
- Adults participation rate in learning is 5% in Turkey and 12% in EUC.
- Participations rate on online trainings is 3% in Turkey compared to 10% in EUC.
- Internet penetration rate is 58% in Turkey compared to 82% in EUC.
- Number of foreign languages learnt per pupils in Turkish high schools is one, compared to two in some EUC.
- While 28% of the population aged 16-74 have digital skills in Turkey, this figure stands at 60% in EUC.
- Budget allocated for R & D on education constitutes 1% of national income in Turkey and 2% in EUC.
- 0.2% of the Turkish Ph.D students are employed in science and technology, compared to 0.5% in EUC.
- 27% of the active population in Turkey has been employed in science and technology, compared to 45 % in EUC in 2016.
- 8% of young population has part time jobs in Turkey, compared to 20% in the EUC.
- While 55 per thousand university students go abroad for education in Turkey, on average 650 per thousand university students in the European Union countries go abroad for education.

- While 0.4 patent per million population have been made to European Patent Institute from Turkey, 56 per million have been made from EUC, in 2014.

This study focuses on some data interpretation that could be seen as status display at information society such as access to education services, adult participation to informal education, research and development supports in education, number of patents, digital literacy ratio, international student ratio and the number of graduate students working in science and technology industry. Recommendations based on findings were developed: a) Developing countries need to develop policies to update their education systems in order not to lag behind in information society age. For example, education, technology and industry ministries could be merged and a common development plan could be established in order to transform knowledge into product; b) A certain amount of R & D budget should be forced for both private firms and local administration; c) The ratio of research expenditure in general budget should be increased; d) Graduate studies on science and technology should be encouraged; e) Career development applications that encourage adult attendance in informal education should be extended; f) Online education should begin from secondary education and should be widespread; g) Direct government support should be provided to international students who like to have a part-time job; h) Employment of university graduates in private sector should be encouraged.

**References**

Aktan, C. (2017). *Information society*. Retrieved from http://www.canaktan.org/yeni-trendler/bilgi-toplumu

Balcı, A. (2015). *Social scientific research method*. Ankara: Pegem A Publishing.

Castells, M. (2015). *Information process*. İstanbul: Bilgi University Press.

Çalık, T., & Sezgin, F. (2005). Globaliztion, information society and education. *Kastamonu University Journal of Education Faculty, 13*(1), 23-30.

Drucker, P. (2010). *Management in the future community*. İstanbul: Hayat Publication.

Eurostat. (2017). *Key to european statistics*. Retrieved from http://ec.europa.eu/eurostat/data/database

Gözgü, F., & Mutioğlu, H. (2012). Information society and ınformayion culture. *Batman University Journal of Life Sciences, 1*(1), 465-476.

International Labor Organization. (2017). *Databases and statistics*. Retrieved from http://www.ilo.org/ilostat/faces/wcnav_defaultSelection

Kalaycı, Ş. (2016). *Spss aplication*. İstanbul: Asil Publishing.

Karasar, N. (2013). *Scientific research method*. Ankara: Nobel Publishing.

OECD. (2017). *Education at a glance.* Retrieved from http://www.oecd.org/edu/education-at-a-glance

Turkish Ministry of Development Report. (2014). *Information society strategy*. Ankara: Turkish Ministry of Development Publication.

UNESCO. (2015). *Education global monitoring report*. Paris: Unesco Publishing. Retrieved from https://en.unesco.org/gem-report

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