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Countries' Future Higher Education Structure And Optimizing

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ABSTRACT:*In this study, "(2n+1) Geometric Ratio Model" is developed for the countries'future higher education structure. In this model: 1. "Critical scale economy, 2. Critical scale population size, 3. Well-educated scale population ratio, 4. Critical technology production in scale size" are determined. In this model, the entire higher education system is analyzed as a whole. It allows frame planning to be done with integrity from the instructors to student ratio. How the details of the plan will be done may vary according to the country's own characteristics, conditions, income levels and priorities. In this plan, the country is thought to be at a certain level in 35 years' time. Or it will exceed 80% of the target planning. If the change is influential, 100% of the target will be reached in 45-50 years' time. According to the goals in this plan; the ratio of university graduates (including associates) in the country will be 85%and including master and doctoral degrees this ratio will be 25%, well-educated ratio will be 6,25%, very well-educated ratio will be 1,56%, top level manager and scientist potential ratio will be 3,98/1000 and potential scientist ratio will be 4,98/100000.*

This is the mathematical result of the model. On the other hand, the proportion of academic high schools in a country should not exceed 25% of the total high schools. The other 75% should be trained as a profession according to the needs. Another important result is that 25% of high school graduates are potentially successful students. Among them, the 3,98/1000 segment is among the candidates who will serve in the potential upper level that needs to be carefully cultivated. The other result obtained from the model is planned to provide one academic staff for each 12 students. Academic structure coefficient ratios in lower layers are also determined by considering pyramid ratios.

KEYWORDS*: University, Future, Higher Education, Optimisation*

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I. INTRODUCTION

Ph.D. studies are the studies starting after undergraduate and graduate / master stages of the universities. Apart from that, there are studies carried out under the name of a unified doctorate. These are usually the names of programs that students with very successful undergraduate grades start.

Today, people who project R&D (research and development) studies, makeand conduct research, and have academic titles as doctors work at a high level. For this reason, academic doctors are the largest contributors to development in the world or to technological developments. Their importance is increasing day by day.In developed countries, most of their development is owed to this mass. For this reason, many countries in the last quarter of the century have been aware of the seriousness of this situation and are trying to cultivate it by showing every kind of essence in order to educate the young generation at education age. They are cultivated in their own country or abroad. Another meaning of this is that the transfer of science and technology is done by this way. This is a method. But there are also other ways of science and technology transfer. Whichever way science and technology is achieved, sustainability is more important. For this, there is a need for human resources cultivated for science and technology development. As it has been in the past, human resource is the greatest wealth for the countries today and it will continue to be so.

Figure.1 shows the situation of some countries in the field of Ph.D. between 1998 and 2006 [1]. Today, many people believe that the secret of the developments in China originated from imitation. This is partly true. Because it takes a certain period of apprenticeship to learn a job you do not know. China has also experienced it as well as the USA. China is a country that is trying to develop quickly by taking advantage of the experiences of others. If it came from ignoring the experiences of others, it would not be possible for rapid development for China. In fact, it would not even know about some science and technology areas. For this reason, modernization and cultural civilization are common values of countries and humans in creating science and technology. Each country contributes as much as its own sphere of development. Some have done these things years ago, others are doing it now. Or some are leading and leading to the front, and others are coming from this path. The economic benefit of this is that some of them are producing new products and monopolies continuously with new technologies, while other countries are sometimes only consumer markets.

Figure.1 shows the increase in the number of doctors in all the countries in 1998-2006. The most striking of these is China's exodus or increase. Why did China achieve such an enormous increase? We think this should be of special interest that third world countries should seriously investigate. Because it is two times more than Mexico which is closest to it and it is about 20 times that of Hungary which is the least. The closest one is India which is about 4,705 Japan 6,45 South Korea 5,63 and USA 16 times less. The result of this success is becoming the world's largest economy. Today, China is producing goods at every quality level. Although it is not yet possible to solve the inequality of income distribution, it is the production center of the world. While producing goods, it also produces high technology products in recent years. On the other hand, China has also reached a certain level in space studies and aviation studies. Economically, it has not been the superpower of the earth; however, nowadays it uses this economic power coming from the production as soft power publicly or implicitly. For China, what is next is going with sure steps on being the world's greatest superpower. This dream of China will soon come true with the work pace, scientific and technological developments, and more importantly investments made for people. China will gain this power by shortly completing the human resource, which is the greatest wealth for this world to become superpower.

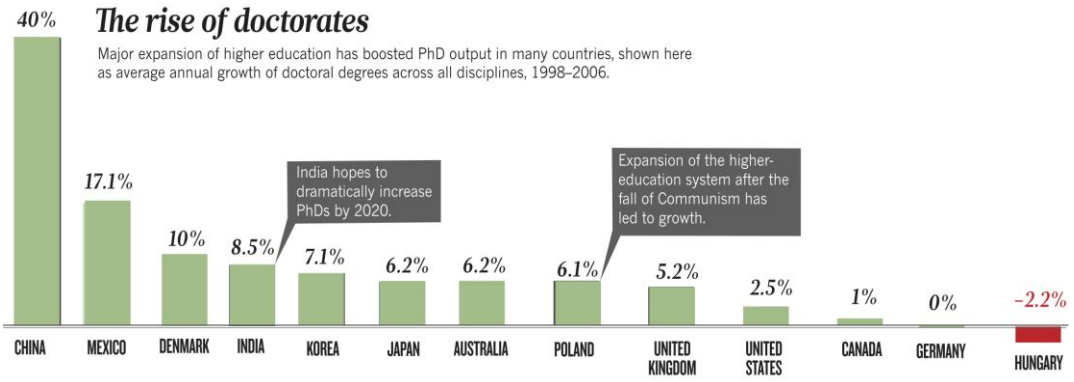

Figure.1 Increase in the number of people with Ph.D.

Figure.2 compares employees in Asia, Europe and USA with and without doctorate.The number of doctoral employees or the number of doctoral employees working in companies seems to be higher than the number of non-doctoral employees.Especially in Asia there is a very significant increase.Perhaps the most important factor in the development of China, Malaysia, Singapore, South Korea and Japan being located in Asia continent should be the accumulation of human resources or grown human capital. Figure.2 also shows that another problem is that the doctoral education takes a very long time and many expenses are made by the doctoral candidates themselves and the people are dissatisfied because of different reasons.It is a data that has not been called the country name here, but it can be considered to be in other countries as well.For this reason, the increasing dissatisfaction of doctors should be seen as a major problem for many countries in the future.Again, those who do not do the same do not feel completely lacking because they do not have doctorate degrees.They also seem highly satisfied with the situation.Another problem among the doctors is that their incomes are uneven in Asia, Europe and the United States.Their income in Asia is seen as 2/3 of the USA and ¾ of Europe.In Asia, the income gap between people with and without doctorate is very different.However, this income is very close in Europe and the US.For this reason, the continuation of this situation for the USA and Europe means that its own human resources will decrease over time.Or, if the population increase can not meet the work force, these countries will be in a disaster soon.Therefore, people may think that they can not get their labor back.They can give up theirPh.D. studies for this reason.In this case, there is not a single solution but to supply human resources from outside the country.

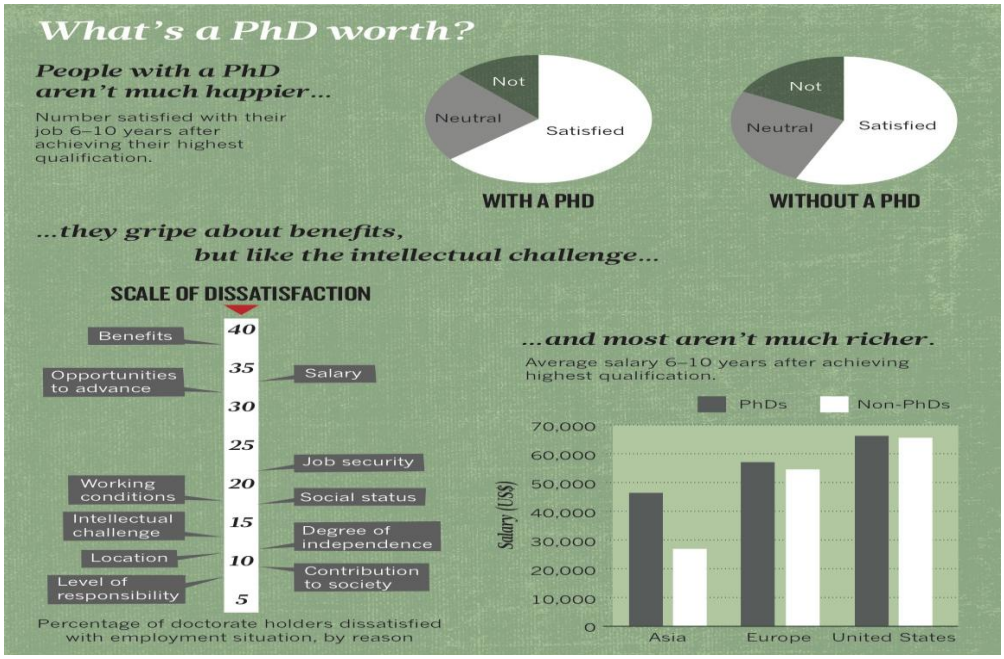

Figure. 2 Increase in the number of people with PhD.[1].

Figure.3 shows the employment of doctoral employees.In this figure, the percentages of employees of full-time and permanent working doctors are seriously diminishing.There is neither a significant increase nor a decrease in the number of employees without a staff.Instead, there is a very serious increase in the percentage of those who doPostDoc.The reason for this is that instead of employing employees in certain areas, we think that companies do business in the form of specialist companies, rather than companies in the form of service purchases.The other way is that companies conduct their research in the form of receiving services from others rather than doing it themselves.Regardless of the situation, the doctorate will be inadequate in the next century.Instead, it is foreseen that a new sector will be formed where P&R (project and research) manufacturing companies will become more competent and Posdocs will stand out.Many companies will only be interested in production.This may be very few nowadays, but in the future it will be in the form of SME (Small and Medium sized Enterprises) (10-25) or (25-50) P&Rresearch companies in number.Today, however, producers do not achieve success in P&R research.Although there are many reasons for this, the most important reason is that neither the background nor the laboratory human resources are sufficient for the required P&R.For this reason, we think that the main reason for the failure of SMEs is human resources, cost and laboratory resource inadequacy.In the future, we expect that the provision of services to P&R companies will increase from the SME companies.

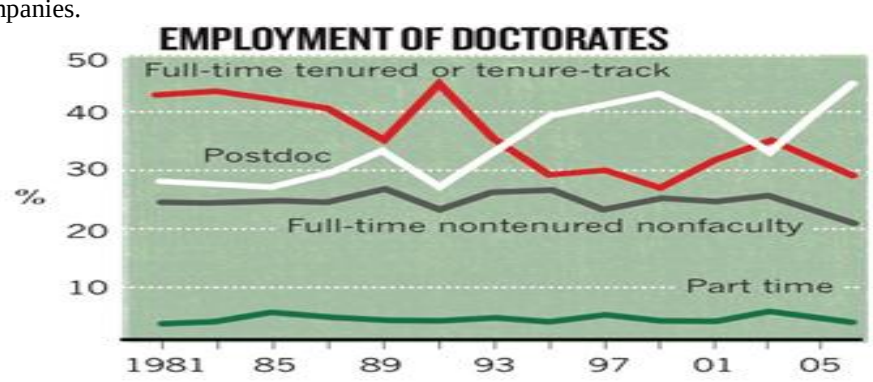

Figure 3. Employment status of people with PhD. [1-2]

The number of potential legal employees in the US is estimated as 160,5 million [3]. But this number also includes the unemployed people.It is estimated that the proportion of potential employees is higher than the official figures if unemployed workers are taken into account.The distribution of these employees in the fields is; agriculture: 1,1%, industry: 19,4% and services: 79,5% [4].The number of foreign nationals in legal employees is 10% of the working population in the United States.But it represents 25% of the workforce and its

weight in science and engineering field is quite high.Among these, people with doctoral degrees are over 50%.In addition, more than 115000 foreign scholars in the United States work in various fields [5].This makes a great contribution to the development of US research.It is estimated that the number of people wtih doctorate and well-trained human resources working outside the United States on behalf of the United States's own citizens and USA companies is also quite high.As a result of this trained human resource, the USA economy produces and sells very competitive and highly competitive products.That the main source of development is through educated human capital and a good plan, through liberty and the legal system is understood fromscientists and physicians and other trained human resources. In short, the number of Ph.D. and the equivalent number of doctoral employees is estimated to be more than 10% of the USA population.The United States is clearly ahead of IT in this regard.

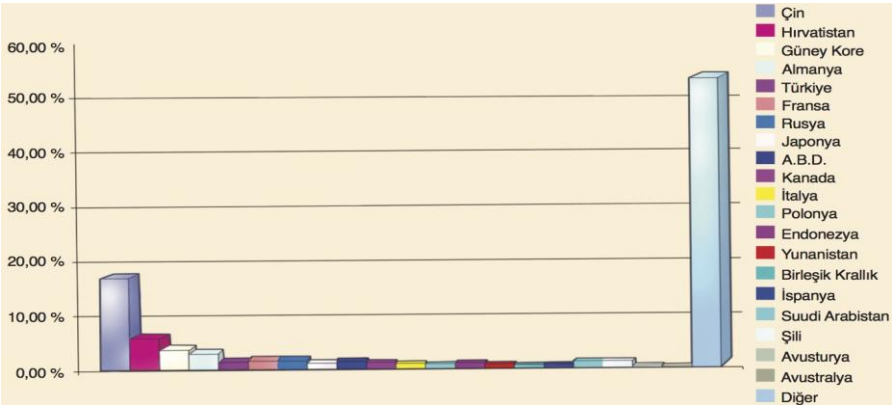

Figure 4. States sending postdoctoral students most [5-7].

In Figure.4 the number of people that countries have sent for doctorate abroad is given. According to this number;
China (697000 - 17%)
India (241900 – 5,9%)
South Korea (151700 – 3,7%)
Germany (123000 - 3%)
Turkey (57400- 1,4%)

Ref. [5,6].It is clear that China is clearly ahead of other countries.The sources of success in science and technology in recent years in China and India are seen.They invest in "human resources", which is the most important resource.It takes a considerable amount of time to cultivate human resources and to get the yield.Developments and technologies being produced by countries outside of Turkey (China, India, Germany, South Korea) are arguably the premier.The basic reason for this is that these countries have grown human resources.

Figure.5 shows the number of foreign students in higher education. Another meaning of this is the preferred countries for higher education.

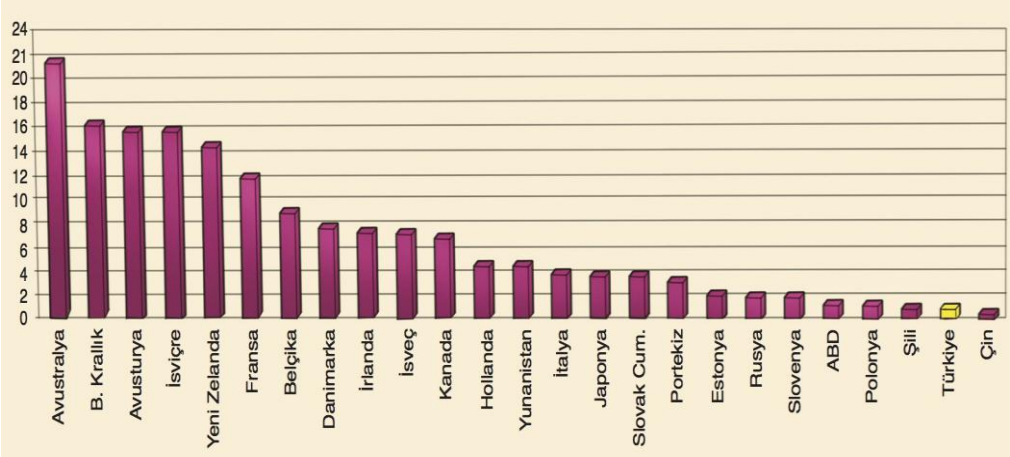

Figure 5. Percentage of international students in the total number of students at the higher education level of the host country [5-6] Ref:OECD-education at a Glance 2012 Table C3.1. see annex3 (www.oecd.org/edu/eag2012)

1. Ref. Year 2009 [7].

Figure.6 shows the student circulation of the continents.The Asian continent is clearly ahead.In other words, Asian countries are sending their younger generations to the countries outside their own countries for the training and growth of science and technology, or the younger generation is going through different ways in order to raise human resources.Regardless of the outcome, Asia is committed to self-development, development and enrichment.On the other hand, ¾ of the world's population's living in the same continent deals with the market problem.The only small problem is that individual incomes are low and income distribution is imbalanced.If Asia solves these two problems, then the impact will be very apparent after the second half of the 21st century, andfrom the 22nd century onwards, this century will be the century of Asia, andits power to shine brightly over time will surround the world and its light will enlighten the Earth.Prosperity immigration in its history will again begin in Asia.The biggest problem facing Europe and the US is that they will not have enough young population to work in the future.Maybe those who will save Europe and the United States will be inhabitants of their own; in other words, those who are not liked by the black land. Asia does not have such a problem right now.

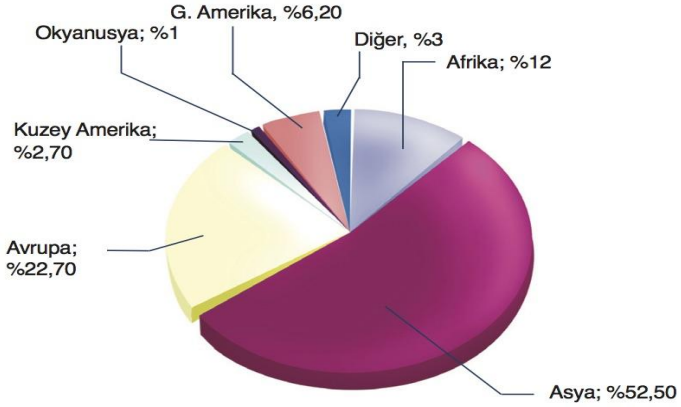

Figure 6. Countries that send students abroad for international education most [5,6].

Figure.7 shows the study areas of those who go out of their own countries for education.The areas that are noteworthy here are technical areas with 35%.We determine the other 65% as generally non-technical or shortly social areas.In this case, among other sectors, "information technology is 11%, engineering 12% and medicine, pharmaceutical and veterinary 9% share.It is not a mistake to evaluate this work as a very large number if the evaluation is made according to the occupation selection of the younger generation in the USA and developed countries.The other problem in the developed countries is that the younger generation's scales for selecting areas such as science and engineering are very small.In other words, they fill the people in these areas with the immigrant population. How domestic and national are they for their own country? This is their problem.

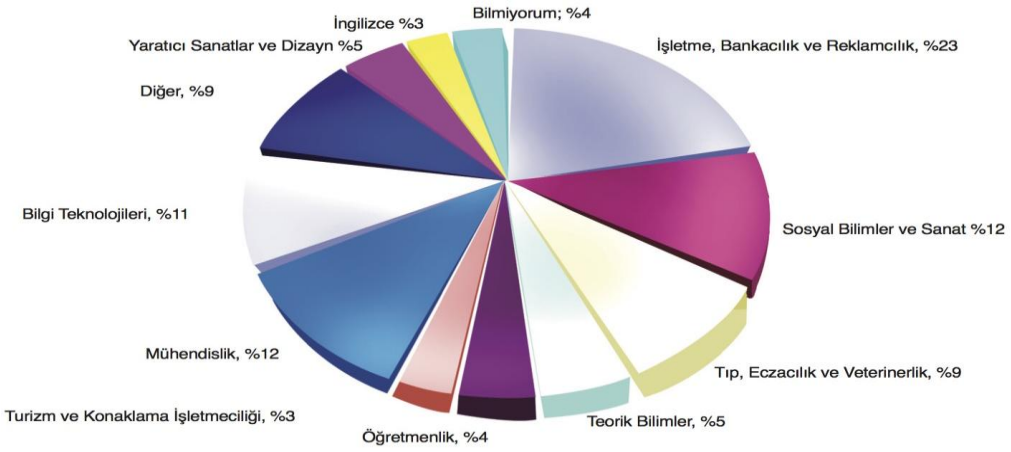

Figure.7. Preferences for foreign doctoral studies [5-6].

The numbers in Figure.8 are the number of people covering all areas of doctorate or doctoral admission in 2014.Here if we especially take into account the graduates in Turkey, that more than 1/3 of these figures consists ofphysicians in the health field is observed.All technical aspects are less than 1/3.Figure.8 includes

graduates in 2014: USA 2,25/10000, Germany 3,474/10000, Japan 1,134/10000, France 2,069/10000, SouthKorea 2,547/10000, Turkey 0,571/10000, United Kingdom 3,831/10000, Canada 1,988/10000, Australia 3,08 /10000, Spain 2,328 /10000, Italy 1,756/10000, India 0,187/10000 and South Africa 0,380/10000.On the other hand, while the increase in Germany remained stable, China, Mexico and Denmark increased by 10% or more.As leader of the European continent, the United Kingdom is clearly ahead with 3,831/10000 and then Germany with 3,474/10000. Today, these two European countries have not developed by chance. The trained human resources of these countries are better than others.

Most of the doctoral programs in OECD countries are in the fields of science, technology engineering and mathematics, with a rate of 40%.However, these rates are over 50 percent in France, China and Canada [8].Innovations are made in different areas.These are classified as technological innovations, innovation in the services of the state, innovations in the social field, innovations in the field of health, innovations made in the business world and innovation system [8].Their domains of influence are much wider in our social lives and in all areas of technology and science, and are also used in people's daily lives.

The average number of Phd. students for one professor is 5,77 in China[8].The number of Ms+Ph.D. students

Between 2010-2012 is approximately 24 million.After 2012, 7,5 million of them started to work.The increase rate of Ms. and Ph.D. students is 24,5% [9].Nowadays, we estimate that this ratio is approximately 5% of Ms+Ph.D. students.One out of every 1000 people in the HEC's going to be a Ph.D. student in Turkey.

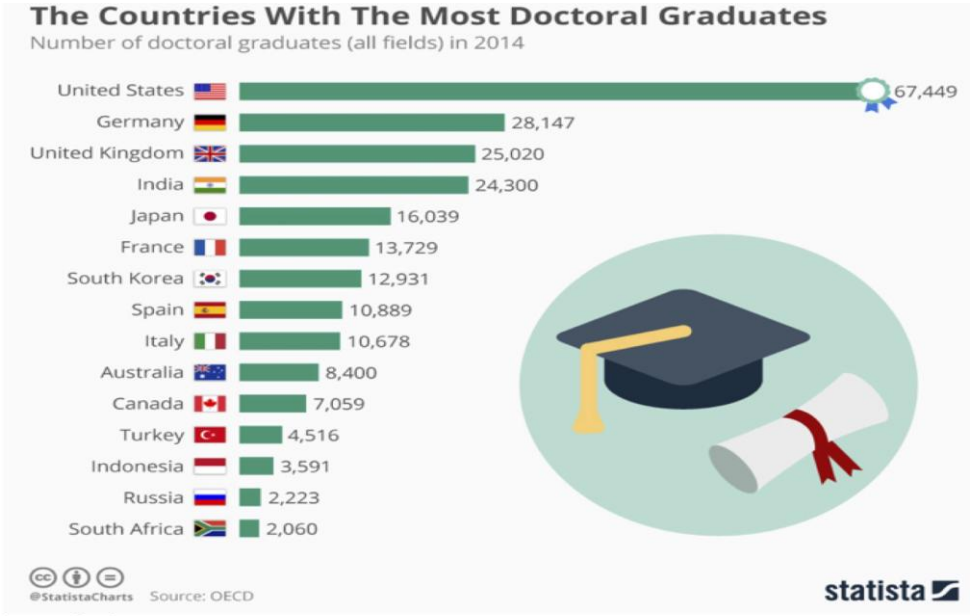

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Figure.8. Ph.D. graduates in the World [8].

Research doctoral programs are named differently according to the study area. These are named as;

Research doctoral programs are awarded in recognition of academic research that is publishable, at least in principle, in a peer-reviewed academic journal [10].

The best-known research degree title, in the English-speaking world, is Doctor of Philosophy (abbreviated Ph.D.,[11], PhD [12]or, at some British universities, DPhil)[13-15]awarded in many countries throughout the world. Other research doctorates include the ;

Doctor of Education (Ed.D. [11] or EdD [12]),
Doctor of Arts (D.A.) [11],
Doctor of Musical Arts (D.M.A.) [11],
Doctor of Professional Studies/Professional Doctorate (ProfDoc or DProf), [12]
Doctor of Public Health (Dr.P.H. [11]),
Doctor of Social Science (D.S.Sc. or DSocSci [12]),
Doctor of Management (D.M. or D.Mgt.),
Doctor of Business Administration (D.B.A. [11] or DBA [16]), the UK Doctor of Management (DMan) [17],
Various doctorates in engineering, such as the US Doctor of Engineering (D.Eng., D.E.Sc. or D.E.S. [11]) (also awarded in Japan and South Korea),
The UK Engineering Doctorate (EngD) [18],
The Dutch Professional Doctorate in Engineering (PDEng),

The German engineering doctorate Doktoringenieur (Dr.-Ing.) and the German Natural science doctorate Doctor rerum naturalium (Dr.rer.nat.).
The UK Doctor of Medicine (MD or MD (Res)) and,
Doctor of Dental Surgery (DDS) can be research doctorates [12].
The Doctor of Theology (Th.D., [11], D.Th. or ThD [12]),
Doctor of Practical Theology (DPT) [12] and

The Doctor of Sacred Theology (S.T.D.,[11] or D.S.Th.) are research doctorates in theology [19]. As a result, they all consist of doctoral programs in their field. A broad list of resources related to the PhD. is given [20].

The improvements made in recent years and the educational reform in China and the students who have been sent abroad have contributed to a significant increase in the number of people with doctorate [21].

II. FUTURE SCALE POPULATION SIZE

Some of this work has already been published. Here, the whole model work is given [22]. In the future and in the last quarter of the 21st century, there is a need for qualitative priority "scale population size" and "well-trained scale population ratio" in order to enable countries to survive. With this population, countries, states and nations will also learn in practice whether they have persistent problems. Because that will be seen practically in practice in the last quarter of the 21st century very clearly. It is more accurate to distinguish them as sector 1. ood, (agriculture, food, livestock and forest), 2. defense-IT and 3. other. The debate on which of these is the priority is a very different field. But each field is very important in itself and there is a need for a very qualified and well-educated population in every field. Because in the future the world economy will be able to do food, biological, technological and unmanned wars instead of more competitive and real wars. In short, there will be asymmetrical and all kinds of proxy wars. For this, it is necessary to ask questions;

1. Critical Scale Economy,
2. Critical Scale Population Size,
3. Population Proportion of the Well-Tempered Scale,
4. Critical Technology Production in Scale Size.

It is also important to answer these questions rather than asking them. Countries, governments and governments must find solutions to these questions. If the states do not find solutions to these three questions or if they can not find them, they may not have their future. These questions are;

1. Critical Scale Economy

The scale economy is defined as the reduction of costs while production is increasing. This is a very general definition. The basic philosophy in this regard is considered to be the reduction of the unit costs of the produced goods services and the earning of the economy. The basic philosophy in this regard is the reduction of the unit costs of manufactured goods services and the acquisition of them as an economy. For this, efforts are made to obtain competitive status by using very different technologies and techniques in the production and production of goods and services. Negative scale economy is defined as the increase of production costs. The coverage economy is that a company produces multiple goods and services. In this way, the company can increase its competitive power by reducing its costs. These are the rules of the economy or trade.

Above is the popular classic definition of scale economics.In this study, we have a different meaning as "Critical Scale Economy".This means that, in a country, we define any product as an economy that can produce world-wide needs in a monopoly.More precisely, the population of a country can be relatively small.But any product in the world can be under monopoly control under free market conditions.In this case, we have a new meaning as a scale economy. For this reason, we use this term outside of what is well known.

Why is this new definition needed?The answer to this question is that from the last quarter of the 21st century countries can not produce or do not produce many goods for various reasons.This can be due to a variety of reasons, such as lack of human resources, raw materials and technology.But a small-scale country can produce a monopoly of a product that is a strategic advantage and get all its revenues from it.In this case, we call sustainable population size as "critical economics".

2. Critical Scale Population Size

The main purpose here is to represent the technology-producing population in a country conducting basic research. For example, all experts working in the nuclear field in the US or Russia. Others represent the core R&D cadre of Apple and Microsoft. Technologies like this are in this group. Critical scale population size is the group that can be ahead of other countries in terms of competition and even create new goods around the world. For example, these are the core staffs producing smart cell phones for the first time. An example for IT technologies is the core examples that generate operating systems. These sample numbers can be increased. Each country has both responsibility and obligation to cultivate a critical scale population size in order to

conduct research in many different areas according to its own conditions. For this reason, it is a very serious problem for every country.

3.Population Proportion of Well-Tempered Scale

The rate is that 75% of those who finish the course are directly employed as personnel to do the daily work of the company. The other 25% is accepted as the critical well-educated population rate for the selection and training of R&Dscientists for the future of the country. This is the process to catch and master the ones who may be 0,0498% of gifted or superior intelligence potential within the 25% segment. Basically, the purpose of this study is to find the source of the young human being, who may be gifted or potent, from within the crowd. It represents all the science and technological innovations in a country and the producing population that can make the best of trade. This area includes the best ice cream, bread and pastry maker and provides good service. For this reason, people in this segment doing their job better is more important than people having better education. A person may not have studied very well, but he can do a job perfectly. For example, a cook can be a good example of this area.

4. Critical Technology Production on a Scale Size

It represents the technological products produced in one country, technological products not produced by other countries. These are more high-tech areas. Production of nuclear reactors, fuel for space rocket engines, passenger aircraft, computer chips, CPU, APU, GPU and similar products are clear examples of this field. In other words, it can be defined as the production of products or monopolistic goods which are considered to be strategic or very strategic for states.

In other words, the absence of proportionally poorly-educated populations in the future and nowadays can not remove countries from hunger, misery, even slavery and the country of exploitation.

It is not necessary to state how important primary schools are in the 18th century. In the 20th century, the world states took the high schools as a basic education indicator and are still continuing. The most important reason for this is to educate people who will adapt to the knowledge and technology that changes very rapidly. For this, more essential information is given to people as basic information. Another reason is the relatively low growth of the active population or the proportion of elderly people in production, on the other hand the prolongation of human life and the basic desire of governments and social security systems are low cost old aged populations. For this, states are taking different measures. For this reason, today's “high school” will be defined in the future to determine the rate of “literacy” only. Universities will take the place of high schools in the future. The level of education will be scaled and evaluated on the basis of university graduates. In real higher education, today's graduate will correspond to today's license and the doctorate will also return to the master's degree. The real PhD. will be the result of the state gaining experience in special purpose laboratories for those who finish the PhD. education. For this reason, governments already have to take these measures.

One of the most important questions today is how much should be raised as a percentage of the young population in the age of education that has finished high school? Or what percentage of the population that finishes the high school is committed to getting very good education?

3. MODEL AND LAYERS

Some of this work has already been published. Here, the whole model work is given [22]. In this study, a higher education future plan is made using the geometric ratio model. It has been tried to determine the percentage of people who will work in the real economy. This model has also been developed for this selection process. The basic principle structure of this model is shown in Figure.9. The model is based on high school learning. It is divided into proportional layers. Each layer represents a different level of teaching. In addition, public and private sectors also provide general staff structure. It directly determines the structure of the human resource employed. For this reason, we think it is very important.

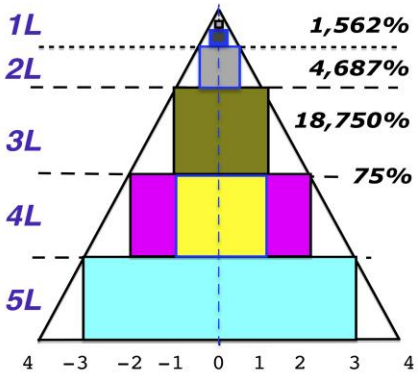

Figure.9. Proportion of educated young population: (5L: High school graduates, 4L: Bachelor, college and vocational college, 3L: Master, 2L: Doctorate, 1L: Post doctoral rate)

Layer 5L:

Layer 5L represents the entire student group graduated from high school. It represents all the high school graduates that have graduatedfrom contemporary and legal high schools and these graduates are allowed to continue to the university education. For this reason, there is no sex or school discrimination. This part has the greatest amount in total size. This size is accepted as 100 units. This is composed of students who are in a level where 85.71% of them can have university education.

The other 14,24% is composed of a high school graduate who can not have higher education. How can this high school graduate be economically useful or how can the economy benefit from it? That is the basic question. How should these high school graduates prepare for business? The answers to many of these problems are the everyday problems that the rulers of the state must answer and solve.

In other words, if you can not find a job, there will be an increase in the unemployment rate. This is also not favorable for the economy. It is both an economic andsocial problem and lack of employment. Or graduates should be very well-professionally held, with the weight of the senior high school among the total high schools being about 15%. This profession must be made directly to close the industrial workers "technician or qualified workers" presence. The opening of these profession high schools should be carried out by choosing industrial zones which are open to the profession. The structure of these high schools should be dynamic. That is, with the existing infrastructure, either a new program should be opened or an infrastructure should be created to meet all the needs of the students from the regions that need it. For this reason, it should be dynamic. Management should be directed as it is within the sectors. In addition, financial support of these sectors should be provided. Obviously, with the cooperation of industry high school, the technical staff who are in need of the industry should start working life as ready. When this happens, it can make a significant contribution to reducing costs by increasing productivity in businesses. In rural areas, on-the-job training should be given to high school graduates, especially those working in agriculture. Otherwise, starting a high school graduate apprenticeship profession or going to vocational courses in city centers is not economical and will not be enough to train qualified staff.

14,245% of every 100 graduates who graduate from high school have either no intelligence level to go to university or they do not prefer higher education. Whatever the outcome, these graduates certainly need to acquire a profession.

LAYER 4L:

This layer represents higher education in the country. This higher education degree is composed of associate degree, vocational schools and faculties. The proportions among them are as follows: Higher education 40%, faculty 40%, vocational school 40%, associate degree 20%. Their choice of student should be in two ways.

Formalities in the entrance of faculties:

1- The preliminary is to maintain 60% of the successful students in college and to keep 50% of the college graduates in the faculties. The very basic principle here is to expose students who are intelligent and very intelligent. Thus, 25% of those who have completed high school continue to faculties. Here students increase according to the elimination procedure.
2- 20% of the students who graduated from high schools should be admitted to associate programs, 40% to vocational schools and 40% to faculties. Transitions between them should be easy. Students should be admitted to the faculties with a central examination.

3- Students must be admitted to specific schools withlocally conducted examinations. The student has to finish the school there. For this, education should be divided into parts such as primary, secondary and high school education. Successful students must be met locally at certain schools and must be trained there. Those who have completed secondary school can enter high schools called super high schools, intermediate high schools, basic high schools by examinations made at certain centers. Students should only be allowed to study at these high schools according to their grade average. The delicacy here is that everyone can enter regional schools. For this, it is preferable to go to the boarding system. Students who study in these high schools should not be outside the boarding system. Their number should never exceed 20% of total high school graduates. This means that if there are 1 million high school graduates, this number should not exceed 200 thousand. This means that 500 students graduate from 400 high schools or 250 students graduate from 800 high schools per year. The delicacy here is that only those students and parents who want these high schools should choose this route. Those students who wish to attend must take these exams.

In this model, 25% of high school students should be targeted. Of these, 25% are very likely to be very intelligent students. A good student profile will be revealed when they compete with other high school and private school students. Most of these students can enter higher education with central exam. Thus, a good student profile is obtained at high school level. These students should also be encouraged for postgraduate and doctoral studies.

VOCATIONAL COLLEGES: 20%

90% of the vocational colleges' programs must be practical training. The opening of these schools should be done inside the industrial centers or with the institutions in the industrial sites. Practical trainings should be made in industrial establishments including the summer from the 2nd semester. If necessary, the state should provide insurance fees for these institutions and a certain amount of monthly subsistence. In short, students should be encouraged. In addition, improvements should be made by amending the state personnel law. Only qualified graduates are required to be instructors. The basic fact here is that the practical knowledge of the teaching staff should be good. As a resource, graduate programs to be opened in technology faculties may be appropriate. The other model could be a partnership with the sectors for the needs of these sectors. Thus, the sectors may be able to resolve qualified staff need with these graduate students. This can easily solve the problem of qualification employment.

COLLEGES 40%:

Colleges have a 40% weight in higher education. The presence of this value is the value obtained after the division of the rest of the vocational higher schools. The difference of these colleges from the faculties is that their curriculum must have a minimum of 80% practical training. It is enough that the staff to work here are doctor lecturers. Programs should be predominantly application-oriented in the first two years and partly theoretical in the next two years. The aim here is to educate the technical staff who will follow everyday technologies and solve their problems quickly. These graduates should be trained as solvers of technological problems. For these, technology graduates are very suitable for these jobs in Turkey. Their master's degree must be at the level of a technology-oriented expert technologist. Since the end of the second year of their undergraduate education, the students have to start working in industrial establishments. Thus, these students will also contribute partly to the solution of the technician problems of the industrial sector. After graduation, finding a job or establishing a business should be encouraged. They may be more likely to work as entrepreneurs. These institutions should educate vocational college lecturers as well. Or, vocational colleges should be opened in these institutions.

FACULTIES 40%:

The faculties are, in general, institutions established for the training of human resources to be the teaching faculty member of the R&D for the future of the country.After the purpose of these is determined, 60% of their education should be applied and 40% of it should be theoretical.As a result, they will not all be theorists or R&D experts.For this reason, market needs should also be taken into account for those working on the market.These students should be encouraged for masters and doctorate education. The lack of theoretical knowledge, which is missing here, should also be complemented by graduate studies.

At the faculty level, the human resources to be trained in the field of health should be raised from one hand. Priority for these;

Students must be admitted to four-year colleges. The first two years of these should be equipped with technical and practical information in the framework of the vocational college. That is, students should learn all intermediate human power services in the health field. 75% of the successful students who exceed a certain grade average should continue to the college. Here, the first two-year program of 4-year undergraduate medical

staff and medical faculty must be implemented to meet the needs of the industry. A certain portion of the four-year graduates will also meet the technical requirements of the service area. 50% of these graduates should continue having education at medical faculties. Medical faculties should also provide practical two-year basic medical education to college students. After that, students should be practiced in a two-year-assistantship environment. In other words, students should work in hospitals for two years to become general practitioners. They can become doctors at the end of this study.

The areas of expertise should be two-fold. Doctors should be divided into two groups: specialist doctors who will work in hospitals and those who will work as lecturers at universities. Practitioners should be well trained in hospitals to work as specialist doctors. Doctors working at universities should be trained as human resources to carry out research on the basis of events by continuing to doctoral programs in the field of basic medicine. On the other hand, today, most of the doctors work as registered marketers of pharmaceutical companies. This will be a great support for countries and governments to get rid of monopolies of these drug factories and to produce safe national drugs. Thus, employees in the health sector will be trained as a whole.

The same method is the same for those who will work in the field of law. In other words, first of all, 4-year-college will be established and certain part of them will give vocational college graduates in the first two years. Another part of the students will continue having education at the 4-year colleges. Successful ones will continue to the two-year law faculty. Thus, they will be lawyer candidates. After that, they will be entitled to be a lawyer by entering the center examination after two years of internship. Thus, lawyers in the country will be of better quality. In order to be a judge and a prosecutor, doctorate education should be sought. Those who have doctorate education in private areas should be employed as judges and prosecutors in their fields. Although these procedures seem difficult, there is no need to see how important they are for a country.

LAYER 3L:

The layer 3L generally represents graduate students. The total size of layers 1L, 2L and 3L represents 25% of the total number of general students. For this reason, these students represent the future expectation of states and a country. We consider the 1L, 2L and 3L layers as the strategic population size. Another meaning of this is that each of the four students is better than the other three. This is a big measure that countries need to invest and cultivate in a good way. For this reason, 3L represents the main source of other 2L and 1L layers as well. There are two major graduate studies in Layer 3L.In this layer, the human resource should be raised in two ways:

1- This group is the one that develops the technology solving the everyday problems of the industry, providing the necessary technical support to sustain the high technology to use it in the best way and to be sustainable. The most important characteristic of this group is that it is a human resource which is grown up with graduate education equipped with theoretical technical knowledge at a sufficient level working more intensively in practical applications. This human resource is the source of technology that is entirely expertise.

All students coming to the level 3L must come from colleges equipped with 80% of practical education, because the practical work they have already learned is graduate studies in order to gain more scientific-focused skills and equip them with more technological knowledge. As a percentage of students, 50% of vocational collegegraduates are potentially suitable human resources for graduate studies. In other words, graduate studies constitute the nucleus of the scientists who can work as experts in the country. For this reason, this is a very important segment. All postgraduate studies should be done experimentally. For this reason, this group should be educated with institutes having high technological value. In all the theses to be done, either a problem of the industry must be solved or a new value-added product must be created for the industry.

2- Other human resources for masters are graduates from faculties. This resource covers all scientific areas, including undergraduate departments. For this reason, some departments should be divided into social fields, theoretical application, and science and health sciences. Similar arrangements should be made in other areas.

LAYER 2L:

Figure.10 show thatthe Ph.D. layer 2L is the most important resource having strategic importance for a country. First of all, it's a human resource. For this reason, it can not be replaced with any other variables.They are the people to be in the center of the country in all cases. The size of this layer corresponds to 4,687% of the total population. The rate of students entering this level is 4,687% while the graduation rate is about 3%. Therefore, it is a source of human resources for every sector in a country. It is the human resource that can be the top manager of the public and private sector, small and large businesses. On the other hand, it is the source of human resources to be trained for the top managers, planners, regulators and P&R personnel for every sector in the country. For this reason, this group is the most important segment and the strategic population size of the country. If you have this population ratio, your country will be one of the leading countries in the world.

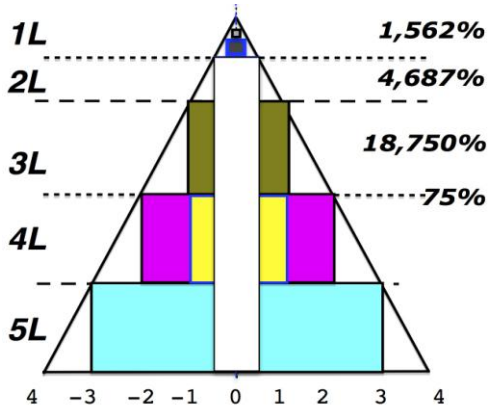

Figure 10. Potential human resource to be trained for doctorate and post education.

The student resource to be admitted to this layer must be in two forms:
1. The faculty graduate who comes from the source of the master's graduation
2. It is a source of human resources for master's degree graduates graduating from college.

These students must be trained in a specially developed high technology institutes. The difference of these institutes from the other universities is that no one other than the administrators should be employed. Employees here should be entirely project-oriented employees. The academicians who have completed the project should return to their own institutions.Students who finish their doctorate education should also be disconnected from the institute.If needed, they can be run on projects under contract. All candidates for PhD. who will receive the PhD. within the projects to be performed here must either find an invention or produce a radical solution to a very serious problem of the industry or create a new industrial commercial product. This should be the difference from other equilibrium institutions. A similar situation may be the doctorate for the industry applied in Japan and the heads of the Tsukuba University and MIT. The main purpose here is not the number. The main purpose here is to educate qualified researchers.

LAYER 1L:

The basic function of layer 1L is to avoid the everyday work and to be the elite brain segment that actually directs the country. This layer consists of P&R employees, senior executives, planners and scientists, who come from four quarters of those who finish the doctorate education, have very special education and are grown for very specific purposes according to the needs of the country. This is why the number of scientists in the country is small. This layer consists of four layers within itself:
1.The post-doctoral quarter is trained as a special purpose P&R designer,
2.Of these, 1/4 of them are trained as project managers,
3. Of these, 1/4 of them are being trained as the highest level planners of the future of the country,
4. A quarter of them are made up of a group of scientists.

In a country, the number of people to be called genius is proportional to the population. It is also difficult to recognize people who are called genius in large crowds. These graduates are candidates to work in the R&Dlaboratories that the country has set up specifically for the country, and are senior executive candidates and planners in the public or private sector that will produce the science of the country. One quarter of this sector is the technocratic and scientific managerial sector, who then plan for the contemporary planners, the project managers, and the institutions and organizations that can comprehend the events as a whole for the private sector for the country, and plan the developments as a whole. The total potential size of this section is calculated as 0,976/1000.

CENTRAL LAYER:

Figure.11 show thatthe central segment represents the human resource, which is above the average intelligence level that may be in the country, where the potential could be very intelligent and which states should be very interested in. This segment is where the candidates of all kinds of human resources that may be needed by the country are located.Potential size ratio is 3,98/1000 students. For this reason, it is very important that this student group is selected with the least mistake among all the students because this group represents the bachelors of the country.

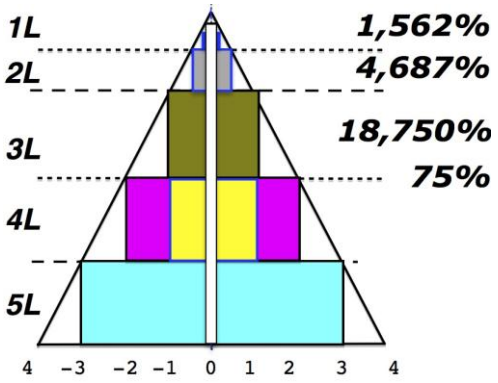

Figure.11 Potential human resource for post-doctoral training.

III. EDUCATION IN HEALTH AND LEGAL AREAS

We think it would be more realistic to evaluate the employees in the health and legal system of a country as a whole. For this reason, the individual services of these two professional groups in society are situations that we will encounter in our daily life. As a result, both the legal and systems are directly or indirectly present in our daily lives as a whole. For this reason, we keep the training of these two professional groups different from others. We recommend the structure in Figure 12. In this structure:

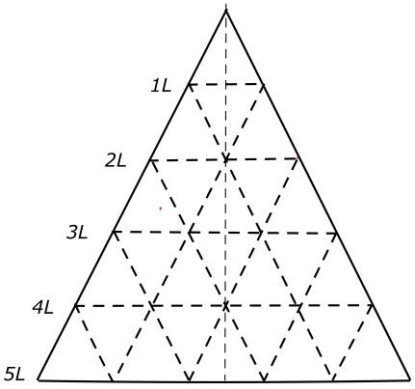

Figure.12 Health system and legal system structure. 5L: pre-undergraduate, 4L: high school, 3L: law faculty, 2L: master, 1L: doctorate and academic staff.

Associate's Degree: 5L

This layer is anassociate's degree education for students who want to study both in health sciences and law. A 2-year-curriculum should be applied to train intermediate staff in health and legal systems.

Vocational CollegeLayer: 4L

Taking into account the GPA of those who completed the associate degree, 75% of the successful applicants should continue to the vocational college level. Graduates of four years are entitled to take the exams of the central faculty of the law and medical faculties once they have received their four year college diploma.

Faculty of Law and Medicine: 3L

Students should be admitted to the examination by considering the graduated grade average. These four-year alumni can work as simple judges, conciliators, or evidence-gathering personnel in simple courts. Other health graduates can work in the same sector as the same four-year graduates. That is, the configuration can be made according to the needs of the industry. Here, those who have completed 4-year-faculty can take a central examination by taking a certain grade average according to their graduation grades. Students may also be entitled to enter the faculty of medicine. They are qualified to graduate from the faculty of medicine and law by completing 2 years of undergraduate study at medical faculties. They then apply for three years internship or specialization to become doctors and lawyers. After that, the practitioner can use the title of doctor and lawyer.

Master's Degree: 2L

Those who want to continue their education in their own field should continue to master in their own fields after receiving the title of "general practitioner" and "lawyer". Judges and prosecutors should be selected among those who have graduated from the graduate school. Doctors can also take the title of "specialist doctor" as a result of 4 years' work in their area of expertise.

Doctorate: 1L

The doctors who will be the academic staff within the field of "specialist doctor" in their field should do the doctorate. These are for educating people who will be R&D and become scientists.

Some of the lawyers who have graduated from the graduate school should be given a doctorate to be raised in high court and academic staff. Among the doctoral candidates, the high court judge and prosecutor candidate candidates should be determined according to their preferences. Other graduates should continue their academic life. Thus, a well-trained human resource in the upper management is achieved as a whole.

IV. ACADEMIC EDUCATION MEMBER STRUCTURE

In this model, the entire academic education member structure is designed as a pyramid. For this reason, the scientist is theoretically at the top of this structure. The next structure is the academic structure dealing with teaching. This consists of the academic layers shown in Figure 4. Here, when calculating the number of academic staff firstly, the number of the student units is taken into account, or the number of the students per professor is determined and the proportional staff is determined from the top to the bottom. The proportional structure in Figure.13 is used in both.

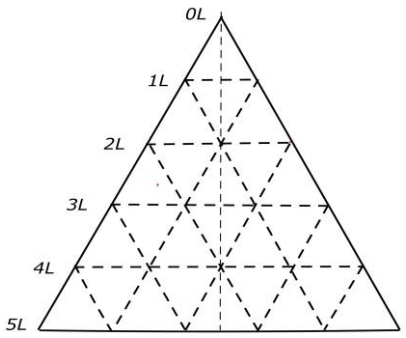

Figure.13 (2L+1) Geometric series academic ratios.

The proportional layer factors for the formation of the pyramidal academic structure are as follows in Figure 13,
Prof.Dr.: 0L = 1
Assoc. Dr. : 1L = 3
Dr. Lecturer : 2L = 5
Dr. : 3L = 7
R. Assistant: 4L = 9

Accordingly, academic staff are formed based on professor doctors. In this structure, at least one research assistant is assigned toeach faculty member to be trained. Another feature of this structure is to draw the structure of a research group of 25 people. In other words, in the research group of 25 people, there is only one Prof.Dr. as the project manager. Sub-layers are divided according to the academic title. In each section, layers are formed by structuring itself in the same way. This means that the number of staff there is the most. It may be less than the numbers specified. There is no objection to this. A very large-scale project can first be divided into basic parts and then used in researcher staffing.

The proportional structure of the PhD. student is:
Prof. Dr. : 0L = 5
Assoc. Dr. : 1L = 3
Dr. Lecturer: 2L = 1

For graduate student distribution;
Prof. Dr. : 0L = 9 (10)
Assoc. Dr. : 1L = 7 (6)
Dr. Lecturer:2L = 3 (2)
Dr. : 3L=1

are the rates that should be ideal. These numerical values can be changed by coefficient multiplier (±1) according to the working capacity of the instructors. In this case, the total number of students may be as follows;

Prof.Dr. = Doctorate+MSc. = 5+9 = 14,
Associate Professor = Doctorate +MSc. = 3+7= 10,
Dr. Lecturer = Doctorate + MSc. = 1+3 = 4,
Dr. = Masters = 1,

A three-person experimental group consisting of a doctoral students and 2 graduate students can be formed. The goal here is to make more use of the experience of professors who are physically and scientifically well-qualified to work.

It takes more than 35 years to reach the desired targets when population growth is not taken into account. If population growth and working time are calculated, and if divisions due to death or similar reasons are taken into consideration, then this period may be more than 45 years. This system is in balance after 35 years and approaches the determined rates within the total population. These figures are reasonable.

Another problem is how graduate students will receive instruction. Whether graduate students are going to make a structural study theoretically or a completely practical industrial study or both a theoretical and a practical industrial study should also be decided. This is also the most important problem that higher education institutions need to decide. What is related to these is how much percentage should be trained. Countries that can not decide on this situation are unfortunately third world countries today and this is also the impasse of these countries. Another problem is that undergraduate, graduate and doctoral education is all completed at the same university and sometimes with the same faculty member. Students who finish doctoral studies, young scientist candidates start to work in the same place. This is not acceptable, except for very specific studies. This is the impasse of the universities.

The leading universities in the world want young scientists who finish the doctoral studies to work outside their own institutions for a certain period of time except for exceptions. It may be true for some universities that young scientists start to work at the same university. But generalization is not the right approach. This is a deficiency in the way that scientist candidates study with different faculty members and experience different university traditions. For this reason, it is more convenient for students to work with different faculty members. When we express these, we accept that the laboratory facilities of all universities are equivalent. If there is no equivalence, comparison can not be done.

All the countries in the world should ask themselves the following questions. These are;
1. How important is the population to be too large or crowded?
2. How important is the geographical area of the country to be large?
3. How important is the well-educated population at the size of the scale?
4. How important is the population that produces critical high technology in real size?
5. What should be the ratio of the R&D population to the critical scale size?

V. THE REPUBLIC OF TURKEY SAMPLE

In this section, information is collected by using the Student Selection and Placement Center (SSPC) information [23-28]. Table A below gives the quotas of universities for undergraduate students. This table does not distinguish between state, foundation and other university types.

Table I. A. Undergraduate quotas of universities (2017).

Kontenjanlar ve aday sayıları	Kontenjan	Yerleşen	Boş
Devlet Üniversiteleri	340.197	335.760	4.437
Vakıf Üniversiteleri	79.959	72.927	7.032
K.K.T.C. Üniversiteleri	14.278	8.097	6.181
Diğer Ülkelerdeki Üniversiteler	2.050	930	1.120
Toplam	436.484	417.714	18.770

In Table.B, the situation of the students who applied for the test is given clearly by classification. The most noteworthy here is that the number of graduates of a higher education institution is 156391.

Tablo.B. Distribution of applicants (2017).

Başvuran ve Yerleşen Aday Sayıları	ÖSYS' ye Başvuran Aday Sayısı	Yerleşen			
		Lisans	Önlisans	A.Ö.F.	Toplam
Son Sınıf Düzeyinde	891.090	227.190	206.500	42.189	475.879
Önceki Yıllarda Yerleşmemiş	630.635	149.975	104.453	89.087	343.515
Daha Önce Yerleşmiş	403.640	23.868	35.055	37.878	96.801
Bir Yükseköğretim Programını Bitirmiş	156.391	14.285	16.284	16.057	46.626
Yükseköğretimden Kaydı Silinmiş	44.914	2.396	4.944	12.929	20.269
Toplam	2.126.670	417.714	367.236	198.140	983.090

Total number of students applying for the Higher Education Transfer Exam: 2 265 844 students
Students who do not take the exam: 102 949
Proportion of students having applied the exam for but not taking it: 0,045% or 4,5/1000 people
Students entering the exam: 2 162 895 students
Number of students who failed to score 180 points: 655 000
Proportion of those who can not pass the barrage: 30,283%
The rate of those who apply for the first time and can not pass the barrage: 28,90
Number of Higher Education Transfer Exam takers: 1 531 000 students
Total quota of universities: 910 000
Proportion with exam takers: 910000/1531000 = 0,59438 or
Proportion of investors: 59,438%
Total application rate: 40,151%
Undergraduate quota: 473 776
In quota: 52,06% (473 776/910 000)
Undergraduate quota ratio among exam takers: 30,945%
Ratio in total: 21,90%
Total: 20,199%

Undergraduate quota: 436 904
Proportion of quotas: 28,537%
According to the general application rate: 20,19%
Non-filled quota: 38 789 people
Empty quota ratio: 0,0426%
Pre-undergraduate vacancy: 18770 people
Blank: 0,042961%
Undergraduate empty: 20019
Percentage remaining in quota: 0,042254%
Total vacancies: 38 789 people
Ratio of students entering the university: 871891/2 162 895 = 40,311%.
Number of ineligible students: 59,689%
Ratio of entering university: 871891/910000
Ratio: The rate realized is 95,812%.
Roughly the proportion of those who can not enter the university or a desired division: 4,18%.

In Table C, the total number of universities is given. The total number of universities is 183, of which 112 are state and others are foundation universities. There are also some very successful ones among the foundation universities. Numbers of these are also the majority. The main problem here is the success rate of state universities. Why do state universities fail?

The most obvious reasons for this failure are;
1. Lack of teaching members,
2. Reduction of the status of the teaching members,
3. Unsatisfactory rates,
4. Devaluation of science and scientists.
4.The universities are not campus and even units are distributed to the districts. The details of these can be valued differently.

Tablo C. Number of state and foundation universities

TÜRLERİNE GÖRE AKADEMİK BİRİM SAYILARI, 2016 - 2017
NUMBER OF ACADEMIC UNITS BY TYPES, 2016 - 2017

	DEVLET ÜNİVERSİTELERİ STATE UNIVERSITIES	VAKIF ÜNİVERSİTELERİ FOUNDATION UNIVERSITIES	VAKIF MESLEK YÜKSEK OKULU FOUNDATION VOCATIONAL TRAINING SCHOOLS	TOPLAM TOTAL
ÜNİVERSİTE UNIVERSITY	112	65	6	183
FAKÜLTE FACULTY	1227	408	0	1635
YÜKSEKOKUL SCHOOL OF HIGHER EDUCATION	366	100	0	466
MESLEK YÜKSEK OKULU VOCATIONAL SCHOOL OF HIGHER EDUCATION	853	96	6	955
ENSTİTÜ INSTITUTE	476	197	0	673
ARAŞTIRMA VE UYGULAMA MERKEZİ RESEARCH AND APPLICATION CENTER	2380	506	8	2894
BÖLÜM DEPARTMENT	14690	2827	105	17622
PROGRAM PROGRAM	16446	9515	630	26591
ANABİLİM DALI MAIN BRANCH	26890	2143	0	29033
BİLİM DALI BRANCH	7425	584	0	8009
YÜKSEKLİSANS PROGRAMI MASTER'S PROGRAM	10037	2151	0	12188
DOKTORA PROGRAMI PHD PROGRAM	4800	435	0	5235
SANATTA YETERLİLİK PROGRAMI MASTER OF FINE ARTS PROGRAM	119	12	0	131

Resmi İstatistik Programı kapsamında yayımlanmaktadır

The distribution of the universities by cities in Turkey:

There are around 20 provinces with a population of more than 1,000,000 in Turkey. The number of provinces in which the central district population exceeds 1.000.000 is around 10. There are many universities with a central district population of below 150.000. These universities have moved their units to the districts rather than using all their resources by establishing a campus. This is a very important reason for failure. Another problem arises from the optimal use of resources. If it were a central campus, the university could use all its resources in the most efficient way. There can be many reasons for this. As a result, the failure of universities does not make any contribution to the development of the country.

Table 2. 2016-2017 Student distribution. 71390- 64189 = 7201, instructor Increase: 11,21%

TABLO 1. ÖĞRENCİ SAYILARI ÖZET TABLOSU, 2016-2017
TABLE 1. SUMMARY TABLE OF NUMBER OF STUDENTS, 2016-2017

	TOPLAM TOTAL					
	YENİ KAYIT NEW ADMISSIONS			TOPLAM ÖĞRENCİ SAYISI TOTAL NUMBER OF STUDENTS		
	E	K	T	E	K	T
TOPLAM TOTAL	**737130**	**697459**	**1434589**	**3886107**	**3312880**	**7198987**
ÖNLİSANS VOCATIONAL TRAINING SCH	**319477**	**313904**	**633381**	**1335771**	**1220155**	**2555926**
ÖRGÜN ÖĞRETİM FORMAL EDUCATION	125343	111215	236558	450293	316892	767185
İKİNCİ ÖĞRETİM SECONDARY EDUCATION	61166	37175	98341	228880	113561	342441
UZAKTAN ÖĞRETİM DISTANCE EDUCATION	5093	4023	9116	20149	13760	33909
AÇIK ÖĞRETİM OPEN EDUCATION	127875	161491	289366	636449	775942	1412391
LİSANS UNDERGRADUATE	**335393**	**337934**	**673327**	**2202339**	**1869240**	**4071579**
ÖRGÜN ÖĞRETİM FORMAL EDUCATION	179379	207967	387346	843817	877470	1721287
İKİNCİ ÖĞRETİM SECONDARY EDUCATION	48839	37453	86292	245742	182137	427879
UZAKTAN ÖĞRETİM DISTANCE EDUCATION	2519	4882	7401	11816	16191	28007
AÇIK ÖĞRETİM OPEN EDUCATION	104656	87632	192288	1100964	793442	1894406
YÜKSEK LİSANS MASTERS	**75069**	**40354**	**115423**	**294397**	**185818**	**480215**
ÖRGÜN ÖĞRETİM FORMAL EDUCATION	51021	34487	85508	232681	168087	400768
İKİNCİ ÖĞRETİM SECONDARY EDUCATION	14199	4296	18495	36160	13323	49483
UZAKTAN ÖĞRETİM DISTANCE EDUCATION	9849	1571	11420	25556	4408	29964
DOKTORA DOCTORATE	**7191**	**5267**	**12458**	**53600**	**37667**	**91267**
ÖRGÜN ÖĞRETİM FORMAL EDUCATION	7191	5267	12458	53600	37667	91267

Resmi İstatistik Programı kapsamında yayımlanmaktadır

Table 2. 2016-2017 Academic staff distribution.

TABLO 2. ÖĞRETİM ELEMANLARI SAYILARI ÖZET TABLOSU, 2016 - 2017
TABLE 2. SUMMARY TABLE OF THE NUMBER OF TEACHING STAFF, 2016 - 2017

	PROFESÖR PROF			DOÇENT ASSOC PROF			YARDIMCI DOÇENT ASST PROF		
	E	K	T	E	K	T	E	K	T
TOPLAM TOTAL	**15602**	**6933**	**22535**	**8921**	**5282**	**14203**	**20185**	**14467**	**34652**
ÖNLİSANS VOCATIONAL TRAINING SCHOOL PROGRAMS	259	81	340	240	123	363	1762	1194	2956
LİSANS UNDERGRADUATE PROGRAMS	14992	6693	21685	8403	5032	13435	18172	13159	31331
ENSTİTÜLER GRADUATE SCHOOLS & INSTITUTES	166	104	270	84	75	159	163	108	271
ARAŞTIRMA MERKEZLERİ CENTERS FOR APPLICATION & RESEARCH	185	55	240	194	52	246	88	6	94
DEVLET ÜNİVERSİTELERİ STATE UNIVERSITIES	**13193**	**5948**	**19141**	**7956**	**4589**	**12545**	**16842**	**11298**	**28140**
ÖNLİSANS VOCATIONAL TRAINING SCHOOL PROGRAMS	123	50	173	178	92	270	1255	858	2113
LİSANS UNDERGRADUATE PROGRAMS	12721	5740	18461	7502	4370	11872	15349	10330	25679
ENSTİTÜLER GRADUATE SCHOOLS & INSTITUTES	164	103	267	82	75	157	151	104	255
ARAŞTIRMA MERKEZLERİ CENTERS FOR APPLICATION & RESEARCH	185	55	240	194	52	246	87	6	93
VAKIF ÜNİVERSİTELERİ FOUNDATION UNIVERSITIES	**2406**	**985**	**3391**	**962**	**693**	**1655**	**3330**	**3155**	**6485**
ÖNLİSANS VOCATIONAL TRAINING SCHOOL PROGRAMS	133	31	164	59	31	90	494	322	816
LİSANS UNDERGRADUATE PROGRAMS	2271	953	3224	901	662	1563	2823	2829	5652
ENSTİTÜLER GRADUATE SCHOOLS & INSTITUTES	2	1	3	2		2	12	4	16
ARAŞTIRMA MERKEZLERİ CENTERS FOR APPLICATION & RESEARCH							1		1
VAKIF MESLEK YÜKSEK OKULLARI FOUNDATION VOCATIONAL TRAINING SCHOOL	**3**		**3**	**3**		**3**	**13**	**14**	**27**
ÖNLİSANS VOCATIONAL TRAINING SCHOOL PROGRAMS	3		3	3		3	13	14	27

Resmi İstatistik Programı kapsamında yayımlanmaktadır

In the same period, student growth rate was 31,54%. The average student increase in this period was 10,51%, while the increase in the number of three-year teaching members was 11,21%. There is no linear proportion between the increase in academic staff and the increase in students. Student/academic increase rate was 2,813%. Approximately three students began having undergraduate and graduate while one academic staff was employed. Other staff should be considered as assistant staff or staff who provide service classes. There is also no major impact on the quality of other staff.

Table 1. Student distribution of the academic year 2013-2014

TABLO 1. ÖĞRENCİ SAYILARI ÖZET TABLOSU
TABLE 1. SUMMARY TABLE OF NUMBER OF STUDENTS

	2013 - 2014 ÖĞRETİM YILI /ACADEMIC YEAR					
	YENİ KAYIT NEW ADMISSIONS			TOPLAM ÖĞRENCİ SAYISI TOTAL NUMBER OF STUDENTS		
	T	E	K	T	E	K
ÜNİVERSİTELER TOPLAMI / TOTAL FOR THE UNIVERSITIES	**1248193**	**664284**	**583909**	**5472521**	**2964442**	**2508079**
ÖNLİSANS / VOCATIONAL TRAINING SCH	**431228**	**215365**	**215863**	**1502067**	**769493**	**732574**
ÖNLİSANS (AÖ HARİÇ) / VOC TNG SCH(NOT INCLUDING OPEN EDUCATION)	190727	106238	84489	546117	321943	224174
AÇIKÖĞRETİM / OPEN EDUCATION	240501	109127	131374	955950	447550	508400
LİSANS / UNDERGRADUATE	**581219**	**311935**	**269284**	**2977211**	**1615658**	**1361553**
LİSANS (AÖ HARİÇ) / UNDERGRADUATE(NOT INCLUDING OPEN EDUCATION)	314345	146765	167580	1351283	666215	685068
AÇIKÖĞRETİM / OPEN EDUCATION	266874	165170	101704	1625928	949443	676485
İKİNCİ ÖĞRETİM / SECOND EDUCATION	**170156**	**98814**	**71342**	**660191**	**386522**	**273669**
LİSANS / UNDERGRADUATE	86999	46959	40040	400766	215445	185321
ÖNLİSANS / VOC TNG SCH	83157	51855	31302	259425	171077	88348
LİSANSÜSTÜ / GRADUATE	**65590**	**38170**	**27420**	**333052**	**192769**	**140283**
YÜKSEK LİSANS / MASTERS	56193	32866	23327	265895	154502	111393
DOKTORA / DOCTORATE	9397	5304	4093	67157	38267	28890

Table 2. Academic staff distribution of the academic year 2013-2014.

TABLO 2. 2013 - 2014 ÖĞRETİM YILI ÖĞRETİM ELEMANLARI SAYILARI ÖZET TABLOSU
TABLE 2. SUMMARY TABLE OF THE NUMBER OF TEACHING STAFF FOR THE 2013 - 2014 ACADEMIC YEAR

		TOPLAM TOTAL	PROF. PROF	DOÇ. ASSOC PROF	Y.DOÇ. ASST PROF	ÖĞR.GRV. INSTRUCTOR	OKUTMAN LANGUAGE INSTRUCTOR	UZMAN SPECIALIST	ARŞ.GRV. RESEARCH ASSISTANT	ÇEVİRİCİ TRANSLATOR	E.Ö.PL. ED & TNG PLANNER
ÜNİVERSİTELER TOPLAMI	T	**142437**	**20005**	**12839**	**31345**	**20471**	**9990**	**3672**	**44074**	**19**	**22**
TOTAL FOR THE UNIVERSITIES	E	81504	14265	8479	19157	11588	3809	1883	22306	5	12
	K	60933	5740	4360	12188	8883	6181	1789	21768	14	10
ÖNLİSANS	T	**16636**	**239**	**285**	**2151**	**12735**	**592**	**377**	**257**	**0**	**0**
VOCATIONAL TRAINING SCHOOL PROGRAMS	E	10135	190	191	1351	7668	343	246	146	0	0
	K	6501	49	94	800	5067	249	131	111	0	0
LİSANS	T	**120535**	**19521**	**12417**	**28939**	**7652**	**9365**	**3223**	**39378**	**18**	**22**
UNDERGRADUATE PROGRAMS	E	68781	13916	8217	17655	3871	3454	1611	20040	5	12
	K	51754	5605	4200	11284	3781	5911	1612	19338	13	10
ENSTİTÜLER	T	**5213**	**245**	**136**	**250**	**76**	**7**	**65**	**4433**	**1**	**0**
GRADUATE SCHOOLS & INSTITUTES	E	2568	159	70	148	48	4	21	2118	0	0
	K	2645	86	66	102	28	3	44	2315	1	0
ARAŞTIRMA MERKEZLERİ	T	**53**	**0**	**1**	**5**	**8**	**26**	**7**	**6**	**0**	**0**
CENTERS FOR APPLICATION & RESEARCH	E	20	0	1	3	1	8	5	2	0	0
	K	33	0	0	2	7	18	2	4	0	0

The number of students in the year 2017 was 7198987 and the number of faculty members was 71390. According to 2017 data, the number of faculty of engineering and other similar faculties contributing to the production was around 11134. However, the number of students was 2.231.685. The number except for the associate and open education students was 1 440 000 students. There were 48,806 students per one other staff (assistant staff or staff who provide service classes). The level of teaching quality should be estimated, taking into account that teaching staff and assistant staff are not distributed equally. If we classify them as basic engineering and distribute them equally as construction, machine, electrical-electronics, computer, chemistry and architecture, roughly there are 11134 instructors for each basic engineering field. In some countries, however, the number of teaching staff with PhD. education in a single research center is much higher.

The academic hierarchical structure given in the table is as(2016-2017);
Prof.Dr: 22 535
Assoc. Prof.Dr :14 203
Doctor lecturer: 36 552
Research assistant: 45321
Total: 71390
Total number of students: 7.198.987

Ratios according to academic levels are;
Prof.Dr. / Assoc. Dr. = 158%,
Prof.Dr. / Dr. Lec. = 61,65%,
Prof.Dr. / Research Assistant = 49,72%

Another grave situation for Turkey is that adults also want to take undergraduate education. The number of undergraduate adults had graduated from a university and entered 2017 year Student Selection and Placement Center (SSPC) exam again was over 156000. This is equivalent to the number of college graduates in countries with a population of 15.000.000. An urgent solution to this problem is needed.

In fact, the solution is not too difficult. All adult candidates who have completed a bachelor's program can graduate at least 95% of their higher education programs with a two-year program. In the field of bachelor's and associate's degree, those who have completed 35 years of age with a certain experience and who have documented working in their field can also graduate from a higher education program which they can comfortably study in their fields or in a two-year undergraduate program. The only exception is the medical faculties, which will not be completed in two years. This can be done from all higher education programs outside of it. Perhaps some of these candidates may graduate in a year or a year and a half. It is also possible that they are paid in the second faculty. On this account, this additional income will be beneficial pecuniarily to the universities as well as a permanent solution to this social problem. Nobody can say that the quality of these graduates will be worse than the other graduates. In fact, most of these graduates will be people who know what they ecpect from university education, and they will be better able to train themselves because they will also have work experience. Maybe, they will be better than those who have a four-year undergraduate degree in their field. The difference is that they want to take a higher education program again, taking into account work and life experiences. For this reason, the number of people who consider the situation as not only a diploma but a chance to develop themselves in their own fields will not be few. For this reason, these justified adult requests must be considered in the state.

This academic structure is a measure of a crooked academic upgrade. What is required is creating a geometrical proportional structure. Nothing happens where this system is. For this reason, this distorted structure should be abandoned. Academic titles should be made more selectively and people should not be financially victimized. In addition, the merit should be provided with an appropriate real wage system which solves this problem. There will never be a solution under these circumstances.

VI. CONCLUSION

From this study, it is understood that 25% of the total number of high school graduates should be well educated. Of these, about 1% of students are very good. Again according to this model 4,98% in one hundred is the perfect or even candidate to be a genius. The main reason for this study is that the majority of high school graduates enter the university and then rise on the basis of qualification. This will open the way for those who are potentially genius.

It is expected that 85,715% of the college graduates in the age of education will continue to attend universities, colleges and undergraduate programs and graduate from these programs. But a certain part of them can not graduate from programs they enter for different reasons. These students should be directed to vocational colleges. Some of the successful ones should be directed to universities. The first two years of the undergraduate

programs must be common for this. Successful ones should go on for 4 years. At the end of four years, those who achieve a certain success must be kept in the faculties and equipped with theoretical knowledge.

Vocational colleges and colleges should be equipped with 80% of the profession's knowledge of contemporary technology. These graduate groups must be graduated directly to the sectors that the industry needs. Or these graduates should be prepared for the sector in 6 month periods after the school is over. Graduates in every way must start working in the sector ready and contribute to the organization. This occupation rate corresponds to 28,57% of those who will continue to vocational higher schools. Intensive theoretical training should be given to the students who will continue in the faculty and their theoretical deficiencies should be eliminated. This training should be considered as a preparation for a master's degree. Only 37,135% of those entering the undergraduate program are faculty graduates. Anyone who wishes to pursue a postgraduate degree must be admitted to it. The important points here are the separation of faculty members and faculties at all levels. In particular, graduate studies must be carried out at institutes of universities that are better equipped. It should never be done in the same institution.

20% of those who continue to university education consist of young people who can directly be taught a profession.The other 80% of the students who continue to university education should continue undergraduate education. The other 50% should go to vocational courses and be prepared for practical working life. 50% of those who finish their undergraduate education should continue masters degree. 25% of them should do doctorate. 25% of those who graduate from the doctorate are in good condition. Only 25% of those who are good at graduating from the doctorate can become very good scientists. For this reason, the number of scientists is very small.In this case, there are 5,387/1000 cases of young generation, which can be at the level of scientists and all kinds of well educated professionals. For this reason, it is necessary to educate the young population with good selection. The main problem is how to choose this young population and how to choose this younger generation because of inequality in education. Exams are sometimes unrealistic. Therefore, a very different education system should be developed. For this, the entire education system must be restructured. 0,976/1000 is a very bright brain. Choosing these is very important. How to choose these is really a big question. All kinds of operations should be done with the basic scale by selecting a group of 1000 students. Students must also be selected from regional exams for disparity. Later, examinations should be done again after the deficiencies of the training imbalance have been completed.

In this model, the target situation is higher education;
Graduation rate: 69%
Master's level: 33,33%
Doctoral degree and above: 11,11%.

In the total population, the educational status of the employees:
Industry workers: 75%
License: 41,6%
High school: 58,33%
R&D and senior manager: 25%
Doctoral degree: 122000: 0,001525% or 1,52 / 1000

To achieve these goals, there is a need for Turkey for more than 100 years, at least in these conditions. It is more grave for the doctorate education. It represents 1,562% of the total area in the center. This corresponds to about 14000 people in Turkey population who complete high school. If the lives of these people are sufficient and 50-year working periods are accepted, there will be only 700000 people in the total population. Or in the same way, in 5714 years, this ratio will become all clever. This is not possible for humanity. If this is considered reasonably, it means that it has fallen to 5714. Of course, if it is accepted that there is no population increase. However, the weight that should be within the general population is that it corresponds to one person out of 114 people in 50 years time. This means that there is a senior manager or R&D within a 114-person company. This means that even nowadays, it is a manager or leader who has more than a hundred employees.

These percentages are even more important for countries with fewer populations. Because it is proportionally higher to find intelligent people in the countries with large populations. However, the loss of a very intelligent person in the least-populous countries can cause great harm to the country. For this reason, states should deal with this issue very seriously. The future of countries, nations and states depends on well-educated people of scale-size.

75% of all students in the learning age must be trained to be a profession. The other 25% should be trained as a scientist, senior manager and planner for master's, doctoral and post-doctoral studies. The main goal here is to find out and benefit from the very high intelligence and genius named individuals. Most of this process is done for this reason. This modeling system requires more than 35 years to reach the required ratios. In

other words, this model is prepared considering the needs to be born due to the development of the country. In order to do it much faster, the only thing to do is to bring up and run doctoral specialists from abroad. Or it is also a way for qualified staff to work in their own countries on behalf of other countries. Nowadays, the United States is doing this partly. For example, they work for multinational or large companies in China, India, Pakistan and Taiwan, or in their own countries.

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[24]. https://istatiktik.yok.gov.tr, TABLE 2. SUMMARY TABLE OF THE NUMBER OF TEACHING STAFF, 2016 – 2017.
[25]. https://istatiktik.yok.gov.tr, TABLE 3. NUMBER OF STUDENTS & TEACHING STAFF BY EDUCATIONAL INSTITUTIONS, 2017 -2017
[26]. https://istatiktik.yok.gov.tr, TABLE 5. NUMBER OF VOCATIONAL TRAINING SCHOOL & UNDERGRADUATE STUDENTS, 2016 – 2017.
[27]. https://istatiktik.yok.gov.tr, TABLE 30. NUMBER OF TEACHING STAFF IN UNDERGRADUATE PROGRAMS ACCORDING TO CLASSIFICATION OF FIELDS OF EDUCATION AND TRAINING, 2016 – 2017.
[28]. https://istatiktik.yok.gov.tr, TABLE 32. NUMBER OF TEACHING STAFF IN THE PROGRAMS OF VOCATIONAL TRAINING SCHOOL

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