



The Importance of Foreign Languages for Engineers

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Abstract

Today's globalising world in which we are all somehow in a rush is moving so rapidly makes us overexert to be faster than anyone, because being simply fast is inadequate to integrate success into our lives. Information has turned into an open source instrument and that is why everyone should equip themselves with as many as foreign languages for easier access to the global data bank. There are many students, particularly in the science and math intensive departments, unaware of the unavoidable requirement to know at least one foreign language for autonomous learning in the developing sectoral structure they do strive for attaining their places. This study has been basically intended to reveal our unsystematic approach to learning foreign languages in Turkey and to ascertain by a survey whether the engineering students realise the importance of knowing a foreign language in order to advance more easily in their career.

Keywords: foreign language; engineering; importance of foreign language in engineering

Özet

Günümüzde yabancı dil bilmenin önemi yadsınamaz bir gerçektir. Herkesin en az bir değil birden fazla yabancı dil bilmesi artık zorunludur. Bunun sebebine gelince; dünyayı takip etmek ve yeniliklere açık olmak diye özetleyebiliriz. Globalleşen dünya gençleri arasında yabancı dil değil diller gereklidir. Mühendislik öğrencileri için yabancı dilin öneminin kavranılıp kavranılmadığını ölçmek amaçlı bir anket yapılmıştır. Yapılan anket 18.12.2019 ile 25.12.2019 tarihleri arasındaki 7 günlük sürede gerçekleştirilmiş, anketteki her soru ortalama 160 mühendislik öğrencisi tarafından yanıtlanmıştır. Katılım için seçilen grupta tüm mühendislik öğrencilerine yani İnşaat Mühendisliği, Çevre Mühendisliği, Kimya Mühendisliği, Endüstri Mühendisliği, Elektrik-Elektronik Mühendisliği, Bilgisayar Mühendisliği, Makine Mühendisliği, Malzeme Mühendisliği gibi sekiz mühendislik bölüm öğrencilerine bu sorular yöneltilmiştir. Birinci ve sekizinci soru dışındaki sorularda katılma derecesi soldan sağa artacak şekilde, 1 kesinlikle olumsuz görüş bildirenleri belirtirken, 5 kesinlikle olumlu görüş bildirenleri belirten bu anketin sonucuna göre tüm öğrencilerin, günümüz dünyasında kendi alanlarındaki yabancı dilin önemini kavradıkları gözlenmiştir.

Anahtar sözcükler: Yabancı Dil, Mühendislik, Mühendislikte Yabancı Dilin önemi

1. Introduction

In this present age, the importance of knowing a foreign language is an undeniable fact. It is imperative that everyone should know more than one foreign language. The reason for this necessity might be summarised as the need to follow today's world and to be open to innovations. Too many languages rather than a single foreign language are required among the young people in this globalising world. The youngsters in the other countries are born luckier in this aspect than those in Turkey as they have the opportunity to travel all over the world without any difficulties such as obtaining visa, residence permit, etc. Our youngsters struggle with many problems in this respect, and their insufficient knowledge of foreign languages is the primary problem among which are mainly economical. When being asked for how many years they have been receiving education on a foreign language, our youngsters would give jaw-dropping answers emphasizing that "Too many". However, it might be revealed quite easily that they have a limited knowledge except making a couple of sentences. It is, of course, not that simple shift the blame completely onto the shoulders of our youngsters. They are not unimpeachable in this aspect for sure; nevertheless, we should consider the adverse effect of our unfixed education system due to constantly changing syllabi and curricula. As a result of our education system –more like a scratch pad, the hitches within the course contents might be revealed not only in the foreign language classes but also in the other lessons. For this reason, our youngsters have been obliged to deal with ignorance and rote-learning based education system. If we research on the education systems of the developed countries, we might observe that there is no drastic change in their systems and they create short-term and effective solutions only for the less serious hitches. In Turkey, on the other hand, the methods based on trial-and-error approach sweep away the fundamental system. That unsystematically established structure affects us negatively and makes new generations unable to think and judge. It is unfortunate that we witness the attempts by this generation of the children of tests for their using the test system against even the most up-to-date problems and feeling wretched for not being able to create solutions. It is yet impossible to expect anything else in such a system where the notions pragmatics and sharp wit are spurned. It is inevitable that whatever they learn at the core of this major issue is nonsense and invalid. Foreign language education is only one of the problems in the entire education system.

It is still left for personal initiative to work miracles by 3 hours in a week in the Engineering faculties in particular of our universities among our modern-day education systems. However, the learners need a mentor in any case and the lessons would be nothing but losing time when the mentors are jaded and discouraged to guide. Although education is the process of bringing in terminal behaviours, those behaviours targeted and expected to be acquired should no doubt be so. Emphasizing once again the major problem is our system, we might get down to the other aspects. It is not unexpected for those receiving education in a test-oriented and lack of sharp wit environment to prefer soon after not to think and come up with new ideas. Therefore, those who do not think, create and improve their ability to judge can never be successful in their lives. We have a tendency to occupy our people's mind all the time. We do that sometimes by the excessiveness of unwritten social rules and sometimes by the issues we exaggerate in our needless and meaningless rush of daily lives. Everyone should have an interest in different fields as a hobby but we do not even allow that. If we check through within this context our universities we are incorporated, it might be observed that almost everyone spends most of their time with bad habits as they alienate from sports activities to be attended regularly by all of us due to not developing a sufficiently conscious system. The universities in the developed countries never set ineffective free time aside for their students,

it is the exact opposite here. Our students might only benefit from the extracurricular activities for a certain fee while those in the universities in Europe and the U.S. take advantage of those activities completely for free.

Doing sports help people secrete the hormone of happiness. That hormone, serotonin, is a neurotransmitter which makes individuals feel happy, vivid and energetic; and that is why it is known as the hormone of happiness. In the case of its deficiency, individuals' mood blossoms into a depressive, exhausted and vexed state. As a consequence, individuals feel debilitated and care for nothing even in the world of their own. We devolve our worlds we build upon being too lazy, delaying and retarding everything into an irreparable tangle of problems. That makes the society as a community of individuals who do not believe in the future and building out it, but feel insecure, daunted and emotionally burnout. On the other hand, a society of individuals having vocational competence and following up the world literature is happier as they build on their lives on unremitting production. The path to succeed that is simply to be devoted to our professions and non-stop production. It is naivety to wait for a miracle from our people to begin their careers right after having graduated from the university with inadequate extensive knowledge and non-empirical theoretical information they have had to acquire. That is to say, such problems are easier to overcome for the students well-equipped with adequate knowledge. Otherwise, a generation of youngsters that do not question but memorise whatever they are ordered to will be raised and their sense of production will be parallel to level of education they have received. What we have mentioned so far is the aspect that we might refer to as quality. Besides, the other aspect we might address is quantity. The educational environment is different as night and day in our country and the developed countries. When comparing our country with the other countries having a stable education system in terms of number of students per classroom in the universities, the big difference will be revealed that the classrooms are of 50 up to 60 students in our country while they are of the fingers on the two hands in the others. Moreover, in some of the programs in some faculties, that number increases 200 up to 300 students in lecture halls. If we consider the evening education as well, that number reaches to an unbelievable extent. Everyone would be in substantial agreement upon the opinion that no-one has the right to entrain that much people to another rank of the unemployed as there are too many jobless graduate already. The instructors' hands are tied because it is impossible to teach 80 or 100 students within the scheduled course hours while it is quite easier to manage a classroom of 10 to lecture the planned syllabus. Within this system, the instructors do not have the opportunity to be acquainted with their students. Under these circumstances, it will be a devastation for the parents –who give of themselves for their children's education struggling with difficulties in order to ensure their children to receive proper education or, in the colloquial, earn their daily bread; to confront their efforts to go down the drain and their children's being unemployed. There will be naturally problems in the psychological state of a society of individuals who are unable to question or to obtain sufficient information for their questions, and thus are awarded their diploma unequipped. Therefore, that society of individuals with high stress level will burst out soon after inevitably and this is the summary of the sociological aspect.

On the other side, in the developed countries, the students in the classroom environment cannot hide behind the bevy of their classmates. The instructor distributes a certain number of course topics and the students –i.e. the researchers as one of the meanings of the word itself– make a presentation in the following week in a classroom of 10 students. It is normal for them to fail sometimes and have deficiencies in their presentations. At this juncture, the instructors are liable for providing the missing information and they will strive for success more easily in the classrooms with lower number of students. Otherwise, just like the same in our system,

reading the projected slides or listening to the instructor standing alone in front of the class would be defined as a system of advanced high school education. This is because one can focus attention for 10 up to 15 minutes as emphasized within the scope of pedagogical formation. The students would be occupied with thinking of many other things in the remaining course period, but then those who think over a specific subject and try to prove their opinions are productive. This is what we might call graduate education. In this system, individuals have the right to the full extent to question and express themselves. However, they are able to do that best in their native language. The correlation between language and thinking is well defined both in “The Heterogeneity of Language and its Influence on the Intellectual Development of Mankind” by Wilhelm von Humboldt, “Imagined Communities” by Benedict Anderson and “Wilhelm von Humboldt: Writings on Language” by Michael Böhler. Having conducted detailed studies of aspects of particular languages including Basque and the ancient Kawi language of Java, Humboldt wrote “The Heterogeneity of Language and its Influence on the Intellectual Development of Mankind” in which he argued the idea that the function of words in a language is to concretise meaning conditioned by the mentality and beliefs of a society. Further to that, according to Anderson’s theory in the “Imagined Communities”, the first European nation-states were found around their national print languages as people speaking various dialects became able to understand each other and thus a common discourse emanated, when they started reading the books and the other media printed in the vernacular language by a capitalist marketplace in order to maximise circulation associated with the underlying theory of print capitalism. Anderson also describes a nation as a socially formed community contemplated by the people who discern themselves as a part of that group, and language is one of the associative components to structure that community. Böhler, besides, promotes Humboldt’s idea in “Wilhelm von Humboldt: Writings on Language” by urging on two notions: “Language is not a product (ergon), but an activity (energeia).”

Concordantly, the students in the developed countries receive their university education by deserving their title. They are also able to get in touch with the universities in the other countries quite easily as they do learn a foreign language visually and by experience –which we should underline. Our students go abroad within the scope of the student exchange programs such as Erasmus, Mevlana, Socrates, etc. and they stay there at least for a term. We can observe that the students studying in Czechia or Poland or Portugal for a term by taking advantage of a student exchange program can neither gain experience by the language of education nor learn more than a couple of words and expressions by the native language in the country they stay because of their habits and learning experiences here. In addition, there are a certain part of students as well who use the advantages of those programs for touristic purposes to visit the cities they have always wondered such as Berlin, Paris or Vienna when attendance is not compulsory. It might be regarded as a right but this is only the side benefits of those programs indeed. The students in the developed countries see those programs as an opportunity to gain the utmost experience about a new country, a foreign language, etc. because they are well-equipped for foreign languages and they have a good command of the purpose of learning a foreign language. They have a good command of foreign languages as well with the awareness that learning a foreign language is not based on learning its grammar only and they have to learn that language in all aspects to adapt it in their own field. As stated above, a foreign language is best learned visually and by experience; and one of the biggest mistakes our students make insistently is their tendency to keep company with the students coming from their own country due to lack of self-confidence. When our students go abroad through the agency of a student exchange program, they either remain close to their own friends or make new Turkish friends. This might be deemed as living Turkey in a foreign

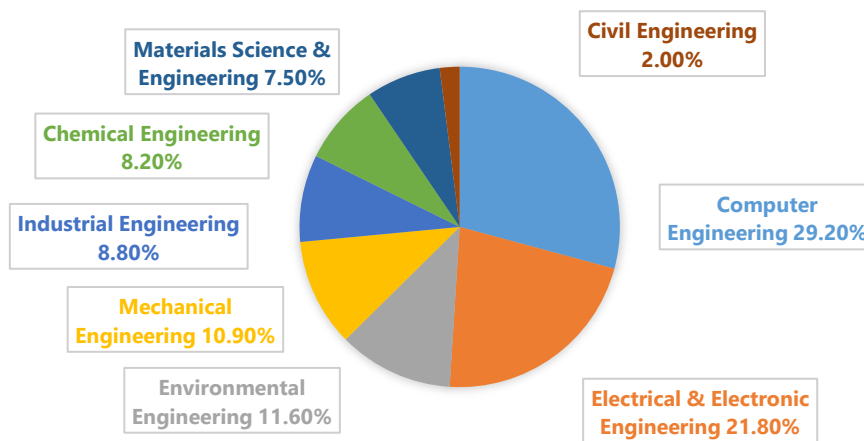
country. They keep on speaking Turkish everywhere and request for assistance from those expressing themselves better in order to meet their bare necessities –which should not be preferred by anyone trying to learn a foreign language. This is because foreign language learners should feel and comprehend the target language’s world of thought and that can be accomplished only if that language is used in daily life. This is what we might call living the language.

2. The Survey

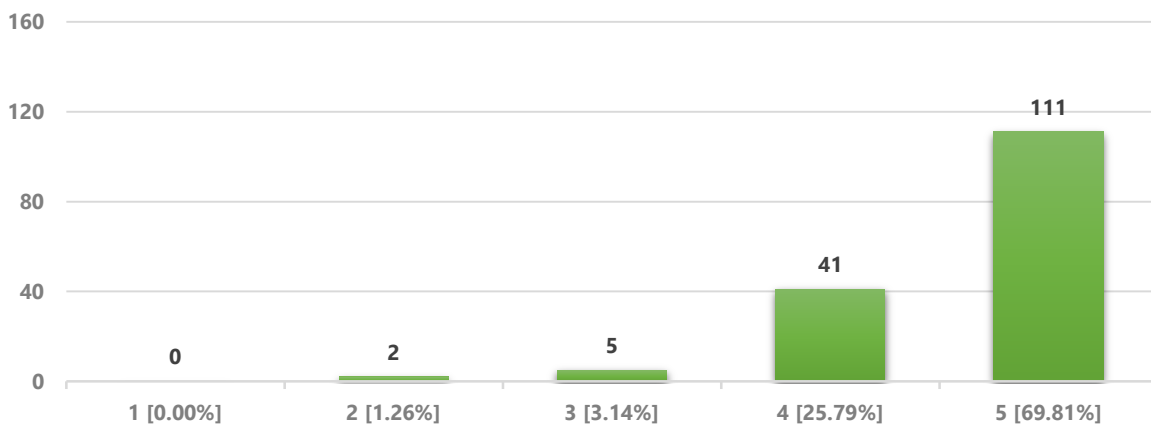
The major issue underlies the root of the problem of foreign language learning is whether we are ignoramus and unsuccessful at learning or we do not have the eagerness to learn at all? It is true that we do all come from different language families; nonetheless, that cannot be accepted as the root of the problem. In order to find the answer of that question, the survey conducted among a group of students will lead us to the conclusion to a certain extent.

The purpose of the survey is to reveal the importance of foreign languages for engineering students and the questions were answered by an average of 160 students. The results are as follows.

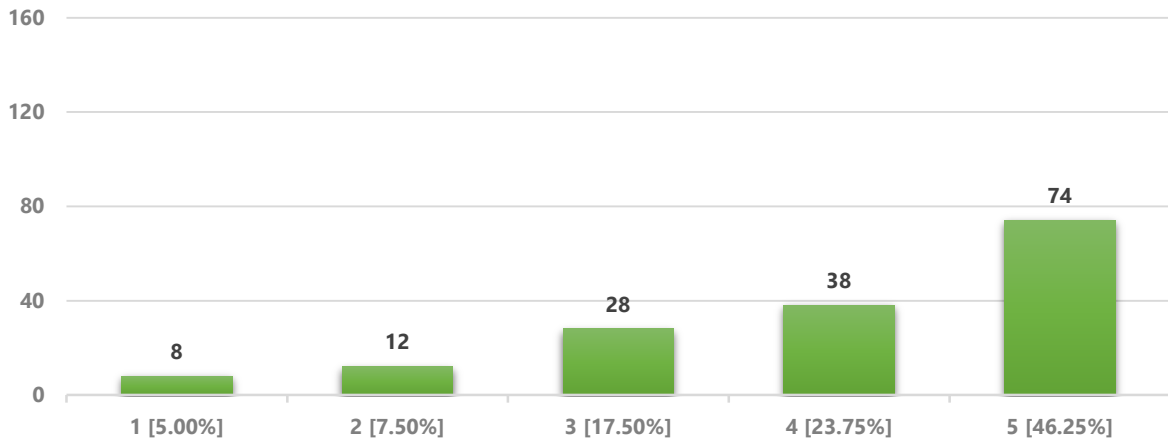
- (1) In which program do you study engineering?



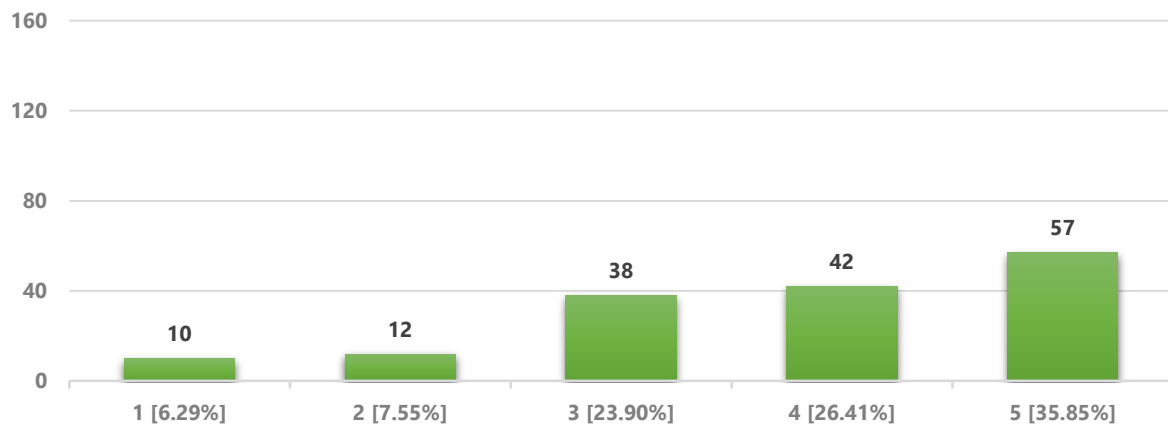
- (2) Is it important to know a foreign language in the sector of engineering?



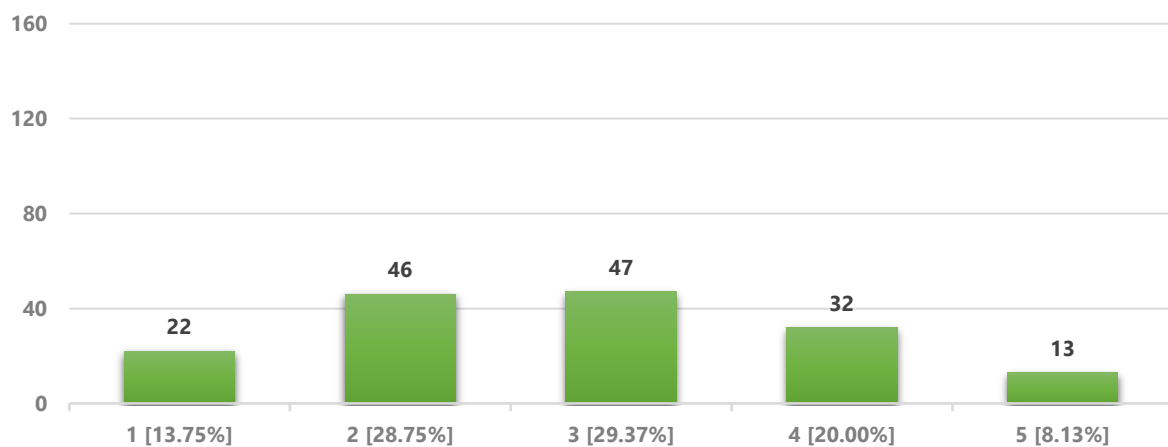
- ▶ (3) Do you think that the engineers who are trained in a foreign language are better equipped?



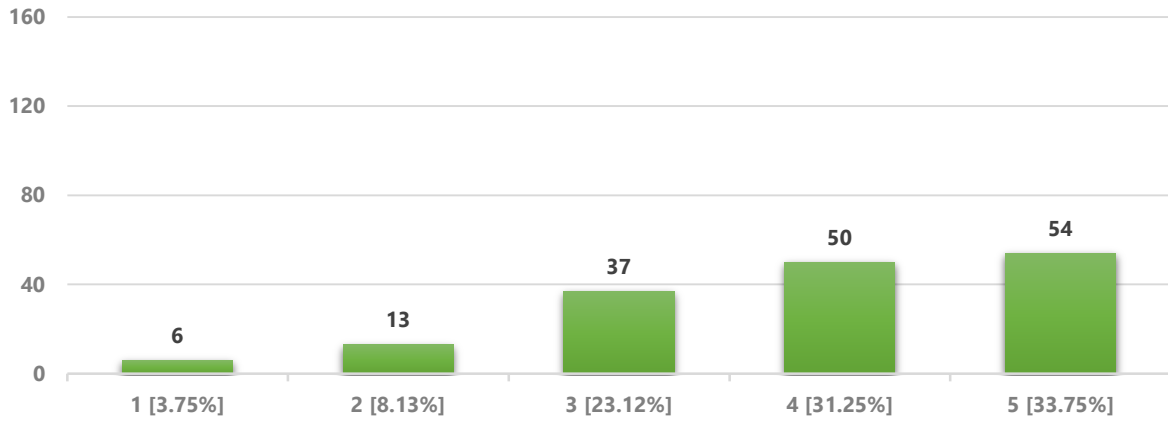
- ▶ (4) Do people learn a foreign language to take part in the globalising world rather than to regard that as a need in their professional field?



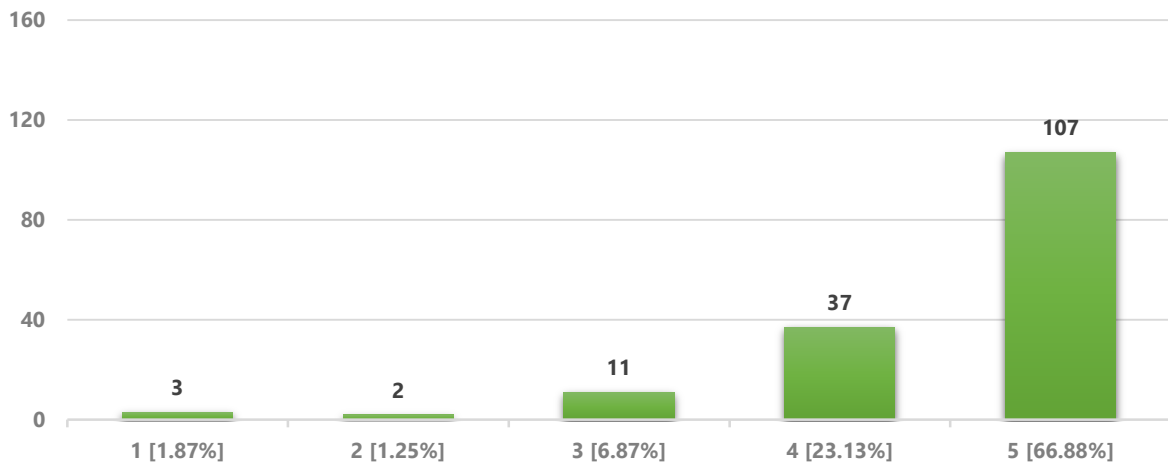
- ▶ (5) Is it possible for people to make progress in their field without knowing a foreign language?



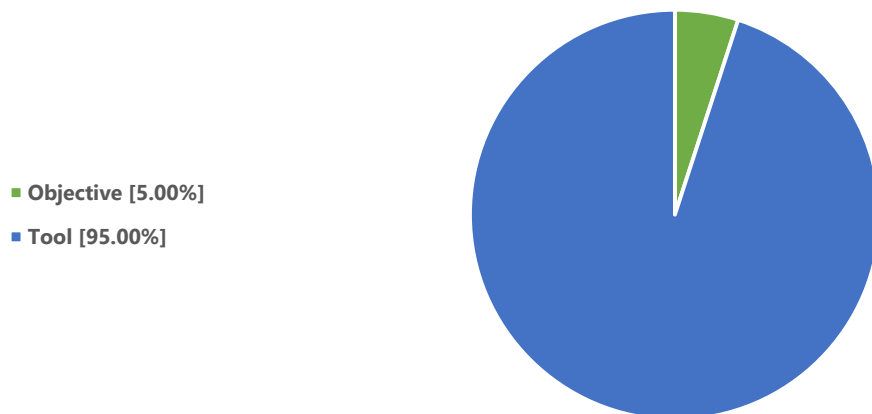
- ▶ (6) Do you believe that the quality of education received on engineering is more important than knowing a foreign language?



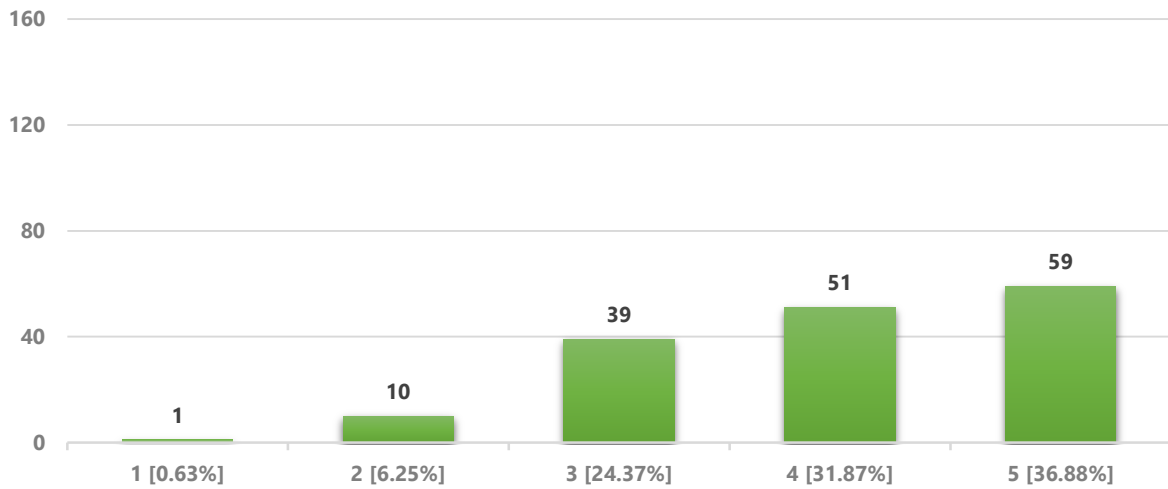
- ▶ (7) Do you think that a good engineer should know a foreign language?



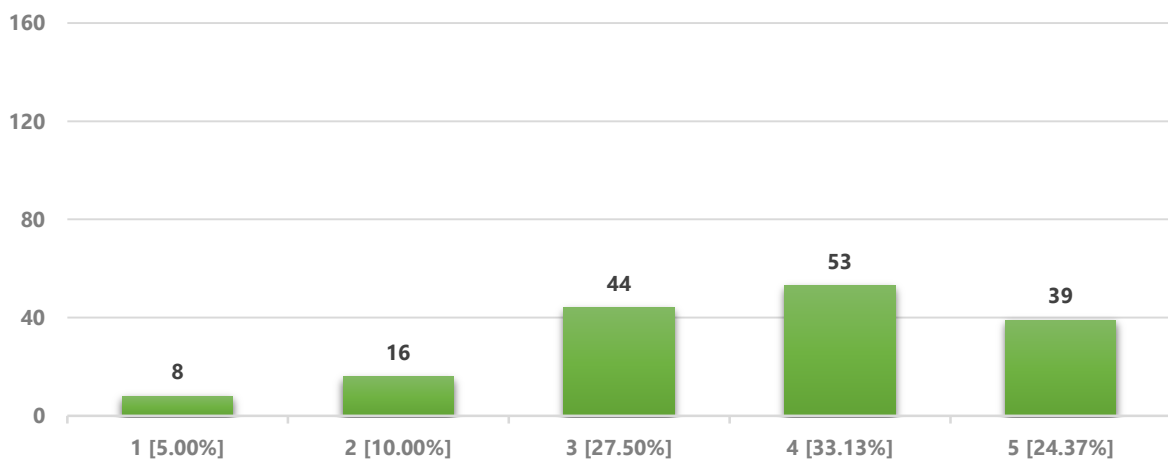
- ▶ (8) In the engineering education, is it an objective or a tool to learn a foreign language?



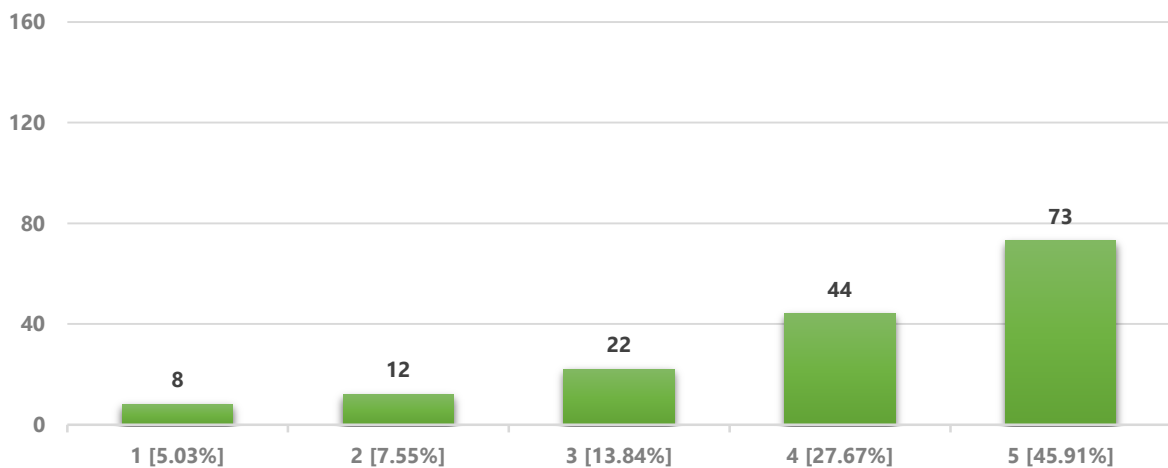
- ▶ (9) Do you think that the engineers graduated from the institutions providing education in foreign language finds a job more easily?



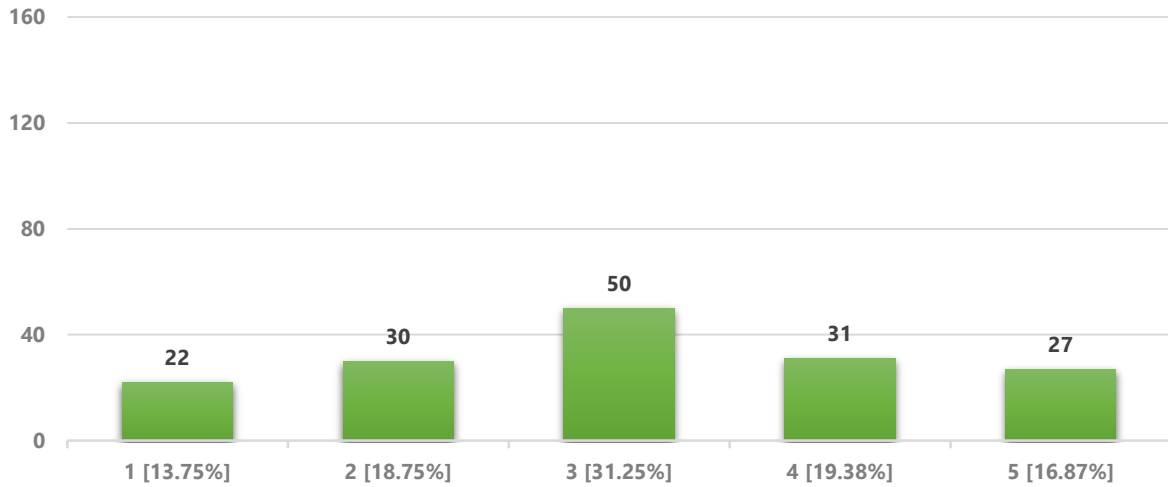
- ▶ (10) Do you think that the engineering students have difficulties in comprehending the information when taught in foreign language?



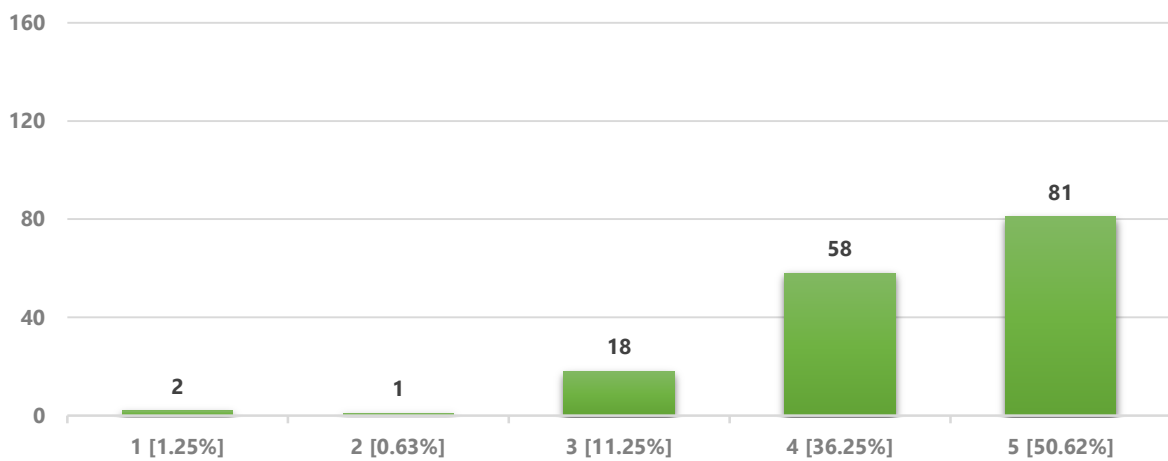
- ▶ (11) Is it necessary to provide education in foreign language in the engineering faculties?



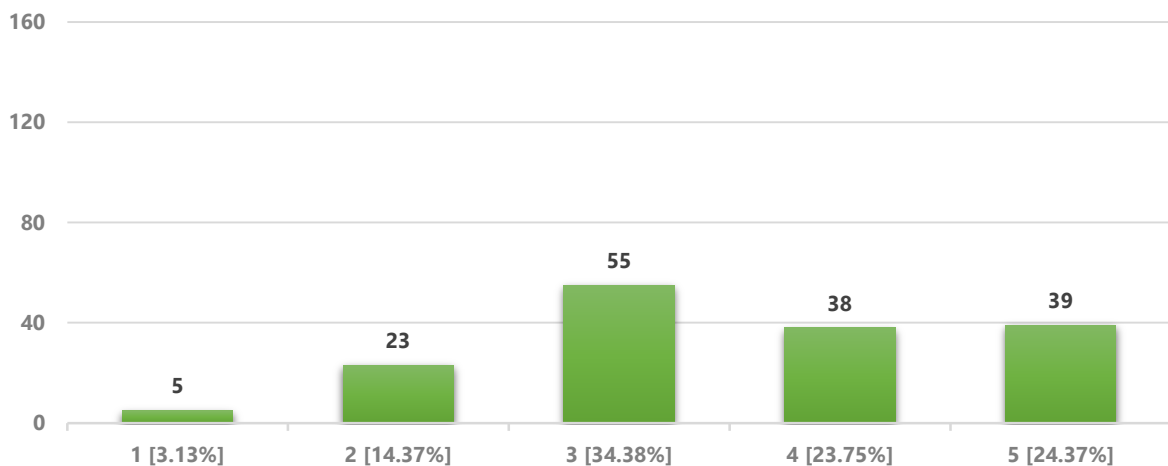
- ▶ (12) Do you think that the best way to teach a foreign language in the engineering faculties is to teach field courses in that language?



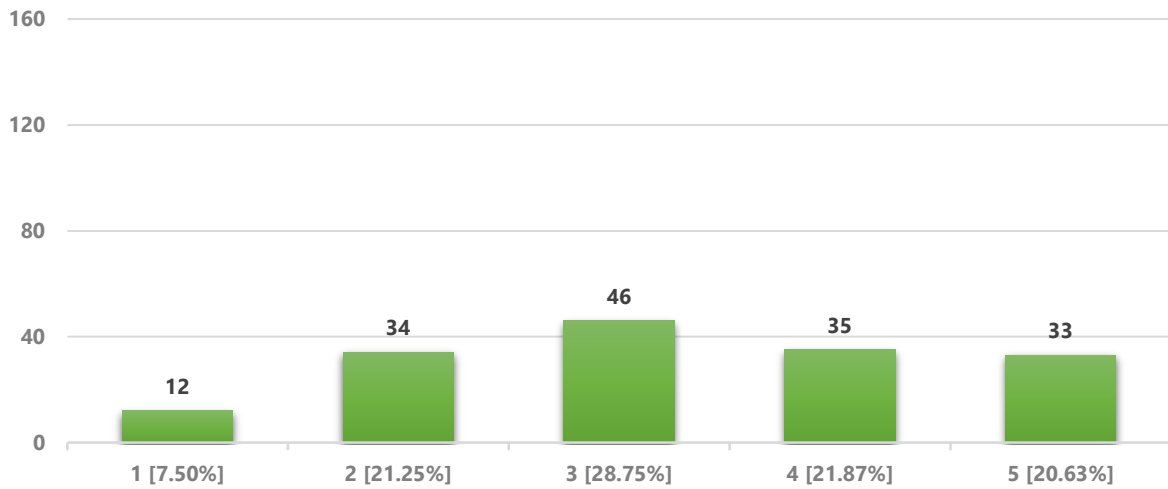
- ▶ (13) Do engineers need to know a foreign language in their field of study?



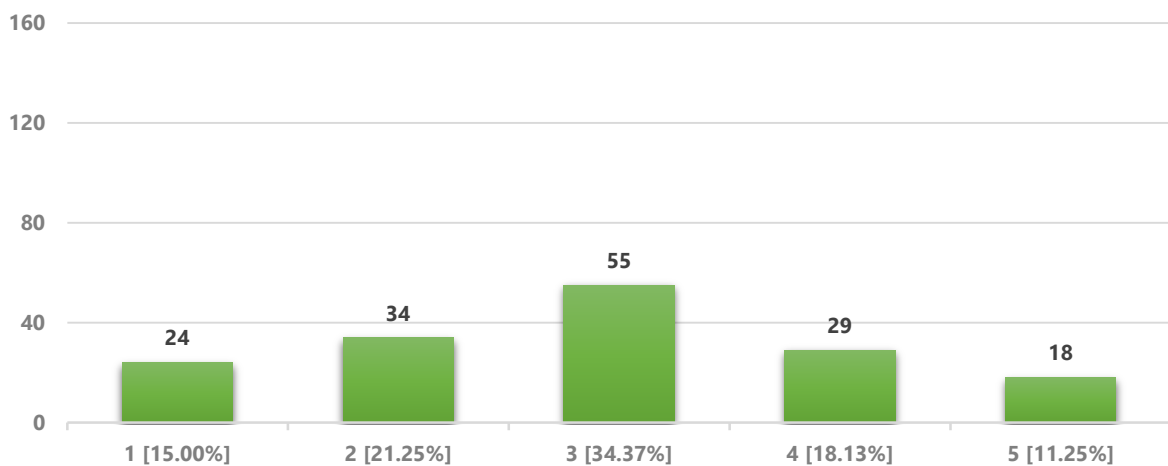
- ▶ (14) Do you think that the engineers receiving education in a foreign language are more successful?



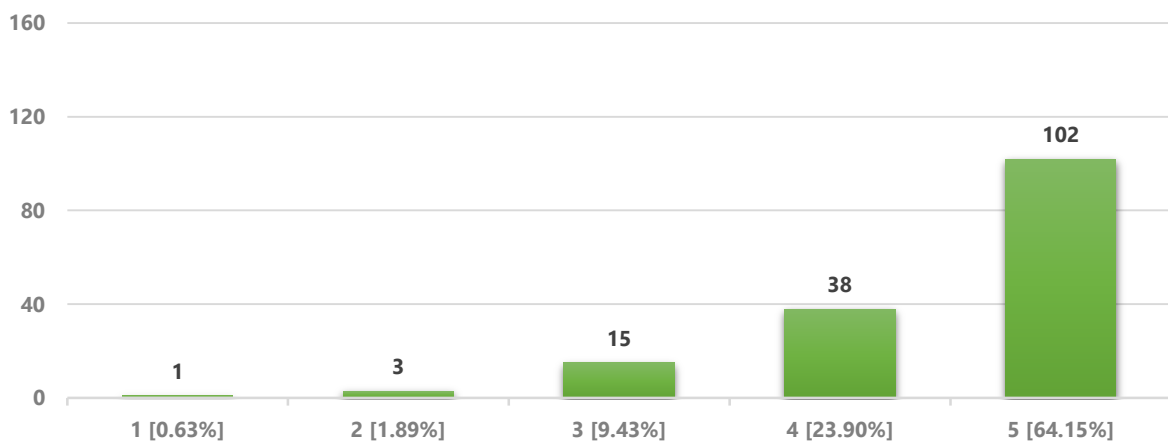
- ▶ (15) Do you think that the engineering education should be given both in Turkish and in a foreign language –each to a certain extent?



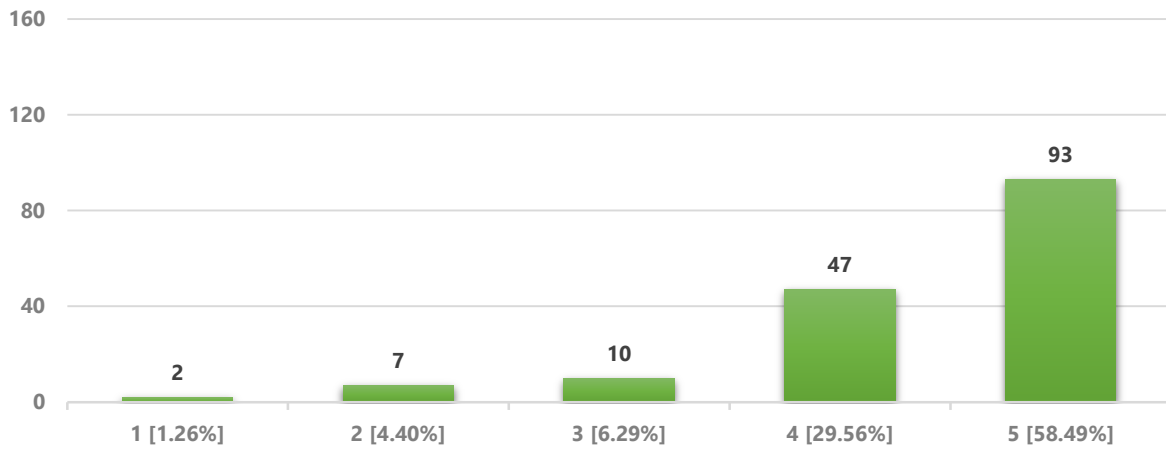
- ▶ (16) Do you think that the engineering education should be given in Turkish while the field courses should be given in a foreign language?



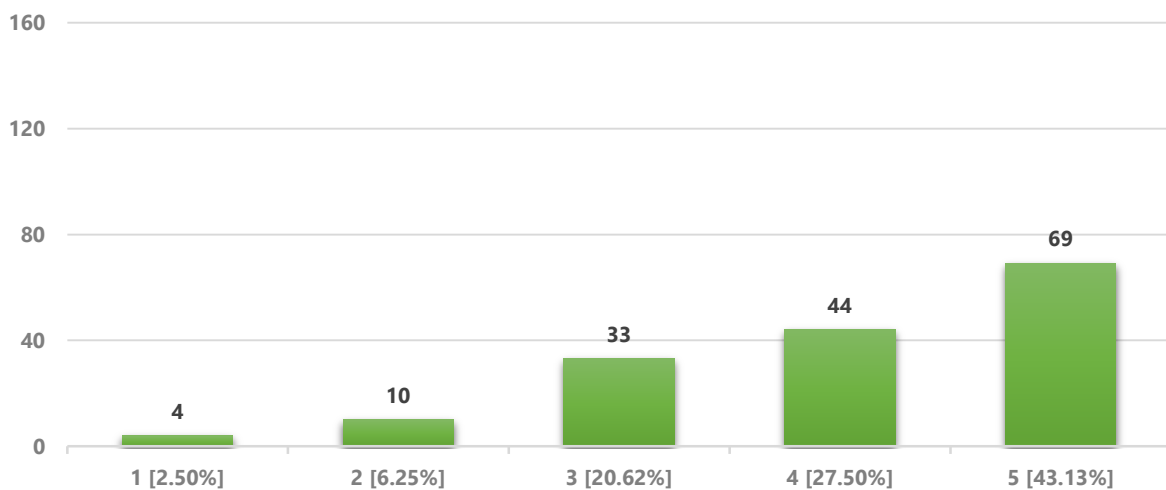
- ▶ (17) Do you think that the engineers who do not know a foreign language are disadvantaged in their career?



- ▶ (18) Do you think that engineers should know a foreign language in order to keep up with the latest developments in cutting-edge technology?



- ▶ (19) Do you think that engineering students should take compulsory foreign language classes in addition to their courses in the curriculum?



3. Results

The survey was conducted to measure whether the importance of foreign languages is well understood by the engineering students, in 7 days between 18.12.2019 and 25.12.2019, and each question in the questionnaire was answered by an average of 160 engineering students. The questions were addressed to all engineering students i.e. students of eight engineering departments: Civil Engineering, Environmental Engineering, Chemical Engineering, Industrial Engineering, Electrical-Electronics Engineering, Computer Engineering, Mechanical Engineering, Materials Engineering in the group selected for participation. The percentage distribution of the participants are as follows.

- 29.20% Computer Engineering
- 21.80% Electrical & Electronic Engineering
- 11.60% Environmental Engineering

- 10.90% Mechanical Engineering
- 8.80% Industrial Engineering
- 8.20% Chemical Engineering
- 7.50% Materials Science & Engineering
- 2.00% Civil Engineering

According to the results of the survey, the participants of which expressed their opinions gradually increasing level of agreement from left to right as 1 for absolutely negative and 5 for absolutely positive in all questions except for (1) and (8), a great majority of students did comprehend the importance of knowing a foreign language but it was revealed that they are not of the same mind on the question “Do you think that the engineers who are trained in a foreign language are better equipped?”. Most of the students did again express positive opinions for the question “Do people learn a foreign language to take part in the globalising world rather than to regard that as a need in their professional field?”; however, surprisingly, they believe that they might advance in their career without knowing a foreign language depending upon their answers to the question “Is it possible for people to make progress in their field without knowing a foreign language?”. Almost all students replied to the question “In the engineering education, is it an objective or a tool to learn a foreign language?” with the option “Tool” and a foreign language is of course a tool because engineers should not get lost in the grammar but should have a good command of the corresponding terminology especially in their field. Almost all students again expressed positive approach for the question “Do you think that the engineers graduated from the institutions providing education in foreign language finds a job more easily?” while they believe that the engineering students have difficulties in comprehending the information when taught in foreign language and the field courses should be taught in Turkish. Finally, more than 80% of the students expressed positive approach for the question “Do you think that engineers should know a foreign language in order to keep up with the latest developments in cutting-edge technology?” and they are moderate for taking compulsory foreign language classes in addition to their courses in the curriculum.

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