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ENGINEERING COMPLETION PROGRAMMES IN TURKEY AND UNIVERSITY STUDENTS’ OPINIONS

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Due to the title problem, despite the passing individuals with similar learning process with the title of engineer, technical teachers are confronted with various problems during work in the sector. In order to overcome this problem, after the exams of technical teacher and take the difference in the end result of the course with success, programs which they may have the title of engineer are opened. Qualitative research methods used in this study were evaluated engineering exam and complete programs with 10 participants who 2013 - 2014 academic year in different programs get the right to education. Data through a semi-structured questionnaire in this study were obtained. Some of the results obtained from the research results, because of working most participants do not follow the course of continuous and courses are very theoretical. In addition to, as a result of number of courses have be more than expected and besides the course of the lessons they had seen earlier that the same or similar emerged. Finally, some participants stated new section that will help them and some participants stated that they feel the section does not help themselves and they are not a member of the section.

Keywords: Engineering program, Engineering program completion.

Introduction

Repeatedly changing the structure of the title of technical teachers in Turkey that individuals with higher education institutions graduates, these institutions are closer to the engineering faculty as the course content and learning style. Because of the very few assignments, technical teachers who want to be active in areas other than teaching and have started to work in jobs except for the areas where graduates. Due to the title problem, despite the passing individuals with similar learning process with the title of engineer, technical teachers are confronted with various problems during work in the sector. “Technical Education Faculty (TEF)” is opened with Legislative decree No. 41 issued on July 20, 1992 to meet the needs of technical teachers in Turkey and these institutions have emerged in universities (Akpinar, 2005). In the process, as a result of changes in the TEFs and the emergence of new needs TEFs are closed (Resmi
Gazete, 2009). As a result of the decisions referred, Faculty of Technology (TF) was opened and engineering training program is arranged so that they can take the title of “Engineer” as teaching staff and student profiles. CHE, by writing the date of 07.09.2014 No. 4407, legally; it is indicated that there was no difference between received title of “Engineer” by the graduates of any faculty and graduates from TF who will receive the “Engineer” title(YÖK, 2014). Thus, in the world of business, graduates will have been resolved problems for the title.

The main purpose of the higher-level vocational and technical education in Occupational, Industrial Arts, Technical Faculty of Commerce and Tourism Education is to meet the needs of teachers of vocational education (Şişmek, 2007). The entrance to the university, together with entered into force “field and coefficient” of the application in 1998, decrease occurred in the number of students who choose vocational high schools (Sönmez, 2008). Together with economic development, while interest in vocational training is expected to increase, vice versa is experiencing a situation in Turkey. It is stated that the interest in vocational and technical education decreases in Turkey between 1996 and 2007 (TÜİK, 2008). Some problems have occurred because of by and by increasing the number of TEF and the number of technical teachers who graduated from this school being much more than the needs of the Ministry of Education. Diminished interest in vocational education, confronted with the problem of the inability to find a vocational high school students, in this case, teachers who graduated from the Vocational and Technical Training Faculties cause not been appointed as teachers (Şahin and Fındık, 2008). Graduates turning to business because of technical skills are facing problems like salary in the low wages, inability to find a job or work area except for graduation (Akpinar, 2005). Problems faced by the graduates, institutions or graduates have led to different areas to evaluate the lessons they see education. As a result of changes to the schedule by and by in the TEF and other technical teacher training institutions, number of practical lessons are reduced and the number of engineering courses gained value (Akpinar, 2005). Also, have the engineering skills of technical teachers have a lack of resolve in the job market a little bit but they can not have the title of engineering, has not to contribute to the solution of problems. Indeed, another of the major obstacles encountered in the vocational and technical education school graduates job market is the ambiguity of the title and authority (Şahin and Fındık, 2008). Therefore, it is important to make the necessary changes in order to eliminate these problems.

After engineering course gaining value, TEF graduates, engineering title has emerged needs to obtain for finding jobs on the market except for teaching. Also, the person who will graduate in 2009 opened in TF engineer title they may have, TEF graduates today for obtaining the title of engineers has become a need. In this context, in 1992 by the Council of Higher Education “Engineering Practice Principles and Procedures of the Program Regulations for Technical Teachers” was published a new regulation. The right to complete engineering for Technical Teachers are recognized in accordance with relevant regulations. The purpose of the Regulation, has also been expressed as to determine the principles and procedures relating to the implementation of the program in order to have complete for the “technical teacher” of the graduates have the title “engineer” title. In this context, the completion of the graduates who successfully completed the program, graduates in fields related that “engineer” is mentioned that title (YÖK, 1992). In this way, in the market one of the barriers to employment has been asked to be exceeded for graduates with technical teachers title. It is made in a total of 10 times, including the exam once a year between 1993 and 2002 with the regulation (ÖSYM, 2014). Since 2002, made the expected completion of engineering exam was conducted in 2013 for the first time after many years. In the pre-2013 at various universities in Bulgaria, to produce a solution to the current signature authority problems of TEF graduate, engineering completion programs are organized in all European countries and with recognition in the world “Engineering Completion Program” have been implemented (Universium, 2014). Higher Education General Assembly in accordance with the judgment of 06.06.2013, Engineering Completion Program is stated to be made to purchase exam once a year for graduates who have taken the title of Technical Teachers by Assessment, Selection and Placement Center (ASPC). The examinations conducted in 2013 a total of 24 branches from different teaching techniques, it is permitted to submit applications to complete 16 different engineering programs. At the exam result; 2791 out of 14926 candidates who opt for all 2791 have placed all quotas are filled (ÖSYM, 2013). Accepted students must
take courses were classified based programs. After the placement results, decisions are taken for the courses students must take by the Council of Higher Education. In line with this decision, on the course list which was declared specified for the relevant engineering program complete; it is stated that the senate have right to add 50% and 30% change course (University of Sakarya, 2014). In a sense, each university has the right to make changes to the list of courses students must take in the relevant programs.

At the result of complete engineering programs, students who obtain the right to education, reading time varies according to the relevant regulations with the others who are first or second teaching in the relevant field of engineering. Periods of study in the program stated that completion of two semesters but it is mentioned that two additional semesters for students who have not completed within the specified time. Still at the end of this period, students who fail are expressed to cut the relations programs (YÖK, 1992). Removing the time limitation after the new decision taken in 2013 are reported to be normal like other students who studied. Thus, border is a little more extended for employees and students with only limited time to study sometimes. Complete engineering program’s students; due to lack of sufficient studies in the literature, there has been a need for such a study for new programs they teach and learning lessons. Thus, the release of the living problems and suggestions for solving possible problems will be noted.

**Methods**

Case study design of qualitative research methods was used in the study. Within this study, through semi-structured interview form, the interviews were conducted. Resolved interviews, evaluated by means of two experts on the subject were obtained through content analysis findings. According to Stemler (2001), a content analysis of the text consists of a variety of phrases, is a method that should be grouped according to certain rules. Semi-structured interview technique, by Özgüven (2004), was defined that a method allowing to make changes for unpredictable and being new situations that may arise during the interview. It was asked to express their views, attending lectures status, their contribution to the department they are studying, for classes and sections, from the participants.

**Collection of Data**

In collecting the data in the study; existing literature were screened, interview questions are designed by taking the help of experts produced and semi-structured interview form questions were used on the scope of the research. The interview method was expressed as trying to enter the person's inner world and events from his perspective and understanding to understand by Patton (1987). Thus, the people who own experiences, from their language, meaning of the given and explanation will be better understood (Türnüklü, 2007). Suggestions questions were prepared to assess the process on in the preparation stage of questions, the questions were examined by field experts and they were revised in line with recommendations and the validity of the them were aimed to provide. In the stage of data collection; it was made with students who qualify to enroll in an engineering completing program in 2013-2014 academic year. At the end of talks with students in the universities located in different cities, due to be sound recording, it has been shown that most of the participants not to participate in the study and as a result, 5 participants with face to face, 6 participants over the telephone connection including total of 11 participants, interviews were conducted. Some characteristics of the participants; 25-34 years of age, gender 3 women, 8 men and all employees.

**Data Analysis**

The data obtained in the study were reviewed by content analysis. Operations performed on the basis of content analysis, similar data is to bring together under certain concepts and themes and they are
organized in a manner that can be understood by interpreting the reader (Yıldırım and Şimşek, 2008). Participants in the negotiations with face to face and telephone, sound recordings were taken with the permission of the participants. In addition to these, researchers have pursued strategies for consistency impression taking notes of the interview. Textual dump of sound recording has been made and the study was conducted after analysis on the resulting text. In addition to all this analysis made, it was evaluated by two scholars to increase the validity and reliability of the analysis. Analyzes were conducted as participants coded form like K1, K2, K3 ... K11 and in the results section it was given through quoted directly with a portion of the code from the opinions. In the process, researchers, they tried to put forward as evidence and showed the importance to not reflect thoughts to the process. It has been adopted data variety to improve the internal validity of the study, results are given on the basis of observations and interviews. After reporting the findings of interviews and the observations they were examined by two experts and arrangements, have been made in accordance with their opinions. To increase the reliability of the research, the presentation of the findings is given directly to the quote. The observation was carried out by two researchers and in the reporting phase, it was concluded to the common judgment comparing with these observations. Interviews and observations, reading by researchers, it has been decided to possible codes and themes and then confirmation of this theme and code was made by Nvivo 8.

Results

In this study, it was aimed to determination of views on this completing engineering program students. The data collected was analyzed for this purpose and the findings, according to their research questions, students accompanied by their views are presented below. The findings are possible to classify like; their opinions about the course and sections, contribution regard to the attend the course status and program.

After the participants have expressed their opinions, themes of lesson attendance is shown in Figure 1.

![Figure 1. Themes of state attending classes](image)

In accordance with the expression of participants; because the course runs for 10 participants stated that they could not follow courses because of working. In addition to these, 5 participants stated that they could not follow courses due to the distance. Some of the statements of the participants about theme are as follows.

**K1:** I disagree to the current course. My courses are spread over such a weekday, I need to be entirely student, so I have to not do a job. No one else should not be my job, I have to come and go to classes. This is not possible in the circumstances I am today, and so I cannot spare time during the day that time.

**K8:** As I said, I can attend classes due to the fact that I prefer secondary education because it made the evening. I am using Metrobus which is public transport and thus I can attend classes.

After the participants have expressed their views, the program of their contribution of themes are shown in Figure 2.
In according to expression of participants; 4 participants stated that the program contributed to them. On the contrary; 3 participants stated that the program was too theoretical and therefore they stated that present not contribution. Some of the statements of the participants about theme are as follows.

**K4:** So, the contribution could be as follows. At least, I learned that computer engineers trained in what situation in fact, I learned that they are not too high from us and I saw here. Our project we did in second class, where most of our friends can not, unfortunately, even in the fourth grade. They know only information theory courses because of the lack of application courses. And when they come to their job market, can have too much trouble. So I figured it out.

**K8:** Of course this program will contribute. We are in the teaching program, we learn the most practical. We were going to take the theory, but more practical. Of course, the program because it is based teaching, in addition to teaching courses were receiving their vocational courses. So it was a contribution to us. Of course, when we comes here, we are dealing with the mathematical part of a lot. My observe, when we came to the engineering faculty, the job is more related to mathematics. We see that he had some more theory here. So, in teaching. Both teaching lessons and practice at the same time gone, mathematics did not work, of course. So to bring them all together. But because this is the only job in engineering, mathematics-based course content, we see already. Part of application is least. So much calculation process.

Participants were interested in the opinion for the course and were asked their opinions on this matter. Themes obtained after expression of the participants is shown in Figure 3.

![Figure 2. Contribute of the program to the students](image)

According to the statements of the participants; 10 participants, in the previous TEF program, stated that given to them the same or similar content courses with courses taken. 2 participants, although some courses taken as electives, stated that he had given them an obligatory manner. Also 2 participants, of the courses, in order to grasp the logic of engineering stated that given to them. Finally the 6 participants, to graduate from this program, stated that there are too many lessons to be successful. Some of the statements of the participants about theme are as follows.

**K2:** Some courses have seen the same license. We solve our knowledge even in the license. But some lessons elective courses, taking mandatory served. It also comes as a farce, so, close to
approximately 7 courses, we are having already 14 courses, electives that 6-7s. Selective also, why we do not choose. Maybe we could choose according to our interests better. For example, suppose my interest in computer networks security, but may not interest some of your friends. For example, may be interested in entrepreneurship.

K6: And actually, I think, number of courses which we should take are certain, anyway. It was called that schools can increase up to 15 hours. While this, choice also mandatory. Normally elective courses but they gave to us as mandatory. The program is planned pursued in additional courses of teacher concerns. So, that is not considered as is it efficient to students, is it appropriate the purpose of this program.

The views of participants for program were also curious. After they have expressed their views question of “Have you had a problem with program?”, themes for the program is shown in Figure 4.

![Figure 4. The views for the programs](image)

According to the statements of the participants; 3 participants, the program of the course instructors, they have stated that they will help point them in trouble. Furthermore, in contrast to this situation, 2 participants stated that assist them, the course instructor of the program. Finally, 2 participants stated that, they were excluded by some teachers in the program or they felt like they excluded. Some of the statements of the participants about theme are as follows.

K4: Once, so it was not too close to the environment in environment of license. So when we compare with it. That is not a problem as exclusion. Though we’re a daytime student, we could enter into a very comfortable with night classes. We have entered even. In fact, due to the overlapping problems in some exam days, we could enter the exam, even at night. Instructors helped us a lot in this regard. So we not faced with such a situation of exclusion.

K8: Exclusion, before starting school is rife with speculation. Here, forums, an attack is engineering complete program. From the other side, in the same way had the most negative quarrel against them but of course we start with a preconception here let’s come on, we are sincere with students when we entered the classroom. Because of we have tens of years to mature a bit. Of course, we had a some friends who are teacher. My friends were working. Of course, we approached a little maturity event. We have no shortage of life originating from students. We even study with together. But our a few teachers told us that clearly he does not like us in front of the whole class, one of our instructors. I gave her name later. Other instructors are very moderate. So government gave you a right. I’m telling you the most teacher’s mentality. Anyway, the government gave you a right. We too, we have to learn you like other students. If you can pass, you pass. So who deserves passes may approach like that. Our one or two teacher, directly, personally, in the classroom, they gave us a response like I do not like the complete engineering students and in the environment that we don’t have, to other students, they have used the expression that “I personally won’t pass completing engineering students”. Our hands and our arms linked on this topic. Where we try to complain, this subject will not change. The guy have failed us from the course. So obviously you pass the 8 courses successfully, but you fail at the
man’s two courses. So this is a question mark. It is not a research question like “why pass this man courses successfully and why fail this man’s courses”. And here bad faith of the teacher is clear. But neither university nor HEC can anything and nor us. We started to spread the process. Let's see what next year will bring us, obviously we are standing.

Discussion

According to findings obtained from the study, the participants during the engineering completion program, the datas were obtained for the course instructors, classes, attendance to the courses and contribution of the program to them. When we look at the attendance of participants to the course; attendance of all of the participants in the working stated that negatively affected. In addition, two of the participants expressed, the location of the program they are enrolled, is far from the places where they work or live in is likewise stated that attendance or continue to adversely affect. Between the views of the program they are enrolled for their contribution, the program make contribution to them and course titles are too theoretical.

They have stated that the respondents for their views on the course, 7 participants, course or similar to the courses they have seen the previous license period is noteworthy that they are expressing the same content. In addition, prior to the making of the program record, compared to the number of courses they have declared that they have to take more courses. In addition, some participants stated that they were uncomfortable forced to give them the elective courses.

The program they are enrolled whether they are experiencing any problems, the participants offer different answers. Participants, the teachers in the program, they helped themselves and some participants stated that the teachers that they would help them in the program and stated that they will not be required as a condition exclusion. Among the reasons for the different answers, due to studying in different schools, the teachers in the program they are enrolled said to be effective in terms of their point of view.

Conclusions and Recommendations

For the first time after many years in Turkey, Completion Engineering Program beginning in the academic year 2013-2014, it is seen that problems arise. Among the problems mentioned, due to the work of the participants, continuously course they do not follow is indicated as the main problem. According to the undergraduate program, before they graduate, to be more theoretical courses is another problem that indicated by the participants. In addition, no more than the specified number of courses to be taken and the earlier the same or similar license to have their courses on the program of the course reduce the motivation of the participants. Finally, to complete the engineering program while they learning, some programs of that help participants, in some programs are not helpful, incoming students with complete engineering were exclusioned. In accordance with the results obtained from this study can include the following suggestions:

- For working students, the course is suitable day and time can affect student participation in a positive direction.
- Same as the number of courses in all faculties may resolve injustices on the number of courses.
- There are courses for engineers and students should be sure that the lessons have not mentioned before.
- The program must be corrected for the students of view.

References