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Stance of Undergraduates of Department of Construction at Vocational High Schools Upon Technician Training and Expectations from Both Higher Education Institutions and Governments: Sample of Vocational High School University of Düzce

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Abstract: The goal of the study is to specify both opinions of undergraduates of department of construction at vocational high school over courses they take all through their education and expectations of them from authorities regarding technician training. For this reason, a questionnaire is carried out for seniors at department of construction of vocational high school of Düzce, T.R University of Düzce. According to the research, the seniors state they think they are going to benefit most from courses of Computer-Assisted Design, Ferroconcrete, Works of Quantities and Specifications, Statics of Construction and System Analysis and Design. % 50 of seniors state laboratory opportunities are on sufficient level; more than half of them state the education they have taken enables to work in this profession. % 40 of seniors expect from the administration to increase opportunities of practices (laboratory, land, computer…etc). Their leading expectation from governments is to improve signing authority. Training higher-up, improving job opportunities and developing laboratories- implementation areas succeed the expectation.

Key words: Civil Technician, Vocational High School, Technician Training, Laboratory Practices.

Introduction

In Turkey, technician training started in 1953. In 1962, in technician schools totally 3700 students had received training including, 22 trainings in the evenings and 4 during the daytime. With the participation of technician schools which were opened in 1965 in Istanbul (*night*) and Ankara (*daytime*), technician training had continued until 1967. Due to various reasons, in 1967 technician training and in 1972 upper technician training had been brought to an end. In 1975, 45 colleges were opened bound to The Foundation of Common Higher Education (YAY-KUR), in 1979 the number of technician schools were increased up to 59, including 45 vocational high school. In 1982, vocational high schools were committed to the universities by being illustrated to Law No 2547 in Higher Education Law. The number of vocational high schools which were alienated to the universities in 1982 is 44. In 1997, the number of Vocational High Schools was around 400. Students who graduate from technical programs of Vocational High Schools are called "Technician", and the students who graduate from social programs are called "Vocational Staff Member". Entrance to the Vocational High Schools is provided with OSS. During the academic year of 1996-1997, approximately 68 thousand students registered for the Vocational High Schools. During the academic year of 1996-1997, approximately 150 thousand students were trained in Technical Programs of the Vocational High Schools (109 program), Economics and Administrative Programs (40 Programs) and Health Programs (18 Program). (Gürbüz, 1997, p.1).

In consideration of the academic year of 2002-2003, 262 types of programs were provided in 474 vocational high schools. These are collected in three basic groups including Technical Programs, Economics and Administrative Programs and Health Programs. The number of associate degree programs in the Faculty of Open Education is thirteen. In Public Universities mostly technical programs, in foundation universities and open education associate degrees mostly social, economics and administrative programs are applied (Kaya, 2005).

Today in our country vocational high schools are divided into five departments including Department of Skilled Trade Program, Department of Economics and Administrative Program, Department of Health Program, Department of Technical Program and Department of Agrarian Program. Every single department is divided into programs as well. Construction Program takes place in the Department of Technical programs. According to the OSS 2008 Choice Guide (TRNC included), 63 universities include construction program. According to OSS 2008 Choice Guide (2^{nd} education included), total quota of 2 year construction programs is 6650 students (OSYM, 2008).

The level of higher education is a system determined to provide to be recognized mutually in a national and international scale along with providing a compatibility between the qualifications earned through training and research, given degrees (Bircan,2008,p.2)

Vocational High School: It is the only High School which cultivates the qualified manpower the industry needs. Vocational High Schools cultivates manpower with the title of technician and vocational staff member (YOK, 2004, p.10-26)

The criteria in Vocational High Schools are determined according to the student number before the academic year. These criteria are;

11. Physical conditions of the unit which will go into operation (classroom + laboratory + workshop)

Computer Hardware;

Up to 60 students, 60 students included, 2 computer centers with internet connection for 30 students
Between 61-150 students 3 computer centers internet network connection for 30 students
Between 151-240 students 4 computer centers internet network connection for 30 students
Between 241-330 students 5 computer centers internet network connection for 30 students
Between 331- 420 students 6 computer centers internet network connection for 30 students
Between 421-510 students 7 computer centers internet network connection for 30 students
Between 511- 600 students 8 computer centers internet network connection for 30 students
Between 601-690 students 9 computer centers internet network connection for 30 students
Between 691-780 students 10 computer centers internet network connection for 30 students

Physical conditions;

For each program minimum two classrooms,
For the teaching staff two offices,
Library supporting the program,
Considering every program type, proper workshop practice area and materials [May not be necessary in some social programs] (YOK, 2003, p.7)

Technician: Technicians can be defined as vocation members who completed their associate degrees, cultivated according to the needs of the industry with the necessary information and qualifications as a result of the training they received, know how to reach the information, have ability to solve problems, have improved the ability to take a decision, have accepted the necessity of a lifelong education, have completed the development considering human relations, know another language at a basic level, use computer basically and for their jobs, can contribute to the social, cultural activities either directly or indirectly. Technicians have more theoretical knowledge than the other technicians whom they collaborate together as a team. From another aspect, they are technical employees who have no problems in perceiving the orders they get from senior managers due to their positions, who are in control of practice, who can easily pass an order to another employee or can create a solution in event of a problem (Solar Commission, 2007, p.1)

Building technician; composes the vocational group who work actively as a technical employee in construction buildings such as, barrages, roads, airports, dwellings, etc., natural resources, transportation/ highway, construction departments and material testing laboratories of the controlling firms and public and local administrations. From the highway, bridge, barrage, airport, water carry / distribution systems and dwellings to the trade center, technicians play an important role in plans, projects, and construction and control steps of every building. (MEB-YÖK, 2002, p. 9)

Law No 4702, provides the integrity in vocational and technical training. The first level of vocational and technical education in Turkish education is vocational and technical secondary education, and the second level is the associate degree given in vocational high schools. These two levels of education should be continuation and complement of each other (Kaya, 2005). The lessons taught in the Department of Technical Programs, Construction Program of the universities are arranged within MEB-YÖK Vocational High School Program Development Project.

Düzce Vocational High School is chosen as a sample in this research and the courses taught for four semesters are included in Chart 1.

1st SEMESTER

Optic Code	Name of the Course	Theoretical	Practical	Credit	Type
101	Mathematics-I	3	1	4	P
103	Computer- I	1	1	2	P
105	Scientific Principles of Technology	3	1	4	P
107	Construction Static I	2	1	3	P
109	Construction Technology I	2	0	2	P
111	General and Technical Communication	1	1	2	P
113	Material Science and Construction Material	2	1	3	P
115	Mechanical Drawing	2	0	2	P
121	Turkish Language I	2	0	2	P
123	Principles of Atatürk and Revolution History-I	2	0	2	P
125	English I	4	0	4	P
127	German I				P
129	French I				P
131	Physical Education I	0	1	0	E
133	Fine Arts I	0	1	0	E
		Total		**28**	
2nd SEMESTER					
Optic Code	**Name of the Course**	**Theoretical**	**Practical**	**Credit**	**Type**
102	Mathematics-II	3	1	4	P
104	Computer- II	1	1	2	P
106	Construction Static II	2	1	3	P
108	Construction Technology II	1	1	2	P
110	Beton Technology	3	1	4	P
112	Resistance	2	0	2	P
114	Construction Architecture and Detail Drawing	2	1	3	P
122	Turkish Language II	2	0	2	P
124	Principles of Atatürk and Revolution History-II	2	0	2	P
126	English II	4	0	4	P
128	German II				P
130	French II				P
132	Physical Education II	0	1	0	E
134	Fine Arts II	0	1	0	E
		Total		**28**	
3rd SEMESTER					
Optic Code	**Name of the Course**	**Theoretical**	**Practical**	**Credit**	**Type**
201	Computer Supported Design I	1	1	2	P
203	Soil Mechanics I	2	1	3	P
205	Topography	2	2	3	P
207	Iron Concrete I	2	2	3	P
209	Construction Establishment Knowledge	2	0	2	P
211	Office and Construction Site Organization	3	0	3	P
213	Steel structure I	2	0	2	P
221	Hydraulics and Hydrology	2	1	3	E
223	Highway Construction I	2	1	3	E
225	Loss Assessment in Construction I	2	1	3	E
227	Vocational Foreign Language	2	1	3	E
229	Wooden Constructions	2	1	3	E
231	Prefabricated Constructions I	2	1	3	E
		Total		**24**	
4th SEMESTER					

Optic Code	Name of the Course	Theoretical	Practical	Credit	Type
202	Computer Supported Design II	1	1	2	P
204	Soil Mechanics II	2	1	3	P
206	System Analysis and Design	2	2	3	P
208	Iron Concrete II	1	1	2	P
210	Quality Assurance and Standards	1	1	2	P
212	Business Management	1	1	2	P
214	Footage and Detection Work	3	1	4	P
216	Steel structure II	2	0	2	P
222	Water Supply and Waste Waters	2	1	3	E
224	Highway Construction II	2	1	3	E
226	Loss Assessment in Construction II	2	1	3	E
228	Entrepreneurship	2	1	3	E
230	Masonry	2	1	3	E
232	Prefabricated Constructions II				
		Total		**26**	

Table 1. Düzce Vocational High School Department of Construction Course List
(Düzce Üniversity, 2008)

Students who achieve the final grade which universities determined, who complete required assignments, projects, model applications in the required norm; students who complete sixty work days of internship based on industry in two academic years and students who reach grade points average when they graduate get "Construction Technician" title.

Literature Research

High Education includes all educational institutions which provide higher education minimum two years. The aim of higher education is; "to educate students towards their interests, abilities and talents, to make researches on scientific fields, to publish research-observation results which enable science to improve, to complete the researches and observations required by the government and inform the results, to spread the information orally and in writing which improves the level of Turkish society and enlightens common opinion, and to serve in mass education considering the country's science policy, society's need for manpower at high levels and various levels." Examining the statistic of the students graduated from high school between years of 1997-1998 and 2002-2003, majority of the graduates are found in the year of 1997-1998 with the number of 541.163. In spite of the fact that this number reduced in the following two academic years, it increased in 2001-2002 and 2002-2003 and exceeded half million. This shows that; in the near future, approximately half million new student will apply for high education. (Yağcızeybek, 2008, http://zulfikar.forumup.com/about1018-zulfikar.html)

With the influence of politics, vocational high schools continued to be opened in districts in order to prevent the buildup in universities, to cover the need of manpower, etc., and in the year of 2005 the number reached 555 from the number of 412 in the year of 2001. Majority of these schools have continued the education for the sake of qualified manpower in the buildings which are not suitable for education, and which are devoid of laboratory materials. There are even schools in which there is not a teaching staff. The lack of teaching staff is at the peak. There are schools which can not compose their administrative board. (Henden et, 2005)

Vocational high schools had been stimulated for the variety of programs. The education of every profession was tried to be increased to the associate level and studies had been made towards this. Some of these diversification are, for example, programmes of bus driving, hair dressing, nut expert and etc. The aim is to satisfy the needs of environment. In the line with this purpose, the number of opening programme in vocational higher schools reaches 275. However, some programmes are combined by board of higher education on the account of the fact that vocational high schools' programme diversity creates appellation conflict. In this context with the 04/12/2001 dated decision of Higher Education Executive Council programmes were developed within the scope of "Vocational and Technical Secondary Education Institutions Programme Coherence and Continuity Projects." With the 19/07/2002 dated and 2002.27.2090 decision of Higher Education Institution 75 programme were developed and by associating lowered to 15. Association and aggregation were not argued enough in public opinion and the thoughts of related instructors of Vocational High Schools were not taken or if it was taken, it did not considered sufficiently. Although it is thought that association of programmes which have the same

contexts is an appropriate decision, the associations of some programmes which have different contexts mostly affect the students who choose these programmes. For instance, students who win the drawer programme were placed to construction programme. When students come to school to enroll into drawer programme and when they learn they have to enroll into construction programme, it is seen that as a reaction they do not enroll into school. Also from students who want to enroll into school an application for enrolling in construction programme is wanted. Because students who win drawer programme were forced to enroll construction programme, after a while it is seen some of these students drop out. (Henden et.,2005)

Vocational and technical education aims to raise producer people. Vocational and technical education system which can response to needs of skilled and technical of labor market in terms of quantity and quality can have a positive effect in the increase of Turkey's competitive power in the Global market. Between the efficiency of vocational and technical education system and the quality of teachers of shop classes, there is a strong relationship. (Yağcızeybek, 2008, http://zulfikar.forumup.com/about1018-zulfikar.html)

Vocational higher school students who go to vocational high school which is associated with vocational higher schools can not benefit from university instructors because of insufficient number of instructors and the distance of associated higher school and similar causes. Mostly high school teachers are appointed to these students' lessons. Students can become university graduate without entering the university environment. Although these students do not enter the university environment and do not take university culture, how can we say these students are university graduate? Thus, students who are in associates MYO schools express that they do not want to come to MYO and do not want to take education in guest high schools because teachers of vocational high schools enter the lessons there that they do not see any difference and also benefiting from same workshop does not provide a plus them. Students announce that they want not associate high schools with MYOs but MYOs and they also want to leave vocational and technical education areas (METEB). (Henden et.,2005)

Erdem prepared an investigation which consists of 45 questions. Questionnaire was applied to randomly chosen vocational higher school graduate group which has 144 person and the results were evaluated. According to study findings, from 114 person the percentage of %20.41 believe that during their education in their schools they take lesser skill about their basic skill; %44.10 believe that they take medium level education; and %34.50 believe that they take higher level education. It is seen that graduates information which is taken from vocational higher school use them %14.00 very little; % 16.60 little; %46.50 medium level; %24.60 higher level while solving a problem about their job. %35.00 of graduates work as worker while %44.00 as member of profession, %10.30 as manager and %9.70 as the owner of business office. Graduates can understand a text in foreign language at least %46.80 and talk a foreign language at least %50.80. Also it is seen that at least %54.40 of these graduates can use computer. Which easiness was there for the assessment of your spare time in your graduate school? %21. 90 of respondents claim they have none and %44. 70 claim they have less than three options. %69.80 expresses that although they have library in their school, they cannot benefit from it effectively. %42.60 of respondents believes they had a qualified education their graduate vocational high school. %60.30 prefers to take education in a vocational higher school which has international standards and complete its development rather than a newly opening faculty. %70.40 of the participants of questionnaire believes that apart from the permanent instructors for reaching a more qualified vocational higher school education, from experienced employee of production and service sector should be benefited. %56.50 of respondents does not believe they had a qualified education in their vocational higher school. (Erdem, 1999).

Goal and Method

Goal

The aim of this study is to determine the thoughts of students of construction programme about the lessons they take during their education and the expectations of these students about construction technician education from authorized persons.

Method

In this study as an example students who are in second year in T.C. Düzce University Düzce Vocational Higher School Construction Programme are chosen. A Questionnaire is applied to 64 students who take the education of construction technician in Düzce Vocational Higher School Construction Technician Programme. The results obtained are explained by using frequency, percentage and graphic representations.

Questionnaire application was done in 2009-2010 academic year spring semester before final examinations. Thus, it is aimed that students who are about to graduate can evaluate their education.

Findings and Comment

Lessons in education of Construction Technician

Düzce Vocational Higher School was opened by depending on ministry of national education under the name of technical and social sciences departments in the year of 1976. In 1992 it is connected to Abant İzzet Baysal University and in 2006 with the foundation of Düzce University, it is connected to Düzce University. (Düzce University, 2008).

According to applied questionnaire results to students who are about to finalize their two year education in Düzce Vocational Higher School, 55 of the total 64 students are male (%85.94) and 9 (%14.06) of the them are female.

While %67.19 of the participant students take place in the range of 17 and 21 years old, %32.81 of them are between 22-25 years old. There are not any students who are older than 25 years old. The age range appears low and this shows that more than the half of the students begins to university education at the latest two years after they finish their high school education.

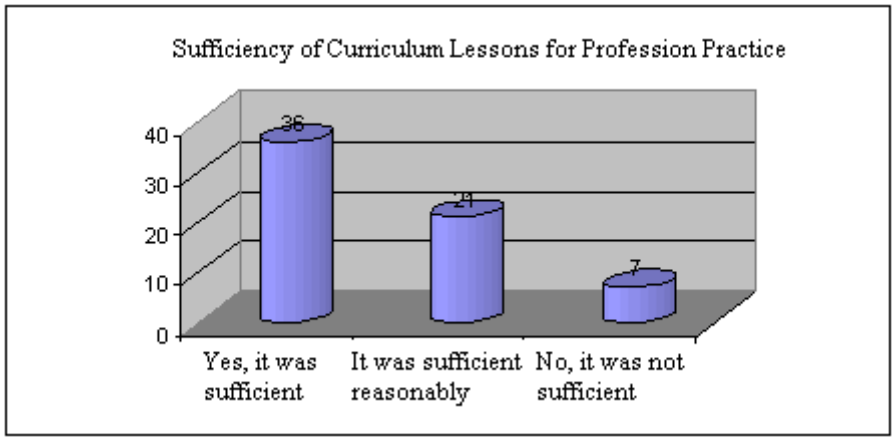

Figure 1. Sufficiency of Curriculum lessons for profession practice

When it is asked whether their technician education which continues two year they take curriculum lessons is sufficient to perform that job; 36 students answered (% 56.25) as "yes sufficient," 21 students (%32.81) as "it was sufficient reasonably," and 7 students as (%10.94) "no, it was not sufficient." An important number of construction technician applicants who are in construction programme and who will be graduate after final examinations think the education they took is enough for the practice of this profession. (See Graphic 1)

Technical Programmes Departments of Universities are the places in which students learn information and skills which are belong to a technical field (construction, drilling, food, computer technology and programming and etc). Each technical programme should provide a technical education and through which students can realize that profession after their graduation. Students who take construction technician education after their graduation in the light of their knowledge which is taken from higher school will perform their professions. In the frame of committed questionnaire students who are about to graduate were asked: "Please mark the five lessons which do you think will help you mostly in your vocational life?" 55 (%85.94) of the total 64 students "computer aided design", 40 of them (%62.50) "ferroconcrete" 40 of them (%62.50) "quantities and budget estimates", 32 of them (%50.00) "construction statistics," 27 of them (%42.19) "system analyses and design" lessons will be very beneficial for them in their vocational life, they think. According to questionnaire results the lessons "entrepreneurship," "prefabricated structure," "quality assurance and standards," "building installations knowledge," and "masonry units" are the lessons students think they will not benefit them from them very much from these vocations.

When students were asked "please mark five lessons which do you think benefit in your profession life?" as a response 28 (%43.75) students mark "scientific principles of technology," 28 (%43.75) students "business economics", 27 (%42.19) students "quality assurance and standards", 26 (%40.63) students "general and technical communication", 25 (%39.06) students "soil mechanics".

According to data, students generally think that the lessons which have the context of project design, project design calculation and calculation via project will be more beneficial in their profession life. Nowadays because the preference computer aided programmes being practical and dependable can be a cause of this thought although it is not certain.

In the frame of two year construction programme with the guideline of determined programme and lesson context by YÖK education is done in higher schools. In the frame of questionnaire the question "if you have the chance while taking education in construction technician department which three lessons do you want to take in a more detailed way?" to students who are applicant to do construction technician profession. While more than the half of the students (36 students, %56.25) want to take "quantities and budget estimate", 17 students (%26.56) "building statistics" and 13 students (%20.31) "concrete technologies" lessons in a more detailed way.

The applicants of construction technicians "lessons which they think they benefit most in their profession life" afore is determined as "computer aided design", "ferroconcrete," "quantities and budget estimate," "building statistics" and "system analyses and design." Students also "want to learn some lessons in a more detailed way" such as "computer aided design," "ferroconcrete", "quantities and budget estimate," "building statistics," and "concrete technology". As it is seen the lessons show consistency with each other. The students of construction technologies want to learn the lessons which they will benefit mostly in their profession life in a more detailed way.

Training hardware and education applications in construction technician education

In the scope of the questionnaire when it is asked "whether they have enough laboratory in their schools" to construction technician graduate students, 23 (%35.94) students of total 64 students response as "yes, there is" while 32 students (%50.00) "there is in medium level" and 9 students (%14.06) "no, there is not." %85.94 (50.00+35.94) of the students, who take two year technician education, expresses "there is enough laboratory possibility." (See, graphic 2)

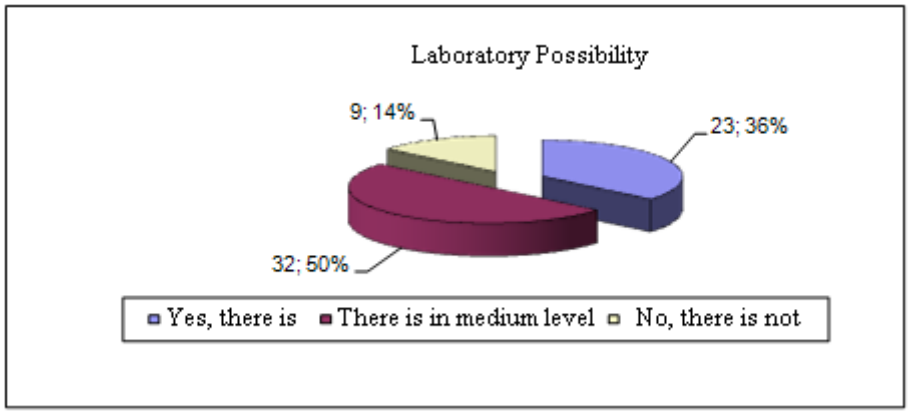

Figure 2. Laboratory Possibility

To construction technician applicants during their education it is asked "whether they make enough computer application." 7 students (%11.00) express that they make "very much" application, while 13 students (%20.00) claim they make "enough" application, 28 students (%44.00) say they make "medium level" application, 9 students (%14.00) say they make "little" application and 7 students (%11.00) claim they make "very little" application. %25.00 (%11.00 + %14.00) of the participants of students think that "computer applications are not performed enough or done little application."

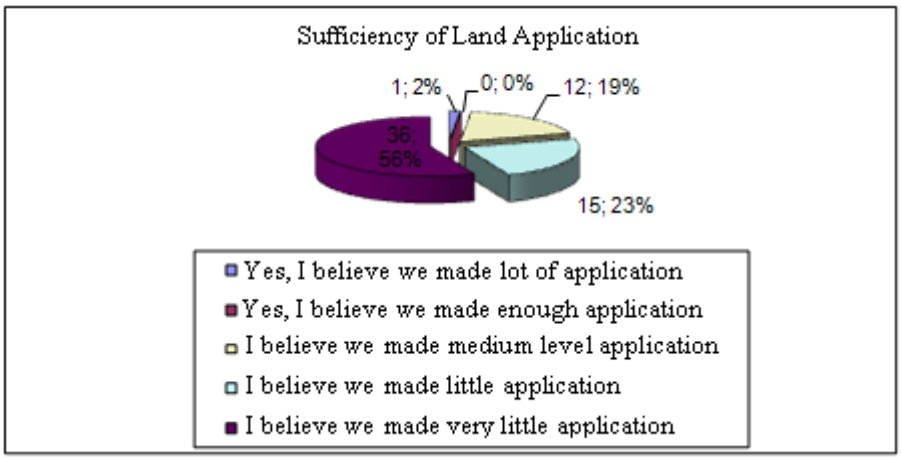

Figure 3. Sufficiency of land application

When it is asked "whether they made enough land application" to construction programme students, 36 students (%56.00) response as the made very little application" 15 students (%23.00) claim they made "little" application, 12 students (%19.00) say they made "medium level" application and 1 student (%2.00) claims they made "very much" application. No one from the surveyed students mark the option "yes, I believe we made enough land application." When the response of asked questions are examined, it is appeared that only %2.00 of the students believe they made "very much" or "enough" land application. %78.00 (%56.00 + %23.00) of the surveyed students think that they made "little" or "very little" application. Land application in technician education provides students to perform their theoretical knowledge in practical way in application areas. Because of the littleness of land application, it is possible for students to have hard times in their profession life after their graduation.

In the ÖSS examination of construction programme, students can select this programme from the "computational" point type. The student who will graduate from construction programme will have the title of "construction technician." In other words, this student will be "craft". Solving a problem is one of the essential factors for one craft because a craft should have the practical calculating and solving skill. In this context when it is asked to students who will take the title of construction technician "whether they made enough problem solving", 4 students (%6.00) express they made "very much" application, 12 students (%19.00) claim they made "enough" application, 18 students (%28.00) say they made "medium level" application, 17 students (%27.00) claim they made "little" application and 13 students (%20.00) suggest they made "very little" application.

Expectations from authorized institution and organization

The expectations of students from education system are directly proportional with their future planning. According to their future goals, students have some wish and demand from authorized institutions and organizations.

For the purpose of the determination of the expectations of students who are about to graduate from Düzce Vocational Higher School with gaining related necessary theoretical and practical knowledge a questionnaire is performed and it is asked students to write their expectations with from the manager of Düzce vocational higher school and higher school management with the questions about these issues.

EXPECTATIONS FROM HIGHER SCHOOL MANAGER	FREQUENCY	PERCENTAGE
Enhancement in application possibilities	23	40.35
Active academic programme	13	22.81
Enhancement in technical visits	10	17.54
Enhancement in laboratory possibility	7	12.28
Preservation of existing order	1	1.75
Renewal of education staff	1	1.75
Enhancement in the dialogue with teachers	1	1.75
Enhancements in social possibilities	1	1.75

TOTAL	**57**	**100**

Table 2. Expectations from Higher School Manager

To surveyed students are asked about "their expectations from the higher school manager of their school." This question is asked as an open ended comment and while 57 students of the total 64 students writing about their thoughts, 7 students does nor express any wish and demand. 23 students (%40.35) from 57 respondent students have the expectations of "enhancements of application possibilities," 13 students (%22.81) want the "preparation of active academic programme," 10 students (%17.54) want "the enhancements of technical visits," and 7 students (%12.28) want "increase in laboratory possibilities." "Preservation of existing lesson plan and social possibilities," "renewal of academic staff," "the enhancements of social possibilities" and "enhancements in dialogue with teachers" take place among the low ratio (%1.75) expectations. From this it is understood that students have expectations about "more application possibilities" and "more application field" from higher school management. (See table 2).

Expectations from YÖK President	FREQUENCY	PERCENTAGE
Circulation of education in a longer term	6	17.65
Giving signing authority to technicians	6	17.65
Abolishment of open admission	4	11.76
Giving attention on applied training	4	11.76
Abolishment of unnecessary lessons	4	11.76
Abolishment of the difference between engineer and technician	3	8.82
Making amendments in DGS	2	5.88
Enhancement in lesson hours	2	5.88
Making introduction which makes department more important	2	5.88
Auditing of teachers	1	2.94
TOTAL	**34**	**100**

Table 3. Expectations from YÖK President

In the survey, technician candidate students were also asked about their expectations from YÖK. While 34 students from total 64 students were writing something to this open ended question, 30 students did not write any wish and demand. 6 students (%17.65) from the total 34 respondent students express their expectation as "circulation of education in a longer term," 6 students (%17.65) as "giving signing authority to technicians," 4 students (%11.76) as "abolishment of open admission," 4 students (%11.76) as "giving attention on applied training," 4 students (%11.76) as "abolishment of unnecessary lessons," 3 students (%8.82) as "abolishment of the difference between engineer and technician," 2 students (%5.88) as "making amendments in DGS," 2 students (%5.88) as "enhancement in lesson hours," 2 students (%5.88) as "making introduction which makes department more important," and 1 student as "auditing of teachers." (See, Table 3). From this it is understood that students want more detailed and longer education about their department.

One of the most important expectations of students from YÖK is "giving the signing authority to technicians." However, this authority was given within certain limits by Ministry of Public Works and Settlement. Thus, in February 5, 2008 "the building control application regulations" of Ministry of Public Works and Settlement became valid by issuing in official journal. With the 15th item of regulation, as per building site the limits of audit mandate is given as following:

Technical instructor (Building, Machine, Electric)	**Technician** (Building, Machine, Electric)	**Techie** (Building, Machine, Electric)
15.000 m²	**10.000 m²**	**5.000 m²**

Table 4. Limits of audit mandate (Ministry of Public Work and Settlement, 2008)

According to regulation, the audit mandate limit of building, machine and electric technician is 10.000 m². Through responses it is understood that some of the students do not know about this authorization. (See, table 4).

EXPECTATIONS FROM POLITICAL POWERS	FREQUENCY	PERCENTAGE
Giving signing authority to technicians	5	45.45
Providing higher level education possibility	2	18.18
Providing job opportunity	2	18.18
Enhancement of Laboratory and application fields	1	9.09
Providing equality in education	1	9.09
TOTAL	**11**	**100**

Table 5. Expectations from political powers

For the purpose of determining the expectations of students from political powers, to the asked open ended question 11 students from the surveyed 64 students give answer but 53 students do not express any wish and demand. 5 students (%45.45) from the respondent 11 students are in the expectation of "giving signing authority to technicians," 2 students (%18.18) are in the expectation of "providing higher level education possibility," 2 students (%18.18) are in the expectation of "providing job opportunity," 1 student (%9.09) is in the expectation of "enhancement of Laboratory and application fields," and 1 student (%9.09) is in the expectation of "providing equality in education." (See, Table 5). When we look at the students' expectations, they want to have an application improvement in their education and they want to have an enhancement in authority, responsibility and job opportunities related with their education field.

Results and Suggestions

Results

- Male students (%85.94) are predominant in the education of construction technician education.
- A large proportion of the students are in the range of 17-21 years old (%67.19).
- More than the half of the graduate students (%56.25) indicates that the lessons in the curriculum are enough for the application of this profession.
- According to questionnaire results, if there is possibility the students want to take following lessons in a more detailed way because they think these lessons wil be very beneficial in their profession life: (%85.94) "computer aided design", (%62.5) "ferroconcrete", (%62.50) "quantities and budget estimate", (%50.00) "building statistics" and (%42.19) "system analyses and design." The lessons Atatürk Principles and history and Turkish language are excluded from this question.
- According to questionnaire results, the least beneficial lessons in students profession life are (%43.75) "Scientific principles of technology", (%43.75) "business economics", (%42.19) "Quality assurance and standards", (%40.63) "general and technical communication" and (%39.06) "soil mechanics."
- %50.00 of students indicates that laboratory possibilities are in "enough level." While %36.00 of students think there is "medium level" laboratory possibility, %14.00 of students claim "there is not enough laboratory possibility."
- %25.00 (%14.00+ %11.00) of students think "laboratory applications are not done sufficiently."
- A large proportion of the students (%56.00+ %23.00) think "field applications are not done sufficiently or done very little."
- In the subject of enough problems solving students have different thoughts. While %25.00 (%6.00+ %19.00) of students think "lot of and enough application is done," %47.00 (%27.00+ %20.00) of students believe "little or very little application is done." On the other hand, %28.00 of students thinks "medium level application is done."
- %40.35 of students is in the expectation of "enhancement of application possibilities" from higher school management. "Arrangement of active lesson plans," "enhancements of technical visits," and "enhancement of laboratory possibilities," follow aforementioned expectation respectively.
- Students' expectations from YÖK also show variety. Some these main expectations are "circulation of education in a longer term" (%17.65), "giving signing authority to technicians" (%17.65), "abolishment of open admission" (%11.76), "giving attention on applied training" (%11.76), and "abolishment of unnecessary lessons" (%11.76).
- The main expectation of students from political powers is "giving signing authority to technicians" (%45.45). "Providing higher level education possibility" (%18.18), "providing job opportunity",

(%18.18), “enhancement of Laboratory and application fields” (%9.09), “providing equality in education” (%9.09) follows the aforementioned main expectation.

Suggestions

According to obtained data, the possibility of lessons which take place in higher school curriculum and theoretical knowledge application use of students should be increased. Hence, they can begin their profession life with a specific level application experience.

Laboratory possibilities which students will use during their education actively should be renewed in a compatible way with the developing technology and new laboratories should be established. It should not be forgotten that learning by “doing- performing” is one of the learning types.

Land applications should be considered as a part of the education and studies which provide more active participation of students to school-industry collaboration should be arranged. Moreover, instructing students about their after graduate authorization will be very beneficial.

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