

**A Reform for Vocational and Technical Education Training Teachers in
Turkey**

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Abstract

Faculty of Technical Education, Faculty of Vocational Education and Faculty of Trade and Tourism Education which used to train teachers for vocational and technical secondary education institutions were closed down and new colleges called Faculty of Technology, Faculty of Art and Design and Faculty of Tourism were opened on November 13th 2009 with the decision by Turkish Parliament due to the employability problems that the graduates of those schools have faced in recent years and the suggestions by the Higher Education Council of Turkey (HEC). These new faculties will train engineering students. Additionally, the graduates of these faculties can also become teachers at the technical or vocational high schools if they get pedagogical courses. Thus, in this study the content, and forecast and implications of this recent reform are discussed.

Key Words: vocational and technical education training, teachers, reform, engineers, pedagogy

Introduction

In 1982, according to new legislation all responsibilities and duties related with higher education were transferred to the Higher Education Council (HEC) and teacher training schools were transformed into faculties of education. These faculties were separated from Ministry of Education and adapted to several universities. Thus, training teachers for technical and Vocational education was nominated to universities under HEC framework. The legislation created a well established relation for co-operation among universities and Ministry of Education. In Turkey, vocational and technical education was arranged by law on education numbered 3308. In TVET high schools, subjects both in theory and practice, are thought by technical teachers (Şimşek, 2004). In vocational education most countries distinguish between vocational subject (theory) teachers and practical trainers (Parsons, Hughes, Allinson & Walsh, 2009). However, for vocational subjects Turkey stood out as the only country, which required that vocational teachers, who were to teach vocational subjects both in theory and practice, should graduate from a four year university vocational teacher degree program at a technical and vocational education faculty (Nielsen, 2004).

Teachers who worked in vocational and technical education institutions were trained in technical educational faculties until 2009. There were three kinds of educational faculties, these were: Technical Education Faculties, Vocational Education Faculties, Trade and Tourism Education Faculties. Education and Training Programs, executed in those faculties, were parallel with the goals and organization of Ministry of Education in Turkey. Technical Education Faculties trained teachers for the following TVET high schools:

- *Technical Education Schools for Boys*, which function under the General Directorate of Technical Education for Boys in Ministry of Education, train young people as semi-skilled labour for national industry. Technical education schools for boys are the secondary education institutions where medium level

technical manpower is trained for the business areas needed by industry and students are prepared for higher education.

- *Technical Education Schools for Girls*, which function under the General Directorate of Technical Education for Girls in Ministry of Education, train medium level technical manpower for the business areas needed by industry and students are prepared for higher education.
- *Trade and Tourism Schools*, which function under the General Directorate of Trade and Tourism and students in Ministry of Education, are prepared for higher education. are the secondary education institutions where qualified manpower is trained for the public and private sectors in areas such as trade, tourism, accounting, computer, finance, marketing, banking, cooperative management, secretarial, real estate commissioning, broker services, insurance services, local governments and communication and students are prepared for higher education (MEB, 2001). .

In 2008-2009 education year, total number of education faculties that trained teachers for vocational and technical education institutions were 27, 21 of which were Technical Education faculties, 3 Vocational Education faculties and 3 Trade and Tourism faculties (Resmi Gazete, 2009). In order to modernize VET teachers training and develop and update VET teachers' competences a project called The Project for the Modernization of the Vocational and Technical Training Institutions (MVET) by Ministry of National Education with European were carried out between 2003 and 2007.

In this study the content, and forecast and implications of the project with EU and the recent reform for Vocational and Technical Education Training Teachers in Turkey are discussed.

The Project for the Modernization of the TVET Institutions (MVET)

The agreement for the project was approved by the European Commission on July 25, 1997, and then signed by the EU, the Ministry of National Education and Treasury under Secretariat and the project was started in 2003. Total cost of the project: € 18,500,000, EU Contribution: € 14,000,000, Contribution of the Turkish government: € 4,500,000, Terms: 4 years.

The aim of the project was to improve the conditions of vocational and technical training and to increase its efficiency, to improve the qualifications of the teachers and to strengthen the capacities of vocational and technical training institutions. Modernization of Vocational Education and Training in Turkey Project (MVET) funded by the European Union MEDA program which was the principal financial instrument of the European Union for the implementation of the Euro-Mediterranean Partnership and which offered technical and financial support measures to accompany the reform of economic and social structures in the Mediterranean partners started operating at 07 July 2003. The overall goal of the project was to further modernize and adapt the system to make vocational education and training more responsive to the socio-economic needs of the country and to the key principles of life-long learning.

The MVET PROJECT was a vital component in improving the quality and relevance of the Turkish Vocational Education Training (VET) system. The up-grading of vocational and technical teacher training was a significant factor in the improvement of the overall VET system. Teachers in the VET system would need to carry out new functions and assume different roles. In order to do this the system for training VET Teachers at both pre-service and in-service levels was planned to be adjusted to facilitate the development of teachers with appropriate competencies and relevant vocational experience. To facilitate assistance for these

activities, MVET Project established five Regional Offices in Ankara, İstanbul, Konya, Elazığ and Denizli (MEB, 2008).

Turkey's 'Modernization of Vocational Education and Training' (MVET) project, which started in 2003 and was completed in 2007, aimed at modernizing VET teachers training. Occupational standards were being developed to update VET teachers' competences. A policy document to define the strategy for the future development of the sector was ready at the end of the project. As the VET teachers training faculties constitute a peculiarity of Turkey's higher education system as compared to EU countries where there are no parallel institutions, this might be an area to reflect upon in a medium-term perspective (Schmid, 2006). The project had four specific objectives:

- To establish transparent national teacher training standards, including the required key competencies for teachers
- To develop new curricula in pre-service and in-service VET TT (Teacher Training) based on these agreed standards (8 curricula to be developed)
- To support the implementation of up to 20 innovative pilot projects in the regions
- To assist in development of Turkish government's mid-term strategy on vocational teacher training

Standards and Curricula Development

The project aimed to develop national vocational teacher training standards across a range of subjects. These standards were tested in 5 pre-service and 3 in-service courses within the pilot project scheme. The standards acted as examples of excellence.

Pilot Projects

The proposed revised modular curriculum was implemented and evaluated through up to 20 innovative pilot projects. These projects were developed by university faculties of technical and vocational education, Vocational Secondary and Higher Vocational Schools,

industry trainers, commerce and the local community. The projects were selected so as to ensure that all categories of vocational teacher training were covered. Innovation was the key to change and to making a VET TT system that was dynamic and responsive to the changing needs of VET. Issues such as life long learning, professional development, distance learning, e-learning, on the job in school training, consecutive teacher training etc within the new framework could be considered for pilot projects. To support bids for the funding and development of innovative projects, benefits from this project can be summarized as follows:

- VET TT standards compatible with those within the EU
- VET TT compatible with the need of schools and industry
- VET teachers better equipped to deal with changing roles
- VET teachers trained to implement the outcomes of the SVET project
- Improved learning environment for VET students
- Assistance to VET faculties in the development of new curricula
- Funds to update equipment for VET TT and Turkish VET TT at the forefront of development of VET TT Standards in the region (MVET, 2006).

As an outcome of MVET project, the requirements of vocational areas with the highest employment potential - Automatic Control (CNC), Electronic, Electric, Computer, Airplane Maintenance and electronics, Cooling and ventilation, Communication and information technologies, Entertainment and food technology- were determined to train teachers for TVET according to the determined standards and curricula development.

Since 2004-2005 school terms, those programs with the new standards and curricula were put into action in fourteen Technical Education Training Faculties throughout Turkey with an in-service education support which cost 8.5 Million Euros. 868 staff 93 of whom were Vocational and Technical High School teachers, 715 university lecturer and 60 representatives of civil clubs were educated in the terms of the project (MEB, 2008).

The Reform for TVET Teachers in Turkey

Although many arrangement and project were carried out to develop and up to date vocational and technical teacher training, Technical education faculties in Turkey completed their missions of 1930's and needed to be redefined and given a new sort of title. As a result; technical teachers performed important duties in Turkish industrial life since 1930's but their position was never redefined since then in parallel with the developments. Their title should be redefined considering the recent developments. This will help them contribute more actively to Turkish education system and industry. There are many similar examples in the world. For instance, in Great Britain, technical education graduates are taking the title "engineer". If the person prefers to be called as "technical teacher", then, she or he can be "engineer teacher" after taking necessary pedagogical courses (Şimşek, 2004).

Graduates of technical education faculties in Turkey had the title of "Technical Teachers". They were employed with this title as a teacher at Ministry of National Education or education department of private companies. Due to problems with authority, however, they did not have equal rights with engineers as the work areas remained limited. In this respect people graduated from the technical education faculties have had trouble in finding a job (Tunçalp, 2005).

Technical education faculties had graduates of more than 3,000 every year but, only 5% were employed by, the Ministry of Education. In 2010 70.000 students graduated from technical education faculties were still expecting to be appointed as a teacher for TVET high schools (Egitimsen, 2010). As it is understood from statistics, only few of graduates of technical education faculties could work as VET teachers. Rest of them served in industry. Although the curriculum of Technical Education Faculties (TEF) was focused on engineering subjects, graduates were not given the titled as "Technology Engineer" or "Production Engineer", which would led higher motivation and productivity for graduates (Şimşek, 2004).

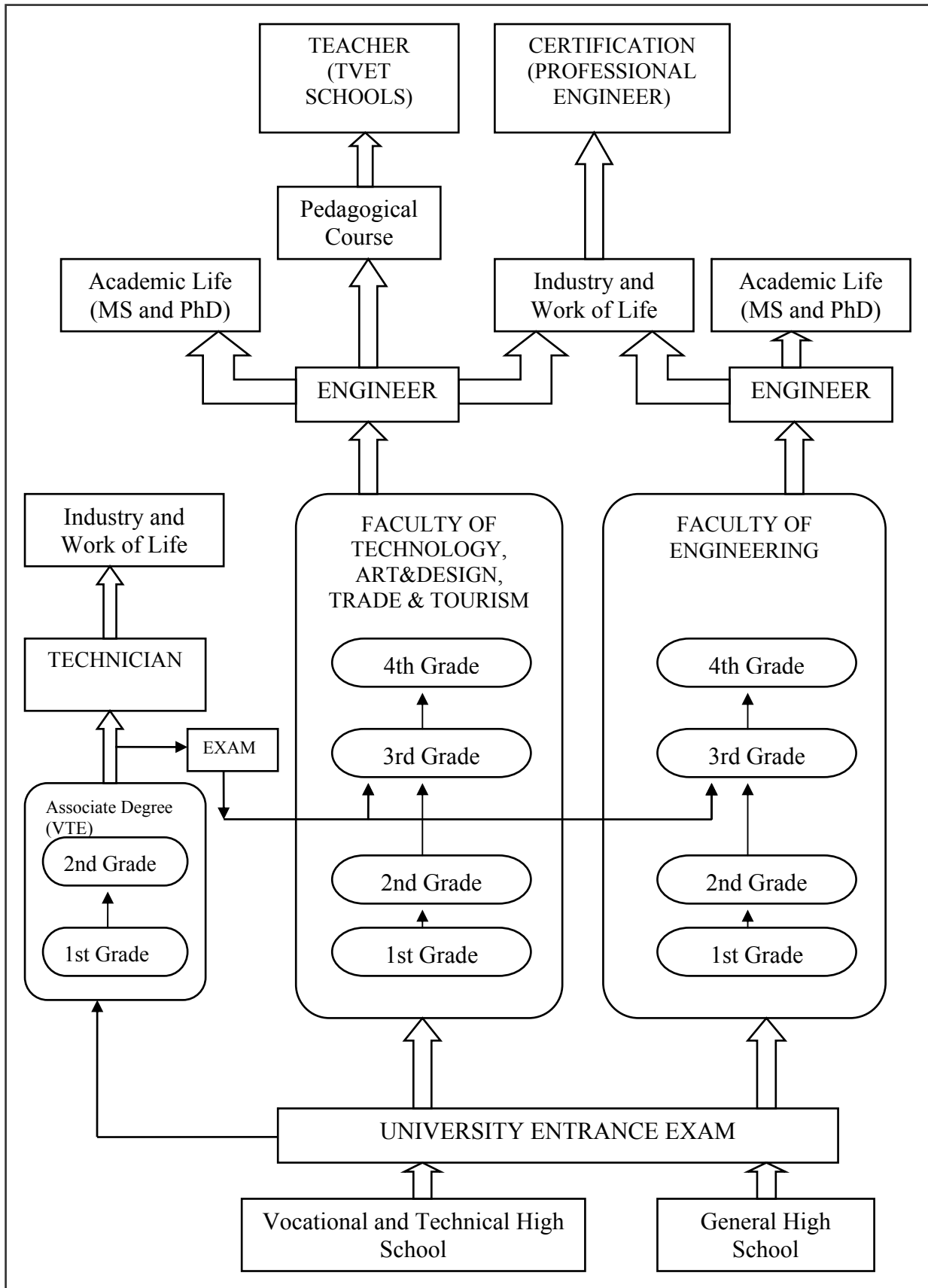


Figure 1. The Model for TVET teachers after the Reform on November 13th 2009. Adapted from Altıparmak D. & Gulesin M. (2008) *The reform in technical education faculties*. Ankara: Gazi University.

Thus, Faculty of Technical Education, Faculty of Vocational Education, Faculty of Trade and Tourism Education which used to train teachers for vocational and technical secondary education institutions were closed down and new colleges called Faculty of Technology, Faculty of Art and Design and Faculty of Tourism were opened on November 13th 2009 by law numbered 15546. By the help of this reform for Vocational Teacher Education in Turkey, the graduates of Faculty of Technology, Faculty of Art and Design and Faculty of Tourism have had a right to get the title of engineer and be employed as an engineer in his or her own study field.

The new model for training teachers for Technical and Vocational High Schools in Turkey which were put into action on November 13th 2009 are seen in Figure 1.

As seen in Figure 1, at higher education level Vocational and technical education is carried out through two-year training in vocational colleges and four-year faculty of technology, faculty of art and design and faculty of trade and tourism education after the reform. Two-year vocational high schools have been founded to meet technician need of industry requirements. The main objective of Faculty of Technology, Faculty of Art and Design and Faculty of Trade and Tourism which are to give a four year education, is to meet the demand for engineers in industrial work life and teachers with a complimentary pedagogical course in vocational and technical high schools, the main purpose of which are to meet the industry, commerce and service sectors needs of qualified workforce and provide successful transition of students for university. .

Discussion, Conclusion and Recommendations

Teacher training faculties for vocational and technical education were transformed into new colleges called Faculty of Technology, Faculty of Art and Design and Faculty of Tourism with the decision made by Turkish Parliament due to the employability problems that the

graduates of these schools have faced in recent years and the suggestions made by the Higher Education Council of Turkey (HEC).

Table 1

Number of Schools, Students and Teachers in Vocational and Technical Secondary Education in the Scholastic Year 2010-2011 (MEB, 2011)

Type of school	Number of schools	Number of students		Number of teachers	
		Total	Total	Total	Per Student
Technical Education for Boys	2172	752272	42765		17.59
Technical Education for Girls	1124	374370	21784		17.18
Trade and Tourism Education	958	400942	19204		20.87
Private education	24	1951	324		6.021
TOTAL	4278	1529535	84077		18.19
General Secondary Education	3327	2002076	104473		19.16

As seen in Table 1, the student/teacher ratio is high in Turkey with 18.19 at an average compared to European countries in which the ratio is about 10 at an average and there is a trend to fall down on behalf of students (Nielsen, 2004). The student/teacher ratio in Turkish TVET high schools is nearly twice higher than those of European countries. Although that issue looks a strain, that high student/teacher ratio can be an opportunity for the graduates of Technical and Vocational Education Faculties to be appointed as TVET teachers when taken into consideration the fact that in 2010 in Turkey 70000 people graduated from technical education faculties were still expecting to be appointed as a teacher for TVET high schools. On the condition that all of the 70000 ex-graduates are appointed as a technical and vocational teacher, the ratio will be approximately 10 students per teacher. Thus this arrangement can solve the unemployment problem of ex-graduates of technical and vocational education faculties.

On the other hand, Higher Education Committee (YOK) is authorized to determine these new faculties as application based on the functioning. applied engineering is defined by The Association of Technology, Management, and Applied Engineering (ATMAE) as the field concerned with the application of management, design, and technical skills for the design and integration of systems, the execution of new product designs, the improvement of manufacturing processes, and the management and direction of physical and/or technical functions of a firm or organization. Applied engineering programs typically include instruction in basic engineering principles, project management, industrial processes, production and operations management, systems integration and control, quality control, and statistics.

Applied engineers are employed in a large and wide-array of industries including: manufacturing, construction, industrial, maintenance, and even management. It is common for industry to use the term "engineer" in their title, except in regions that restrict this. Examples of this use include: Manufacturing Engineers, Process Engineers, Control Engineers, Applications Engineers, Product Engineers, Sales Engineers, Safety Engineers, etc. However, in some regions no one is legally permitted to offer engineering services to the public without becoming a licensed Professional Engineer (ATMAE, 2011). When new faculties are determined as applied engineering faculties, the graduates of those faculties can be employed either as applied engineers in industrial work of life or as a technical and vocational teacher after taking one year pedagogical courses taught by faculties of education in universities.

In conclusion, Vocational and Technical Education Faculties have already completed their mission as training technical and vocational teachers for TVET high schools. The transformation of Vocational and Technical Education Faculties into Technology Faculties for training students as applied engineers is also consistent with applications for the TVET teachers' training in European Countries. The graduates of new faculties will also have a

chance to be appointed as a TVET teacher by Ministry of Education with a complimentary pedagogical course.

Additionally, the demand by industry for applied engineers will be met by the graduates of Technology, Art & Design, and Trade & Tourism faculties. The relations between universities and industry will be closer as a result of training applied engineers. The graduates of Technology, Art & Design, and Trade & Tourism faculties will easily find a job in European countries due to accreditation of the programs. The graduates of Technology, Art & Design, and Trade & Tourism faculties will be looked for qualified work force in industry as the ambiguity in their titles is over. That graduates of Technology, Art & Design, and Trade & Tourism faculties are employed as a teacher for TVET high schools will increase the quality of education and training in TVET high schools and in turn this will attract more students to TVET high schools. Thus the enrolment rate to the VET will eventually reach the target, of 9th Development Plan (2007-2013), which investigated that the 65 % of the students are to be enrolled to the VET.

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