Future of Vocational and Technical Education in Turkey: Solid Steps Taken After Education Vision 2023

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Future of Vocational and Technical Education in Turkey: Solid Steps Taken After Education Vision 2023

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Abstract: Future of vocational education and training (VET) becomes a controversial topic due to its important role in national economic- and social policies. Questions of how to increase the quality of VET and structure VET in era of advancing technology are responded by countries according to their labor markets. Ministry of National Education (MoNE) announced the Education Vision 2023 of Turkey in 2018 and VET is one of the most emphasized topics in vision report. Present study considers the concrete steps to strengthen VET in seven themes, in one-year period after release of Education Vision 2023 in Turkey. Strengthening cooperation with stakeholders, professional and pedagogical development of teachers, supporting diversity in VET, increasing the positive perception of VET, establishment of quality assurance system for VET, improving applied training and qualifications, and social integration through VET are themes related with improvements towards VET. Suggestions are provided for sustaining of improvements towards VET in Turkey.

Keywords: Vocational education and training, education vision 2023, ministry of national education, solid steps

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Introduction

Vocational education and training (VET) is a type of education which aims to provide the students with the knowledge and skills required to work successfully in the specified occupational branches (CEDEFOP, 2009; Cong & Wang, 2012). In this type of education, students are expected to acquire their professional skills through on-the-job training and demonstrate their acquired skills in the labor market after graduation (Ntallima, 2014). In this respect, VET is generally considered as an education type and career path that students can choose at secondary and higher education levels. VET has a strong decisive role in terms of the competitiveness of countries in production and markets (CEDEFOP, 2009).

The importance of VET for countries is not only limited to improving their current economic situation, but also VET comes into prominence in its sustainability (COMCEC, 2018; Odo, Okafor, Odo, Ejikeugwu & Egwuoke, 2017; Viertel, 2010). In this context, the competitiveness of the countries largely depends on the skilled human source which was trained in VET in response to market demands. The training of individuals equipped with professional skills supports economic diversification and sectoral competition (Jagannathan & Geronimo, 2013).

The benefits of a qualified VET system are evaluated under two headings as economic and social benefits. If VET is organized in a qualified way by taking 21st century skills into consideration, then economic growth, meeting the demands of the labor market, increasing firm performance, employee productivity, employment opportunities are expected. Social benefits of qualified VET systems may be defined as relatively low crime rate, social cohesion, participation of disadvantaged groups, and integration of society (CEDEFOP, 2011; NCVER, 2016).

VET has an important role in the socioeconomic developments of countries. In addition, a qualified VET system has potential to benefit individuals, their families and society in short. In fact, one of the main factors underlying the rapid economic development seen in China and European countries like Austria was determined as qualified human source (COMCEC, 2018). Therefore, VET is a type of education that should be prioritized as it provides young people with professional skills and prepares them for employment (Bagale, 2015).

Besides of the fact that VET is quite important for countries from diverse perspectives, there are many different views on how VET can be restructured to meet the 21st century skill requirements (Boateng, 2012; Lumby, 2000). It is well known that, rapid developments in the field of information and technology create significant changes in the labor market and consumer behavior. To examine the effect of this change on diverse phases of VET, progress of VET is investigated in three phases (Özer, 2019a; Özer 2019b). The rapid increase in
production during the process of technology spreading to every area of life after industrial revolution has increased the need for well-equipped employees in terms of professional skills. This need enriched employment opportunities and led to an increase in the percentage of vocational education track over the general education track. In the second phase, the integration of technology into daily life is almost completed and the skills gained through traditional VET become insufficient for the expectations of the rapid technological transform. This situation led to shrinkage in vocational track. In many countries, the situation of VET has become controversial, and education policy makers have worked on how VET should be reorganized to meet the expectations of the labor market and provide students with 21st century skills (Okolie & Yasin, 2017; Sahlberg, 2007; Salleh & Puteh, 2017). In addition, with the third phase dominated by widespread automation all over the world supported by artificial intelligence technologies, questioning the skills provided by VET systems increased (Özer, 2019b). In this context, the restructuring studies suggest to increase the cooperation of the VET processes and institutions with the sectors, increase the weight of cognitive skills, and improve the quality of teachers through training and to support VET infrastructure (EPF, 2017; Euler, 2017; Nielsen, 2010; Okolie & Yasin, 2017; Stratton, Reimer, Gupta & Holm, 2017).

Transformation of expectations from VET also raises discussions towards VET system in Turkey. Labor market, academia, civil society organizations, and think tanks have performed and released numerous research works to improve VET (Aktaşlı, Kafadar, & Tüzün, 2012; Aktaşlı & Tüzün, 2012; Çelik, Yurdakul, Bozgeyikli, & Gümüş, 2017; Günay & Özer, 2014, 2016; Gür et al., 2012; Oral, 2012; Şencan, 2008; Özer, 2018; Özer, 2019a; Özer, 2019b; Türk Eğitim Derneği [TED], 1983). Accordingly, there is consensus between VET stakeholders on the importance of VET and methods to strengthen VET. In line with this objective, MoNE released Education Vision 2023 report, and strengthening VET is considered as a major topic in this report.

In this study, we evaluate the future of VET in Turkey in the light of the solid steps to strengthening the VET by MoNE in one-year interval after release of Education Vision 2023. For that purpose, VET system in high school level is presented briefly and actions by MoNE is evaluated in seven themes.

**VET System in Turkey**

In Turkish education system, VET programs are available for students in secondary education and higher education levels (Özer, Çavuşoğlu & Gür, 2011; Özer, 2018; Özer, 2019a; Özer, 2019b). In secondary education level, VET is structured as a four-year education and training program. In secondary VET education, students can select two types of VET institutions: vocational and technical Anatolian high schools (VTAHs) and vocational training centers (VTCs).
VTAHs present both academic and vocational skills to students, and it is expected that graduates from VTAHs can both select to participate in workforce directly and/or continue to higher education. In the first year in VTAHs (9th grade), the common curriculum, which is academically weighted and valid for all high school types in Turkey, is implemented. At 10th grade, students can select their vocational fields due to their interests and level of academic achievement. After choosing vocational field, branches can be selected by students in 11th grades and students have diplomas when they completed all courses successfully in 12th grade. VET is presented in 54 fields and 199 branches in VTAHs (MEB, 2018a).

Program types in VTAHs can be grouped in Anatolian technical programs (ATPs) and Anatolian vocational programs (AVPs). ATPs include an intensely theoretical education program while AVPs mainly present applied training to students. In four years of education and training interval, students in ATPs do internship for 40 days, while students in AVPs do internship for three days in each week in last year. ATPs and some of project-based AVP programs, which are selected by MoNE, accept students according to their central examination scores. An example of a student progress in VTAHs is given at Figure 1 (MEB, 2018a).

Figure 1. Student Progress in VTAHs: An Example of Machinery Technology Field

The second school type in VET system in Turkey is vocational training centers (VTCs). Students in VTCs take courses in schools one day per week, and they do on-the-job training at workplaces in other four days for four years. VET is presented in 27 fields and 142 branches in VTCs. Students select their fields and branches in the beginning of 9th grade. Students who enroll in the VTCs and who successfully complete the courses and on-job training in the first three years are entitled with certificate of journeyman. When they complete four years, they have certificate of mastership (MEB, 2018a). An example of student progress in VTCs is given at Figure 2 (MEB, 2018a).

Figure 2. Student Progress in VTCs: An Example of Machinery Technology Field
Distribution of students in VTAHs and VTCs in the last 10 year is given at Figure 3. Number of students in VET institutions (VTAHs and VTCs) is around of 2 million in 2017-2018 academic year, but it seems to decrease slightly in recent years as shown in Figure 3. In 2017-2018 academic year, VET students constitute 35% of all students in secondary school level in Turkey (MEB, 2018b; Özer, 2018). However, number of VET students in 2017-2018 academic year is higher than 2008-2009 and 2009-2010 academic years. Additionally, student occupancy ratio of VET institutions increased from 74% to 97% in 2018-2019 academic year (MEB, 2019b). Recent decrease in number of VET students is also expected due to the challenges of VET systems in the third phase (Özer, 2019b), and increasing access to higher education. Students in VTCs also constitute 5% of all students in VET institutions.

**Figure 3.** Number of Students in VET Institutions in Last 10 Years

In Turkey, employment and labor force participation ratios of VTAH graduates are higher than general high school graduates (Özer, 2019a). Labor force participation ratio of VTAH graduates is 66.1% while the ratio of general high school graduates is 54.2% in 2018. In the same year, employment ratio of VTAH graduates is 57.4% while it is 46.7% for general high school graduates (Özer, 2019a). In spite of comparatively higher employment ratios of VTAH graduates, employment ratios of graduates in their field of training are lower than 10% in most fields (MoNE, 2018b; Özer, 2019a). Therefore, VTAH graduates are not employed in their field of training and this issue becomes a skill mismatch problem to a wider perspective. Examples of fields with the ratio of graduates who are employed in- and out of their fields are given in Table 1 (MoNE, 2018a; Özer, 2019b).
Table 1. Graduates’ Employment Ratios In and Out of Their Field of Training: Some Examples from Vocational Fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Ratio of VTAH Graduates Employed in Their Field of Training (%)</th>
<th>Ratio of VTAH Graduates Employed out of Their Field of Training (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>1,73</td>
<td>35,15</td>
</tr>
<tr>
<td>Aircraft Maintenance</td>
<td>17,91</td>
<td>39,52</td>
</tr>
<tr>
<td>Biomedical Device Technology</td>
<td>2,10</td>
<td>40,32</td>
</tr>
<tr>
<td>Chemistry Technology</td>
<td>1,89</td>
<td>46,31</td>
</tr>
<tr>
<td>Construction Technology</td>
<td>7,85</td>
<td>42,58</td>
</tr>
<tr>
<td>Electric &amp; Electronic Technology</td>
<td>9,30</td>
<td>44,83</td>
</tr>
<tr>
<td>Laboratory Services</td>
<td>18,28</td>
<td>55,76</td>
</tr>
<tr>
<td>Machine Technology</td>
<td>6,10</td>
<td>50,51</td>
</tr>
<tr>
<td>Marine</td>
<td>4,61</td>
<td>34,98</td>
</tr>
<tr>
<td>Metal Technology</td>
<td>6,59</td>
<td>54,66</td>
</tr>
<tr>
<td>Motor Vehicle Technology</td>
<td>8,09</td>
<td>50,70</td>
</tr>
<tr>
<td>Plastic Technology</td>
<td>3,70</td>
<td>53,07</td>
</tr>
<tr>
<td>Rail Systems Technology</td>
<td>4,74</td>
<td>54,17</td>
</tr>
<tr>
<td>Textile Technology</td>
<td>5,57</td>
<td>46,04</td>
</tr>
<tr>
<td>Transportation Services</td>
<td>2,00</td>
<td>41,27</td>
</tr>
</tbody>
</table>

Table 1 shows that the ratio of VTAH graduates who are employed out of their education field is comparatively higher in all fields. At some specific fields such as laboratory services and aircraft maintenance, ratios of graduates’ employment in their field of training are relatively high, however, related ratios are quite low from a general manner.

As an exception to this circumstance, employment ratio of VTC graduates in field of training is around 88%, and also 75% of them are employed in the firms where they do on-the-job trainings (Özer, 2019b). VTC constitutes a successful vocational track in the context of employability purpose. VTC is also accepted as a successful model by sector delegates, and employment ratio of students in the field of training is an important indicator of sectors’ appreciation.

Private sector share in VET is quite low with around 6% in Turkey comparing to other developed countries (Özer, 2019a, Özer, 2019b). This low share is also seen in the number of graduates in VET institutions in the last ten years as shown in Figure 4 (Özer, 2019b). Ratios between 0.10% and 8.22% are quite low despite the fact that the government has constituted a great extent of incentive policies for private sector to establish VTAH since 2012-2013 academic year.
Figure 4. Numbers of Graduates in VET Institutions and Ratio of Graduates from Private VET Institutions in Last 10 Years.

Developments in Turkish VET system in the last year

In October 2018, the Ministry of National Education issued the 2023 Education Vision document in Turkey, which identified important targets for strengthening VET (MEB, 2018b). One of the most important emphases in the report is to strengthen the education-employability-production relationship. In this section, we study the developments in VET after releasing the Education Vision 2023 in Turkey. For this purpose, we make our arguments based on seven different themes in detail.

1. Strengthening the cooperation with stakeholders

The human source, which is equipped with academic and professional skills, is employed in two main fields: public and private sectors. In many developed and developing countries, the role of the private sector in production and services is increasing compared to the public sector. Since VET has the potential to provide directly equipped human source to the labor market, the interaction of the sectors with VET has gained more importance today (EPF, 2017; Pillay, Watters & Hoff, 2013). The greatest benefit provided by the cooperation between the sector delegates and VET authorities is the regular communication between employers and educational policy makers (Grubb & Lazerson, 2004). Based on this communication, VET authorities can continuously monitor which vocational and academic skills are expected in vocational fields. On the other hand, employers receive information about the curricula and internship trainings of the future labor force and must be involved in these issues. The interaction of the sector with the VET educational processes also increases the employability of the graduates.
These collaborations provide an increase in social responsibility of the sectors in VET and quality of on-the-job training that is vital in this type of education (Euler, 2017). Euler (2017) stated that in many countries sector representatives criticized the quality of VET but ignored their responsibilities to improve the quality. As mentioned before, despite government incentives implemented since 2012, the number of private VET institutions and the number of students studying in these schools are still quite low in Turkey (Özer, 2019a). Therefore, quality development in VET is only possible with the direct support of the sectors. On the other hand, public VET institutions may not be sufficiently efficient and flexible if they do not communicate with the sectors (UNEVOC, 1998).

Within the scope of building cooperation with sectors in Turkey, five common criteria are considered in the structure of bilateral cooperation protocols (Özer, 2019a). The first is the support of the sectors on-the-job and internship training in real working environment. Therefore, students have found opportunity to gain vocational skills in real working conditions and become more familiar with working life. Secondly, professional development of trainers and administrators is performed by leading experts from sector delegates. Teachers and administrators have chance to improve their vocational skills with current technological developments with support of sector professionals. Thirdly, curriculum updating is considered as a vital criterion. Sector delegates have unique experience in production and services, so updating the curriculum with real needs of the labor market is only possible via the collaboration with sector delegates. It is also mentioned in the Future of VET analysis report, curriculum revisions within the Education Vision 2023 are emphasized and appreciated (Bozgeyikli, 2019). Scholarships and employment priorities to students are another criterion which is considered. Awarding the students with high academic achievement and vocational skills and supporting their employability increase the motivation of students towards VET. Lastly, all protocols include the opportunity of performing the vocational courses in VET institutions by sector experts. This criterion allows sector delegates to transfer their experiences and mastership skills to VET students in a formal course perspective.

The activities which have been carried out within the framework of increasing the cooperation with the sector since the 2023 Education Vision are summarized below in Table 2.
Table 2. Examples of Sector and MoNE Cooperation in Categories of Vocational Fields

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accommodation and Travel Services</strong></td>
<td>Supporting Foreign Language Education, On-the-job and Internship Training in Real Working Environment, Curriculum Updating, Employment Priority of Graduates, Professional Development of Trainers and Administrators</td>
</tr>
<tr>
<td><strong>Electric-Electronic Technologies</strong></td>
<td>Professional Development of Trainers and Administrators, Supporting via Opportunities of Technoparks (inc. Artificial Intelligence Laboratories), On-the-job and Internship Training in Real Working Environment, Scholarship for High Performing Students</td>
</tr>
<tr>
<td><strong>Entertainment Services</strong></td>
<td>Supporting Foreign Language Education, On-the-job and Internship Training In Real Working Environment, Curriculum Updating, Employment Priority of Graduates, Professional Development of Trainers and Administrators</td>
</tr>
<tr>
<td><strong>Fashion Design Technology</strong></td>
<td>Update of Laboratories and Ateliers, On-the-job and Internship Training in Real Working Environment, Employment Priority of Graduates</td>
</tr>
<tr>
<td><strong>Food Technology</strong></td>
<td>“Meat and Meat Products Production” is Structured as Branch, Curriculum Developing and Updating, On-the-job and Internship Training in Real Working Environment, Professional Development of Trainers and Administrators, Geographical indication of products, Scholarship for High Performing Students</td>
</tr>
<tr>
<td><strong>Food and Beverage Services</strong></td>
<td>Geographical indication of products, On-the-job and Internship Training in Real Working Environment, Professional Development of Trainers and Administrators, Employment Priority of Graduates, Curriculum Updating, Supporting Foreign Language Education</td>
</tr>
<tr>
<td><strong>Information Technologies</strong></td>
<td>Professional Development of Trainers and Administrators, Supporting via Opportunities of Technoparks (inc. Artificial Intelligence Laboratories)</td>
</tr>
<tr>
<td><strong>Industrial Automation Technology</strong></td>
<td>Professional Development of Trainers and Administrators, Supporting via Opportunities of Technoparks (inc. Artificial Intelligence Laboratories)</td>
</tr>
<tr>
<td><strong>Installation Technology and Air Conditioning</strong></td>
<td>Update of Laboratories and Ateliers, Professional Development of Trainers and Administrators, Employment Priority of Graduates</td>
</tr>
<tr>
<td><strong>Machinery Technologies</strong></td>
<td>Professional Development of Trainers and Administrators, Supporting via Opportunities of Technoparks (inc. Artificial Intelligence Laboratories), “Milling” is Structured as a Branch, “Micromechanics” is Structured as a Branch, Establishment and Update of Laboratories and Ateliers, Elevator Academy is established</td>
</tr>
<tr>
<td><strong>Mining Technology</strong></td>
<td>Curriculum Updating, On-the-job and Internship Training in Real Working Environment, Professional Development of Trainers and Administrators, Employment Priority of Graduates</td>
</tr>
<tr>
<td><strong>Renewable Energy Technologies</strong></td>
<td>Curriculum Updating, On-the-job and Internship Training in Real Working Environment, Employment Priority of Graduates, Scholarship for High Performing Students, Vocational Courses for Graduates</td>
</tr>
<tr>
<td><strong>Textile Technology</strong></td>
<td>Update of Laboratories and Ateliers, On-the-job and Internship Training in Real Working Environment, Curriculum Updating, Scholarship for High Performing Students</td>
</tr>
<tr>
<td><strong>Tourism</strong></td>
<td>Supporting Foreign Language Education: German, Arabic, French and Chinese, Curriculum Updating, On-the-job and Internship Training in Real Working Environment</td>
</tr>
</tbody>
</table>
As can be seen from Table 2, MoNE collaborated with sector delegates within the scope of diverse vocational fields. With the protocols mentioned in Table 2, collaborations with sector in all 54 vocational fields are completed. Currently, cooperation between sectors and MoNE is built with at least one protocol in each of 54 vocational fields. TEDMEM also mentioned the importance of increasing collaboration between sectors and MoNE in their periodic education monitoring reports (TEDMEM, 2018).

Sector delegates, who are decided to be in collaboration, are also selected attentively. Ministries with diverse responsibilities, foundations and associations which have right to represent multiple companies and sectors, leading companies and sector leaders are intended be in cooperation.

In addition to the collaborations with sectors, MoNE also want to increase the share of private sector in VET. In this context, VTCs, where on-the-job training is conducted intensively, provide an important opportunity to train human source in line with the demands of the labor market. Currently, the VTCs, where 88% of the graduates are employed, provide on-the-job trainings that are the most important resources for master, apprentice needs of the sectors. Due to legal regulations, although the private sectors can establish VTAHs, they cannot establish VTCs. In order to remove this limitation, the legal arrangement is made which allows sector representatives to establish VTCs with the approval of MoNE. With this regulation, sector representatives will be able to open VTCs in order to train students in the vocational fields deemed appropriate in the regions they need.

2. Professional and pedagogical development of teachers

It is the common finding of national and international studies that the most effective educational variable on cognitive, affective and psychomotor behaviours of students is the teacher quality (Darling-Hammond, 2000; Hanushek & Rivkin, 2010; Kim, 2015). Field teachers, who lecture and train students in vocational courses, have the greatest impact on the effectiveness and quality of the VET. Therefore, teachers’ professional- and pedagogical competence directly affect the teaching quality. Trainings that encourage classroom management, research and creativity skills development are implemented periodically in many countries (Adamu, 2016). The importance of VET, which is frequently emphasized in economic and social terms, is closely related to the quality of teachers. In addition, teachers have to cope more with technological change and relative negative perception towards VET (Grollmann, 2008). Therefore, VET teachers should make more effort to improve their vocational and pedagogical skills than the teachers who provide academic education. The applications of MoNE for the vocational and pedagogical development of teachers in the last year are explained below.
In-service trainings of teachers in VTAHs and VTCs have been increased six times compared to the previous years as an important outcome of the collaboration protocols with sectors. In order to improve the quality of VET in 54 fields and 199 branches, an intensive training program has been implemented in order to develop the vocational and pedagogical skills of the field teachers.

As a result of teacher trainings with the support of sectors, approximately 35% of VET teachers participated in the in-service training to improve their vocational and pedagogical skills. Distribution of teachers who participate in the in-service trainings in 2019 by vocational fields is given in Figure 5. The percentage of participant teachers to in-service trainings is in a scale between 4.84% to 100% which depends on the number of the teachers in the related fields and the priority of training need.

**Figure 5.** Percentage of VET Teachers Who Participated in In-Service Trainings in 2019 by Vocational Fields
3. Improving diversity in VET

VET is a type of education that requires rapid adaptation to change in labor market directly affected by technological development (CEDEFOP, 2018; McIntosh, 2013). This adaptation requires frequent changes in infrastructure as well as changes in curricula and skills. In today’s world, where the demands of the labor market are constantly changing, the provision of sustainable and up-to-date training by VET institutions depends on the relationship it has with the sector delegates (CEDEFOP, 2018). Improving the diversity in type of institutions where sector delegates can lecture, where equipment and infrastructure are established with the cooperation of public and private institutions, and teacher trainings are carried out within the framework of the latest developments are key elements that will increase the quality of VET. Steps which are taken by MoNE to support the diversity in VET are explained below.

3.1. Establishment of prestigious vocational and technical anatolian high schools

Within the scope of the protocol made with ASELSAN, one of the leading institutions in the defense industry of Turkey, ASELSAN VTAH was established. Electric-electronic technology and machine technology fields are presented to students who are accepted to the institution with their central examination scores. Students showed great demand and all of the student quotas allocated in both vocational fields are full.

A model VTAH was also established via the cooperation with deeply rooted universities of Turkey, Istanbul Technical University (ITU), and began student admission in 2019-2020 academic year. The students in this institution take their foreign language education at ITU School of Foreign Languages and can use the Augmented Virtual Reality Laboratory (AVR). Students also carry out their vocational courses in workshops, laboratories and ITU Arı Teknokent. The numbers of the students who are accepted to the institution, where there are information technology, electrical-electronic technology and marine fields, are given (MoNE, 2019b). Students were accepted to the school via their central examination scores.

Thus, for the first time, students whose central examination score in top 1% are admitted to VTAHs (MoNE, 2019b). ERG also mentioned in their educational analysis report that preference of high performing students to VET institutions leads positive perceptions towards VET in society (ERG, 2019).

3.2. Constructing centers of excellence in VET

With the protocol signed between MoNE and Ministry of Industry and Technology, Istanbul Chamber of Industry (ISO), Istanbul Chamber of Commerce (ITO) and ITU, 80 VTAHs located in different districts of Istanbul have been restructured as centres of excellences in VET. It is ensured that the students who are trained in these institutions have their on-the-job and internship trainings in institutions affiliated to the Ministry of Industry and Technology, ISO and ITO. The quota was full in all programs under the protocol in 80 schools in Istanbul (MoNE, 2019b).
In addition, MoNE signed a protocol with the Turkish Union of Chambers and Commodity Exchanges (TOBB) to construct centers of excellence in each province of Turkey. The protocol provides the execution of foreign language education, the establishment of R&D and design-skills ateliers, on-the-job and internship trainings for students in at least one VET institution in 81 provinces of Turkey. In the 2019-2020 academic year, the quota was full in almost all vocational programs in 81 provinces receiving students (MoNE, 2019b).

4. Increasing the positive perception towards VET

Since VET is not seen as a first option in many countries because of the fact that it suffers from negative perception (Lovsin, 2014), the active promotion of VET is of great importance. The problem of skill mismatch is an important problem related to its negative perception in Turkey. The problem of skill mismatch is that individuals cannot use their professional skills acquired through VET or work in jobs that require completely different skills (CEDEFOP, 2010; Taşlı, 2018). From the labor market perspective, education and training need to improve the skills which labor market need (Eymann & Schweri, 2015). The main purpose of VET is to train individuals equipped with professional skills for different vocational fields. Skill mismatch is a problem that may lead to national labor loss since the professionally trained human power works outside the fields where it is likely to perform better (Beduwe & Giret, 2011; Petrolongo & Pissarides, 2001).

Therefore, MoNE constructed *Turkish VET Map* for all provinces in Turkey. VET map has potential to support policy actions through providing the whole picture of VET. It was opened for access in 2019 (http://meslekiegitimharitasi.meb.gov.tr/). With the map, the number of students in VET, the distribution of students to fields and VET institutions and the number of employees working in vocational fields are presented at provincial level. With this map, it is possible for students wishing to choose VET to consider the distribution of employees in their provinces to the fields, and it is possible to evaluate the suggestions regarding the opening of a vocational field based on data according to the working fields in the provinces. The platform, which provides up-to-date data on the selection of fields of the students, has the potential to increase the employability of the students who receive VET.

On the other hand, it seems that there are discrepancies about clustering VET schools and firms at provincial level (MoNE, 2018a, Özäer, 2019a). It leads to skill mismatch at a province scale (Aytaş, 2014; Taşlı, 2018). This has the potential to significantly reduce student demand towards VET and employability of graduates there in the long run. MoNE has taken many steps to re-cluster VET schools around the related firms, and so to reduce skill mismatch in VET.

In addition, MoNE constructed a common platform, called *My Job My Life* aimed at bringing all stakeholders together, including students, teachers, graduates, and other interested parties. My Job My Life platform was put into service in 2019 (https://meslegimhayatim.meb.gov.tr/).
The platform provides detailed information about fields and promotional videos, current news about VET, success stories of students and teachers, documents required for students and teachers, preliminary information and forms required for projects, process presentations for patents, utility models and design. The platform also includes internships and job advertisements for students and graduates to follow continuously. The platform, which is linked to e-government and İŞKUR, is continuously monitored by the graduates who are looking for a job and the students who want to examine their internship opportunities. The platform became an important guide in VET during the central examination process and received more than 1.5 million views (MoNE, 2019b).

5. Establishment of quality assurance system for VET

The quality assurance system was established to monitor the current situations and to strengthen a culture of continuous improvement for VET in 2018. Taking quality criteria into consideration, a self-evaluation of the VTAHs was ensured first, and then the external evaluation process was carried out through site visits by experts. In line with the results obtained, the highest performing institutions are given in Institutional External Evaluation Report for Vocational and Technical Secondary Education on the basis of themes (MoNE, 2018c).

Furthermore, vocational standards, defined as knowledge, skills and competencies that are required for the successful execution of a profession, are defined by the Turkish Vocational Qualification Authority (MYK) on a national scale. In VET, curriculum of the different fields and branches offered to students with national vocational standards were harmonized (Özer, 2019a). Thus, coherence between the education presented to the students in VET and the skills to be gained in order to be successful in the VET fields has been increased.

Within the scope of the Education Analysis and Evaluation Reports series, which started to be published in 2018 on behalf of MoNE, data-based reports on VET were prepared. These reports are also seen as opportunity to reconsider the processes for VET based on the data. The current situation of the VET in Turkey was reviewed elaborately with the MoNE statistics in the report Outlook of Vocational and Technical Education in Turkey (MoNE, 2018a). In the Institutional External Evaluation Report for Vocational and Technical Secondary Education, the results of the examination within the scope of quality assurance of VET institutions are presented (MoNE, 2018c). In the Vocational and Technical Education with Photos: from Past to Present report, the development of vocational education since the Ottoman Empire period is presented with photographs (MoNE, 2019a). Vocational and Technical Education in Organized Industrial Zones report includes the training in VET institutions established in organized industrial zones which provides important cooperation opportunities with the sector (MoNE, 2019c).
6. Improving applied training and qualifications in VET

The most basic way of strengthening the professional skills of the students in VET is to increase the weight of applied education including on the job training and internship (CEDEFOP, 2015; Evans & Rainbird, 2002; Hodkinson & Bloomer, 2002). Products and services obtained during VET processes meet a significant need in the regions close to schools’ area. In addition, products and services produced through VET are important in terms of providing financial support to students, teachers and institutions. In many countries, it is known that students who prefer VET are from lower socioeconomic level (Ainsworth & Roscigno, 2005; Agodini, Uhl & Novak, 2004; Altınok, 2012; Foley, 2007). It is clear that the economic benefit of these students from the production and services in their educational processes is important for themselves and their families. The steps taken by the MoNE in the last year have increased the students’ professional skills and gain from production by encouraging the production within the scope of revolving fund.

The rate of deduction of treasury share from the productions in VET processes has been reduced from 15% to 1% in 2018. This regulation especially aims to increase the skills of students through production in VET and make their employability easier. It also leads to increase the earnings of students and teachers from production and enables the institution to make infrastructure investment with the gains from this production. Thus, students may receive additional fees up to minimum fees and teachers may charge twice as much as minimum fees (Özer, 2019a). The contribution of the regulation to production was seen in 2019 in a short time. In the first ten months of 2019, revolving fund production in VET institutions increased by 40% compared to the same period of the previous year and reached 217 million TL. Remarkable increase in revolving fund production in 2019 is also emphasized in analysis report by Eğitim-Bir-Sen (Yurdakul, 2019). It is envisaged that the gains from production will increase even more by encouraging the production made within the scope of revolving fund in VET institutions.

On the other hand, graduates of VTCs could not receive a high school diploma even after four-year education. This limitation decreased the student’s preferences towards VTCs. Therefore, MoNE revised the process and a regulation was made for them to obtain high school diploma. In the new model, the students who successfully complete the particular courses in VTCs will be entitled to receive high school diploma. With this new model, it is envisaged that the demand of the students towards VTCs, who aim to be apprentices, journeyman or master will increase. This application is evaluated as an important opportunity for VTC students in Eğitim-Bir-Sen analysis report (Yurdakul, 2019).

Finally, the number of exams held to get the apprentice and mastery certificates of the students receiving training in VTCs has been increased from two to six per year. With this application, it is prevented that the students who have apprentice or master skills must wait
for exams which are applied only in two separate periods per year. In addition, examinations can be held every month in provincial or vocational training centers determined when it is needed. Within the framework of the regulation, it was decided that the theoretical exams for apprenticeship and mastery will be conducted as computer-based exams and the first application was conducted successfully. The e-examination centers in all 81 provinces are now available for theoretical exams for apprenticeship and mastery.

7. Improving social integration through VET

Current approaches to education give students’ academic, affective and psychomotor behaviors as well as assigning tasks to increase social integration and social participation (CEDEFOP, 2011). The primary responsibility of the education authorities is to protect the right of individuals to receive education, to create suitable opportunities for all students who wish to be educated and to diversify the opportunities regardless of their demographic and socioeconomic characteristics. VET is of critical importance in terms of social participation and access to education, since it is the choice of students at relatively low socioeconomic or academic achievement levels in many countries (Neuman & Ziderman, 1991; Wang, 2017; Zhou, 2008).

Cooperation between MoNE and the Ministry of Justice facilitated VET for convicts and detainees. Within this scope, it was decided that VET is provided for convicts and detainees in prisons, and opportunity of education will be provided for probation beneficiaries in institutions affiliated to MoNE. With this practice, it is aimed that individuals who are convicted or imprisoned due to any crime will adapt to the society after their release from prison and to increase their employment opportunities with the vocational skills.

The large-scale project, which was developed in cooperation with the European Union, German Development Bank (KfW) and the MoNE, aims to ensure the social cohesion of Syrian students under temporary protection through VET. In the project where priority was given to the provinces where the number of migrants under temporary protection was 100,000 and over, pilot projects started in 8 provinces, and 50 VET schools’ workshops and laboratory infrastructure were strengthened for this purpose. The infrastructure of VET is strengthened by the project with an approximate budget of 300 million TL and employability of migrants, which is under temporary protection, is increased with skills via VET in Turkey.

Within the scope of the PIKTES project implemented in cooperation with the MoNE and the Delegation of the European Union, Turkish and Syrian students who are disadvantaged due to various reasons are encouraged to participate in VET. It will increase the rate of participation in formal education at lower secondary level, which is relatively low among disadvantaged student groups and Syrian students, and a monthly scholarship will be provided to nearly 10,000 students for three years.
Finally, in scope of “VET Students Meet Our Families” project, needs of more than 54,000 families are met by VET students in 81 provinces of Turkey. More than 13,000 students from 886 VET institutions participated the project and have opportunity of using their vocational skills to support people with needs. In this perspective, VET students take care of elderly people, paint and repair the old furniture and home goods, and support people for their daily needs.

**Conclusion**

VET has an important role in the sustainable socioeconomic development of countries. However, requests on skills of human source which is needed to actualize the development on both social and economic dimensions are changing due to the labor market. At the present time, expectations from VET are evolving to develop a human source who have more cognitive skills and practical vocational skills.

To meet this changing need, restructuring of VET systems is at issue around the world. Countries analyze and revise their VET systems in response to labor market demands. In this perspective, Ministry of National Education (MoNE) released a comprehensive report on education in Turkey, Education Vision 2023, where a great emphasis was devoted to VET. To have a more qualified VET system and raise the attractiveness of VET, a remarkable number of steps were taken by MoNE in just a short time of one year after the release of Education Vision 2023. The purpose of this study is to provide more insight into these solid steps in VET in a detailed manner. To do this, we summarized and studied the actions within seven themes.

MoNE built collaboration with selective and leading sector delegates to strengthen VET in all vocational fields. Performing on-the-job and internship trainings in real working environments, professional development of trainers, updating of curriculum in current vocational fields, and developing curriculums in new fields, scholarships and employment priorities for graduates, and facilitating policies of teaching sector delegates in VET institutions are considered criteria in these collaborations.

To support the training and professional development of VET teachers MoNE increased the in-service trainings nearly six times. In the last year, approximately 35% of all field teachers in VET participated the in-service trainings. Teacher trainings are supported by protocols with sector delegates.

To improve the diversity in VET, prestigious VTAHs were established with leading sector delegates and universities. ASELSAN VTAH and Istanbul Technical University VTAH are such schools received students from a top 1%. Ministries, associations such as Istanbul Chamber of Industry (ISO), Istanbul Chamber of Commerce (ITO) and Turkish Union of Chambers and Commodity Exchanges (TOBB) are effective partners of MoNE to construct the centers of excellence in VET system in all around Turkey.

MoNE performed projects to enhance the positive perception and familiarity towards VET. On this purpose, Vocational Training Map and My Job My Life Platform are structured and opened up for use in 2019. VET map presents information about distribution of students to fields and employment areas at province level. My Job My Life Platform also presents
updated information about VET processes, employment and internship opportunities to all VET stakeholders.

Establishment of VET quality assurance system is also important for improving and sustaining quality of VET. In this scope, external quality assessment of all VTAHs is undertaken and results are reported. Harmonization of fields and branches with national vocational standards is completed. In series of Education, Analysis and Evaluation, data-driven reports are published about VET system in Turkey.

MoNE made important progress to improve applied training and qualifications in VET. Reducing the treasury deduction in the VET productions and services form 15% to 1% resulted in an increase of 40% in an aggregate production capacity. Students, teachers and institutions were benefited by increasing production and public services via applied training. In order to increase the attractiveness of VTCs, the access to high school diploma was made easier. Additionally, MoNE increased the frequency of apprenticeship or mastery exams and provided theoretical exams to be structured as computer-based tests.

To contribute the social inclusion and integration, MoNE started projects and constituted cooperation with Ministry of Justice, EU Delegation and KfW. Participation of prisoners and convicts in VET is encouraged, projects for supporting disadvantaged Syrian and Turkish students via VET is implemented. Additionally, 54,000 families are supported by VET students according to their needs.

Solid steps to strengthen VET are considered and appreciated by education authorities in Turkey. Improvements towards VET by MoNE are evaluated and responded positively in educational analysis reports published by independent civil society organizations such as Initiative of Education Reform (ERG) (ERG, 2019), TEDMEM (TEDMEM, 2018), SETA (SETA, 2018; 2019), Eğitim-Bir-Sen Center of Strategic Research (Yurdakul, 2019) and İlke (Bozgeyikli, 2019). In these analysis reports, steps to restructure VET system are reviewed as valuable actions in coherence with global trends in VET systems. Positive reactions of education authorities towards VET improvements show that steps are promising even in short term.

Concrete actions and examples in present study show that strengthening VET is considered as multiple facets by MoNE. Current VET structure, all stakeholders of VET, students, teachers, administrators, representative of labor market come together to construct a realistic roadmap. After release of this roadmap, Education Vision 2023, improvements towards VET in diverse levels are put into practice. In one year, comparatively a short period, numerous enhancements and improvements are seen to be realized. Feedbacks from field, sector delegates and provincial managers also show that improvements created a tangible effect on perceptions and expectations from VET. It is important to note that keeping and increasing the level of this positive effect on VET is dependent on continuous support of improvements on all levels. Promoting the continuous improvement culture without sudden and radical changes will be beneficial for a more qualified and contemporary VET system.
References


McIntosh, S. (2013). Hollowing-out and the future of the labor market. BIS research paper; No 134.


Türkiye’de Mesleki ve Teknik Eğitimin Geleceği: 2023 Eğitim Vizyonu Sonrası Atılan Somut Adımlar

Öz: Mesleki ve teknik eğitim, ülkelerin ekonomik ve sosyal politikaları üzerinde önemli bir role sahiptir. Hızla gelişen teknoloji çağında ülkelerin istikrarlı şekilde gelişmesi gücü piyasasının talep edilen insan gücünün oluşturulmasına bağlıdır. Bu nedenle güçlü piyasaların talep edilen beceriler analiz edilmekte ve bu becerilerin mesleki ve teknik eğitim aracılığıyla bireylere kazandırılması için politikalar geliştirilmektedir.


Mesleki ve teknik eğitimde niteliği artırmak için sektörle işbirliği güçlendirilmiştir. MEB ile sektör temsilcileri arasında birçok mesleki alanı kapsayan işbirliği protokolleri imzalanmıştır. İmzalanmış protokoller ile mesleki ve teknik eğitim verilen 54 alanın tümünde sektör temsilcileriyle işbirliği kurulması sağlanmıştır. Protokoller kapsamında mesleki ve teknik eğitim alan öğrencilerin işbaşı eğitimlerini staj uygulamalarını gerçek çalışma ortamında yapmaları sağlanmıştır. Öğretmenlerin mesleki gelişimlerini sağlamak üzere hizmet içi eğitimler sektör uzmanları tarafından verilmiştir. Meslek alanlarının müfredatları sektör uzmanlarının desteği ile güncellenmiştir. Başarılı öğrencilere burs imkanı ve meslek alanı mezunlarına istihdam önceliği sağlanmıştır. Sektörde çalışan uzmanların mesleki ve teknik ortaöğretim kurumlarında ders vermesi için imkanlar iyileştirilmiştir.


Mesleki ve teknik eğitim öğretmenlerinin mesleki gelişimi için hizmet içi eğitim faaliyetleri yoğunlaştırılmıştır. 2019 yılı içinde gerçekleştirilen hizmet içi eğitimler bí bir önceki yıla kıyasla yaklaşık altı kat artmıştır. 2019 yılı içinde gerçekleştiilen hizmet içi eğitim etkinliklerine mesleki ve teknik eğitim öğretmenlerinin yaklaşık %35’i katılmıştır.
Mesleki ve teknik eğitimde çeşitliliği artırmak için MEB tarafından prestijli okullar ve mükemmeliyet merkezleri kurulmuştur. ASELSAN Mesleki ve Teknik Anadolu Lisesi ve İstanbul Teknik Üniversitesi Mesleki ve Teknik Anadolu Lisesi prestijli okullar konusunda iki önemli örnek vardır. Prestijli meslek ve teknik Anadolu liselerine öğrenciler yüksek talep göstermiş ve ilk kez meslek ve teknik Anadolu liselerine %1’lik başarı diliminde öğrenci almıştır. MEB ile Sanayi ve Teknoloji Bakanlığı, İstanbul Sanayi Odası, İstanbul Ticaret Odası ve İstanbul Teknik Üniversitesi ile yapılan işbirliği ile İstanbul’da mükemmeliyet merkezleri oluşturulmuştur. Türkiye Odalar Borsalar Birliği (TOBB) ile yapılan işbirliği kapsamında Türkiye’nin 81 ilinde en az bir meslek ve teknik ortaöğretim kurumu mükemmeliyet merkezi olarak oluşturulmuştur.

Mesleki ve teknik eğitime yönelik olumlu algıyı ve farkındalığı artırmak için Mesleki Eğitim Haritası ve Mesleğim Hayatım platformları oluşturulmuştur. Mesleki Eğitim Haritası ile ilgililere Türkiye’de meslek ve teknik eğitim sécur tưım bir resmi sunulmuştur. Mesleki Eğitim Haritasında meslek ve teknik eğitim alan öğrenci sayısı, öğrencilerin meslek alanlarına dağılımı, çalışma ve üretim alanlarına dair bilgiler iler düzeyinde verilmiştir. Mesleğim Hayatım, meslek ve teknik eğitime ilgi duyan tüm paydaşları bir araya getiren platformdur. Platformda meslek alanlarını ve kurumlarını hakkında bilgilendirme videoları, meslek ve teknik eğitimle ilgili güncel haberler, başarı hikayeleri, eğitim süreçlerinde kullanılan dokümanlar, patent ve faydalı model başvuruları için rehberleri gibi birçok materyal bulunmaktadır. İş aranan mezunlar için İŞKUR ve e-devlet ile entegre çalışan platforma mesleki ve teknik eğitim mezunları ve öğrenciler yoğun ilgi göstermektedir.

Mesleki ve teknik eğitimde uygulamalı eğitimi ve niteliği iyileştirmek için birçok adım atılmıştır. Mesleki ve teknik eğitim kapsamlındaki üretim ve hizmetlerden yapılan hazine kesintisi %15’ten %1’e düşürülmüştür. Bu düzenlemeyle, uygulamalı eğitim sonucundaki üretim ve hizmetler dolayısıyla öğrenci, öğretmen ve kurumların sağladıkları maddi kazanç önemli ölçüde artmıştır. Düzenlemenin etkisi kısa süre içinde görülmüştür. 2019 yılının ilk on ayında mesleki ve teknik ortaöğretim kurumlarında elde edilen dönem sermaye geliri bir önceki yıla göre %40 artarak 217 milyon TL’ye ulaşmıştır.

Mesleki ve teknik eğitim merkezlerinde eğitim alan öğrencilere lise diploması almalarını sağlamak için sunulan imkanlar iyileştirilmiştir. Mevcut durumda, mesleki eğitim merkezinde eğitim alan öğrencilere lise diploması açıklıkta tamamlayıcı dersler takip edilmeye ve belirlenen dersleri tamamlayan öğrenciler için MEB tarafından belirlenen sertifikaları telif edilmektedir. Yaptıla düzenlemeye ile mesleki eğitim merkezlerindeki öğrencilerin, eğitimlerini devam ettirdikleri merkezde yüz yüze eğitim alma hâlinde lise diplomaları alabilmektedir. Bu düzenlemenin etkisi kısa süre içinde görülmüştür. 2019 yılının ilk on ayında mesleki ve teknik ortaöğretim kurumlarında elde edilen dönem sermaye geliri bir önceki yıla göre %40 artarak 217 milyon TL’ye ulaşmıştır.

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Mesleki eğitimde niteliği artırma için MEB tarafından atılan adımlar eğitim alanında onde gelen sivil toplum kuruluşları ve dernekler tarafından da desteklenmektedir. Eğitimde Re-
form Girişimi (ERG), TEDMEM, SETA, Eğitim-Bir-Sen Stratejik Araştırmalar Merkezi (EBSAM) ve İlke Derneği tarafından yayımlanan eğitim analiz raporlarında mesleki ve teknik eğitimde atılan adımların önemi vurgulanmıştır. Eğitim alanında global politikaların yakından izleyen kurumların verdikleri destek ve 2019 LGS yerleştirmesinde mesleki ve teknik ortaöğretim kurumlarının doluluk oranlarının artması MEB tarafından atılan adımların somut sonuçlar doğurmaya başladığını göstermektedir.