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CURRICULUM DEVELOPMENT PERIOD FOR VOCATIONAL EDUCATION AND TRAINING UNDER HRD-VET PROJECT IN TURKEY

ABSTRACT

In this study, curriculum development period covering in human resources development through vocational education and training project (HRD-VET) supported and financed in IPA 2006 (Instrument for Pre-Accession Assistance) by EU was discussed in detail. In this context, first, the situation of vocational education and training (VET) and the relation of VET with industry in Turkey were discussed; the defect of VET and the relation between the purpose of HRD-VET and that were propounded. In addition, occupation analysis tables, qualification table task analysis forms, module specification forms and lesson specification pages which were prepared under HRD-VET were given.

Keywords: HRD-VET, Vocational Education and Training,
             Curriculum Development, National Education,
             Council of Higher Education

TÜRKİYE'DE İKMEP PROJESİ KAPSAMINDA MESLEKİ TEKNİK EĞİTİM İÇİN PROGRAM GELİŞTİRİME SÜRECİ

ÖZET

Bu çalışmada, Avrupa Birliği tarafından IPA 2006 (Katılım Öncesi Mali Yardım) programı kapsamında desteklenen ve finanse edilen İnsan Kaynaklarının Mesleki Eğitim Yoluyla Geliştirilmesi Projesi (İKMEP) kapsamında program geliştirme süreci ayrıntılı olarak ele alınmıştır. Bu bağlamda önce, Türkiye'deki Mesleki ve Teknik Eğitimin durumu ve endüstri ile olan ilişkisi ele alınmış, eksiklikleri ve İKMEP'in amaçları ile arasındaki ilişki ortaya konmuştur. Ayrıca İKMEP kapsamında hazırlanan meslek analiz tabloları, yeterlik tabloları, işlem analiz formları, modül bilgi formları ve ders bilgi sayfaları verilmiştir.

Anahtar Kelimeler: İKMEP, Mesleki Teknik Eğitim,
                       Program Geliştirme, Milli eğitim, YÖK

1. INTRODUCTION (GİRİŞ)

Turkey is the third most crowded country in European territory, including Russian Federation [1 and 2]. Turkey, which is a candidate for EU, will be second most crowded EU member after Germany, when full membership is given. Along with population, Turkey has 17. the biggest economy of the world and 7. the biggest economy of EU. Turkey has reached this level, especially, in the last 10 years, with the help of its development.

Turkey's mentioned population growth and economical development is inversely proportional with unemployment ratio which is realized as %14 in 2009 and %13,5 in 2010 [3]. Parallel with population growth and increase in the unemployment ratio; the increase in national income comes forth as an important issue. As it can be seen clearly from this paradoxical situation, one part of country's population could not participate with this economical development. Besides, in this period, parallel with increase in unemployment ratio, in different levels, number of educated people is increased, too. OECD reports indicate clearly that Turkey is the worst country when the issue that employing educated people is considered. From these evaluations, it can be seen that in our country's education concept, there are inadequacies or wrong applications when labor force or competency issues are considered.

A high quality education system is necessary for economical, politic and social affluence [4]. This necessity is valid for every stage of education. However, in contemporary information and technology world, the importance of occupational technical education (OTE) importance is a bit higher. In developed and developing countries, development of OTE has become main strategy in educational development [5]. OTE is a process which helps people gaining some skills, information, occupational habits and also requires scientific and mathematical knowledge and improves knowledge level, skill level and occupational habits of people for a job, which can be considered as a step between engineer and qualified worker [6 and 9]. On the other hand, OTE's aim is to train and improve people to help them for working in industrial, trade, service sectors and to give them necessary basic education in order to help them to continue their training in university level [10].

In last few years, a significant falling is observed in outputs of occupational education. There are two fundamental reasons of this situation. First of these is the changing of the coefficients for entering the OTE in university level. This situation decreased the popularity of OTE's in middle levels, negatively affected the student numbers and quality. Another reason is the alteration of balance between education and labour market, decreasing well educated, qualified and flexible labor force volume, who can satisfy needs of Turkey's economy and help it in integration process with global economy. In a different statement, the OTE's outputs do not match up with country's demands. As a result of that, the problem of not being employed graduates is emerging. In spite of economical development of our country, there are a lot of unemployed people who graduated from OTE. This situation clearly shows that the OTE graduates cannot satisfy the needs of labour market [11]. EU candidate Turkey, with %17.4 ratio of 15-24 age group (when divided to total population-weighed age group who benefits from OTE) when year 2007 is considered, takes first place between EU countries and candidates (33 countries total) [10]. However, takes 27. Place when registered student ratio (%39.7) to occupation high schools is considered [13].

Turkey, in Europe Union membership process, has signed partnership agreement with Europe Economical Union in 1963 and officially applied for membership in 1987, after that in year 1999 is accepted as candidate by EU members. This process is became faster when full membership consultations began in 2005 and still goes on in discussing chapters in different threads. Until now, within the 12 chapters opened, education and culture chapter doesn't exist. But, in cultural area, some reform projects are made and still continue between Turkey and EU like Modernization of Vocational Technical Education Project (MVTEP) [14] and Strengthening Vocational Education and Training System (SVET) [15]. In project which is made in educational-teaching areas, generally by examining educational systems of EU members, designing new systems and modernizing old ones which can comply with our country's socio-economical and demographic structure. One of these projects, which made in different levels and areas, is improving human resources with the help of occupational Technical Education Project (HRD-VET). With this project, which will be applied in pilot sectors and pilot areas/schools, in lifelong learning process concept, in high school level (5th Level) it is aimed that to redesign OTE in compliance with EU norms and considering needs of labour market's needs and demands. The overall aim of HRD-VET Project is to promote the development and competitiveness of small and medium size enterprises (SMEs) in Eastern and South-Eastern regions of Turkey through the participation of a qualified and skilled labour force [16]. Target of the project is with the help of the qualified and well trained labor force attendance to the project, increasing incitement and competition skills of small and middle scaled firms in East and South East Anatolia Regions; aim of the project is to incite human resources development in pilot provinces, in of lifelong learning approach perspective, by increasing quality of wide occupational education in modern education perspective.

2. RESEARCH SIGNIFICANCE (ÇALIŞMANIN ÖNEMİ)
In this study, detailed evaluation of HRD-VET Project and curricula programs which is one of the outputs of HRD-VET project, which will provide integration of EU credit transfer system to VET system of our country and also one of the most important steps of eighth five year development plan "National education will be reorganized in a manner, which with the help of lifelong education approach teaches everyone ways and methods to reach information, includes effective guidance service, gives opportunity to horizontal and vertical passing, in compliance with market occupation standards, gives special importance to education towards production, considers authorization takeover as basis, regardless who he/she is, treats every student in a equal manner without exceptions" which is mentioned in Development of Human Resources: Education" thread's, Aims, Principals and Politics sections.

3. METHOD AND PROCESS (METOT VE PROSES)
HRD-VET is a project which is supported and financed by EU IPA 2006 (Instrument for Pre-Accession Assistance) program and has a budget of 15.4 million Euros. The attendants of HRD-VET are Ministry of National Education (MNE) and Council of Higher Education (CHE). This is a project of a 24-month and starting and due date of that are June 2008 and the end date is May 2010, respectively.

In the beginning phase of the project, firstly, process steps are determined in order to develop necessary education programs, certificate programs, education standards and education materials and project studies are realized in order to obtain these steps' requirements. Works and operations in concept of these activities are 15 steps total and these operations are given in Figure 1.

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┌─────────────────────────┐
│    Determination of     │
│     education needs     │
└─────────────────────────┘
            ⇩
┌─────────────────────────┐
│     Preparation of      │
│    competency tables    │
└─────────────────────────┘
            ⇩
┌─────────────────────────┐
│      Task analyses      │
└─────────────────────────┘
            ⇩
┌─────────────────────────┐
│  Preparation of module  │
│   specifications pages  │
└─────────────────────────┘
            ⇩
┌─────────────────────────┐
│     Creating lessons    │
└─────────────────────────┘
            ⇩
┌─────────────────────────┐
│  Preparation of lesson  │
│   specifications forms  │
└─────────────────────────┘
            ⇩
┌─────────────────────────┐
│   Placing classes per   │
│      week schedule      │
└─────────────────────────┘
            ⇩
┌─────────────────────────┐
│   Creating educational  │
│         program         │
└─────────────────────────┘
            ⇩
┌─────────────────────────┐
│ Preparation/arrangement │
│   of program document   │
└─────────────────────────┘
            ⇩
┌─────────────────────────┐
│     Preparation of      │
│  educational materials  │
└─────────────────────────┘
    ⇩          ⇩         ⇩
┌──────────────┐  │  ┌──────────────┐
│ Development of│  │  │Development of │
│  certificate  │  │  │  educational  │
│   programs    │  │  │   standards   │
└──────────────┘  │  └──────────────┘
    ⇩          ⇩         ⇩
┌─────────────────────────┐
│     Monitoring the      │
│  implementation program │
└─────────────────────────┘
            ⇩
┌─────────────────────────┐
│     Assessment of       │
│  educational programs   │
└─────────────────────────┘
            ⇩
┌─────────────────────────┐
│  Revised of educational │
│         program         │
└─────────────────────────┘
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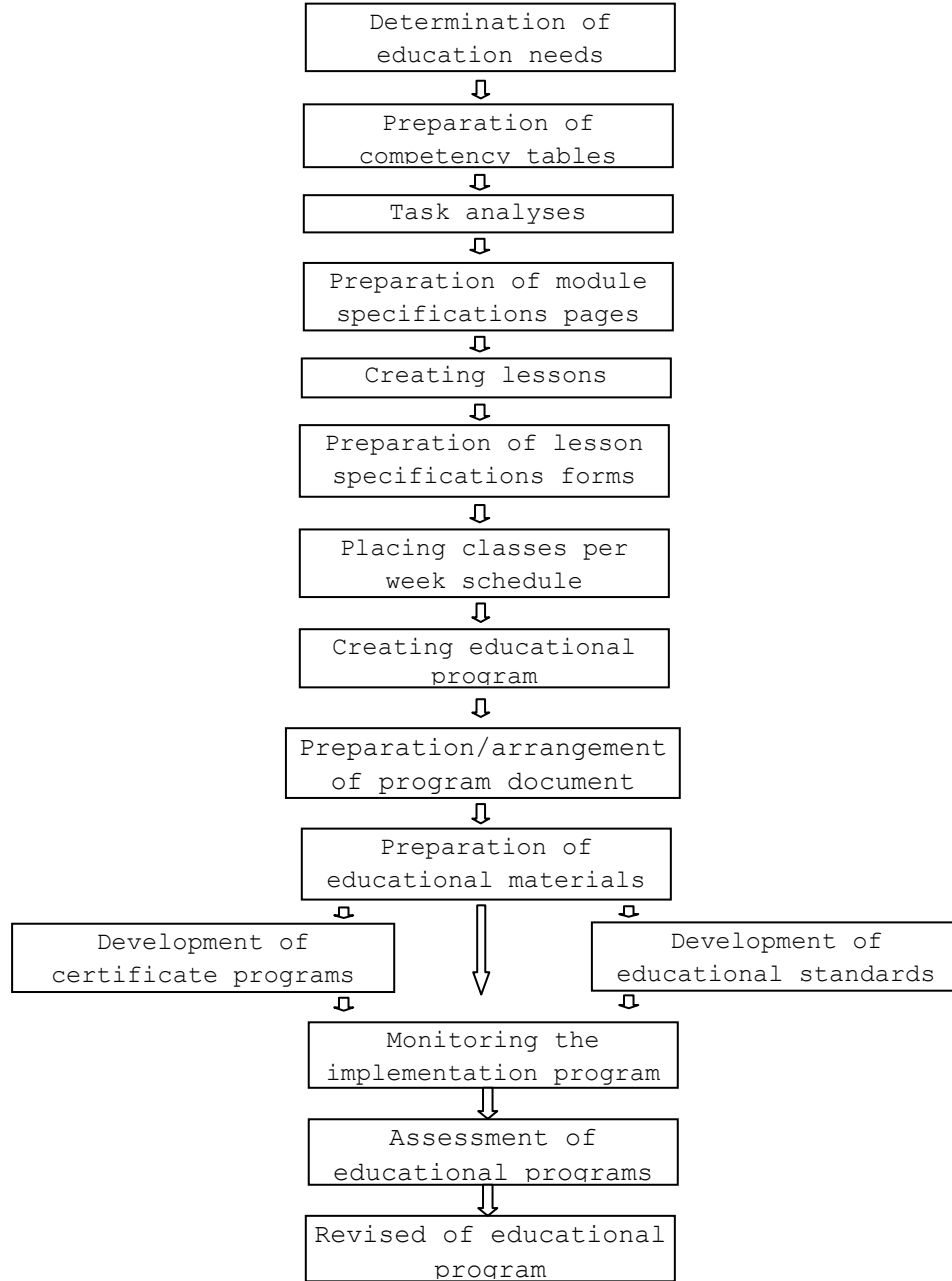
Figure 1. Required works and operation steps in order to improve educational programs, certificate programs and education steps (Şekil 1. Öğretim programları, sertifika programları ve eğitim standartları geliştirmek için gerekli iş ve işlem basamakları)

- **Determining Education Needs** are making sector and occupation analysis, examining occupation standards, determining national and regional education needs and determining work and operations

to be done in the program. The sectors which will be included to project concept are determined by analyzing pilot provinces industry and their regional needs. Methods used for occupation analysis are given in Table 1.

Table 1. Methods used in sector and occupation analyses
(Tablo 1. Sektör ve meslek analizlerinde kullanılan yöntemler)

Occupation Analysis				
Dacum method	Interview Info Form	Poll		
		Business	Employees	CCA*
* Civil Community Associations				

Besides, in analyses which made for every occupation, every organization scheme (Figure 2) and occupation analysis tables (Table 1) of related occupation and necessary duties and operations needed to realize this occupation are formed.
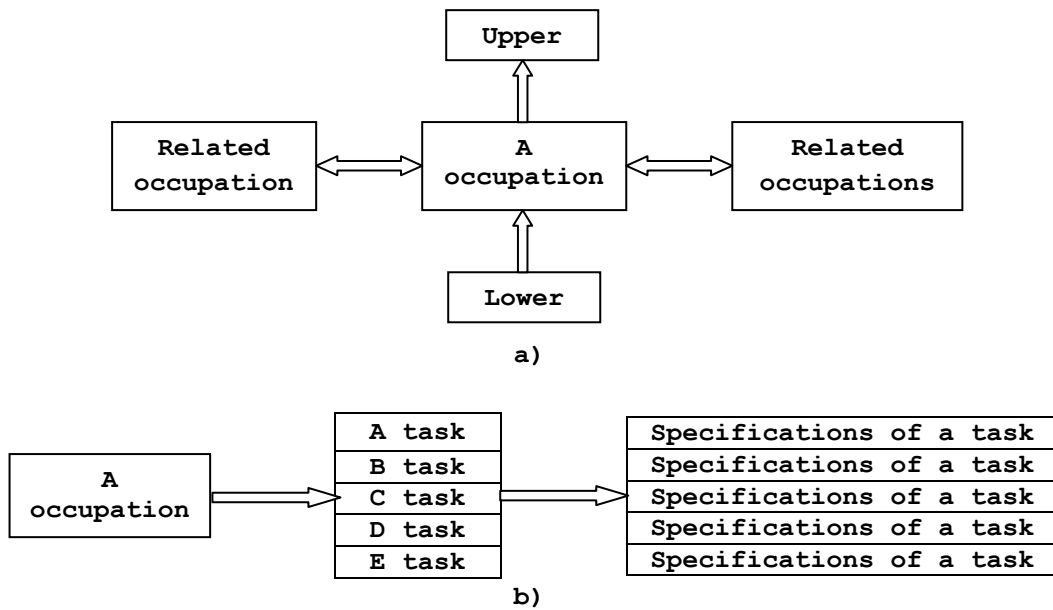

a)

b)

Figure 2. Occupation organization scheme
(Şekil 2. Mesleğin organizasyon şeması)

Table 2. Occupation analysis table
(Tablo 2. Meslek analiz tablosu)

OCCUPATION:			
DEFINITION:			
TASKS		SPECIFICATIONS:	
A		A01	
		A02	
		A03	
B		B01	
		B02	
C		C01	
		C02	
		C03	
		C04	

- **Competence Tables** are prepared by controlling works and operations in occupation analysis tables, arranging operations in pre condition principal, grouping by the end product, used tools and environment and services (by giving sufficiency). The Qualification Table and usage of the Qualification Table can be seen in Table 3.

Table 3. Qualification table
(Tablo 3. Yeterlik tablosu)

Tasks	Sector		Field	Occupation	Code	Level
	Competencies		Specifications			

- **Analysis of the Tasks** is realized by writing the occupation which the task belongs, the occupation and its sufficiency, environment needed for the operation, tools and acceptance standards, task steps, necessary info to realize the specification, skills and attitudes and learning time to the task analysis form (Table 4)

Table 4. Task analysis form
(Tablo 4. İşlem analiz formu)

TASK ANALYSES FORM				
Occupation			Task	
Specification number			Specification	
Competency				
Environment (tool, equipment and conditions)				
Task standards				
TASK STEPS		INFORMATION	SKILL	BEHAVIOR
1-		1-	1-	1-
2-		2-	2-	2-
3-		3-	3-	3-
…		…	…	…
…		…	…	…
Time (the duration of the work done):			Learning time:	

- **Module Specification Form**: (Table 5), prepared by writing explanations about measuring and evaluating, general aim which implies sufficiency and explanations and/or preconditions about the module.

Table 5. Module specification form
(Tablo 5. Modül bilgi formu)

MODULE SPECIFICATION PAGE
Module:
Module code:
Department:
Program:
Lesson:
Time:
Credit:
Prerequisite:
Teaching methods and techniques:
Education-Teaching environment:
Aim of module:
Learning objectives: 1- 2-
Content: 1- 2-
Measurement and assessment:
Explanation:

- **The Lessons** are prepared by arranging the modules in pre condition, hardness and complication issues, by grouping them according to complexity principal, hardness, aims, contents, used tools, environment etc.
- **Lesson Specification Form Belongs to Every Lesson** (Table 6), is prepared by determining by writing down staff such; considering lesson's area, branch, class and duration; lesson's aims and content (by having benefit from module specification pages), environment about execution, hardware, method and method techniques, explanations about these techniques and teachers who will give the lesson.

Table 6. Lesson specification page
(Tablo 6. Ders bilgi sayfası)

Lesson				
Department				
Program				
Semester				
Language				
Category	Compulsory	Vocational courses		Elective
Prerequisites				
Time and distribution	Weekly	In school	Individual learning	Total
Credit	Lesson credit		ECTS	
Course objectives				
Outputs and competencies				
Content and distribution	Week	Module/content/subject		
	1			
	2			
	3			
	4			
	5			
	6			
	7			
	8			
	9			
	10			
	11			
	12			
	13			
	14			
	15			
	16			
Environment (tool and equipment)	Environment	Equipment		Workshop
Measurement and assessment	Note/Explanation/Suggestion:			
	Method	Applied method		Percent (%)
	Midterm exam			
	Homework			
	Projects			
	Term paper			
	Laboratory work			
	Other			
	Final			
Instructor				
References				
Institutions and organization will corporate				

- **The Lessons are Scheduled** by considering common basic qualifications, special (sector based) occupational qualifications, and occupational qualifications related to the branches.
- **Lesson Schedules** (Table 7), are prepared by paying attention to the issues given below.
    - *Regulating lessons and lesson hours of education program by the years/semesters which the lessons will be given.*

- o *Section and program names which can be found in Lesson Plan thread, should be same with the names given in Lesson Information Form (The list of COHG which is specified by ISCED-97 [17]),*
- o *The Must Course Block should be common for all occupations and should be formed by first years' lessons,*
- o *When the lessons which are formed from modules, are being placed to the occupational lessons block, their name should be same with the names in lesson information form and all prepared lessons (common lessons like Protecting the Environment, Communication, First Aid, Occupational are included) should be in this part,*
- o *Occupational lessons should be formed by, occupational/branch lessons, lessons which can be placed and can be chosen from lesson pool, generally the lessons which will be given in last year's,*
- o *Total Lesson hours should not pass 25 hours for every semester,*
- o *In lesson plan, semesters of the lessons and lesson hours should not be given in the table, associations which will apply the program should organize their own schedule and lesson plan.*

- **Program Documents and Appendixes** are formed by gathering lesson information form, module information page, process analysis form and qualification table in one place and organizing them as a one document.
- **Teaching Materials** preparation is first started by giving software education to the personnel who will be in charge of document writing. After the education, it is completed by preparing materials' writing processes.

Table 7. Lesson schedule
(Tablo 7. Ders planı)

LESSON CATEGORIES	LESSONS	1. Semester	2. Semester	3. Semester	4. Semester
University ……………………… Vocational High School ……………………… Department ……………… Program					
LESSON SCHEDULE					
Compulsary Lessons					
	TOTAL				
Vocational Lessons					
	TOTAL				
Elective Lessons					
	GENERAL TOTAL				

4. CONCLUSION AND RECOMMENDATIONS (SONUÇ VE ÖNERİLER)

The program development period, is executed together with reviewing 4. Level programs prepared before by SVET (Strengthening The Vocational Education and Training System in Turkey). With the help of this, in the 4th level programs, which will become basic structure to the programs which will be prepared, are became better. In this study, 5th Level programs are prepared in compliance with Bologna Period.

In this project, which will be applied for pilot sectors in pilot regions/schools; in lifelong education process concept, in high school level (5th level), according to MTE's labour market's needs and demands, reorganizing in compliance with EU norms, in program development session –which is the most important part of HRD-VET project-; including MNE attendants, CHE attendants, area experts and sector delegates, 3868 people took duties. In every study level, inside study groups; pilot associations' teachers, area experts, MNE delegates and experts from the sectors worked together. Studies are

made in coordination with MNE Projects Coordination Center and Education Research and Development Branch Management (EARGED).

Generally, the aim and the goal of HRD-VET is to contribute qualified human power development by creating MTE programs in parallel with labour market and economical changing and improving demands. Since it is not possible to reach these aims only within the education world, the following associations are joined in all project studies (as a social partner or in province level); DİSK, HAK-İŞ, İŞKUR, KOSGEB, MYK, TESK, TİSK, TOBB, TÜRK-İŞ, TÜSİAD. With the help of this, without limiting sector and occupation analysis to only beginning level, widening it to all process scale is become possible.

In the beginning of the studies, as pilot provinces, Erzurum, Elazığ, Malatya, Gaziantep, Diyarbakır, Kahramanmaraş and Şanlıurfa was selected.

Program development studies were made in 8 sectors, for 11 occupational areas which are selected by the analysis made according to sector and labour market demands. Sectors and occupational areas within the concept of program improvement are given in Table 2.

Table 8. Sector and occupational areas
(Table 8. Sektör ve meslek alanları)

Sector	Occupational Areas
IT Technology	Software Technologies
Electrics-Electronics	Electrics-Electronics Technologies
Machine	Machine Technology
	Plumbing Technology and Air-conditioning
Metal	Metal Technology
Automotive	Automotive Technology
Textile	Textile Technology
	Ready-To-Wear Technology
Tourism	Food Services
	Residence and trip services
Food	Convenience (Ready to Serve) Food Technologies
	Software Technologies

Programs given in Table 2 are started in pilot schools in pilot provinces.

Before the program starts, basic structure and hardware maintenances are made in pilot schools. These maintenances are made according to the demands of the sector and industry, just like the programs. Besides, not only occupational education hardware and schedule healings are made, but also "education of educators and managers" are made. In this concept, pilot school's teachers, who are not joined to the project preparation session, are also become aware of the process; consequentially project execution session became easier.

In the last level of the project, education programs are developed and applied which are given in Table two, for specified sectors and occupational areas in pilot schools in pilot regions. According to obtained results, sectors, occupations and application zones of project might be widened. Besides during the evaluations not only the program, but also by reconsidering all process, program development method might be used as a guide for next similar studies.

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