

## **ELEVET**

### **WP2 Contribution - ITALY**

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#### **1. INTRODUCTION**

Italian vocational training was regulated for the first time by law 264/1949, which assigned to the Ministry of Labour the competences on this matter. The law addressed an adult target, providing for the professional requalification of both unemployed workers and employed workers aged less than 45. Different bodies, institutions, associations and training centres were entrusted with the organisation of this training, which in 1951 was extended to a younger target [1].

With the introduction of school autonomy (1999), schools have been able to start new training paths in agreement with the Regions, offering official courses in their study branches as well as in other study branches, but also experimental courses in their and in other study branches [1].

Law 3/2001 reformed Title V of the Constitution making a distinction between: general education, which falls under the exclusive competence of the State as for general rules, essential levels of performance and fundamental principles of legislation at regional level<sup>10</sup> and VET, which falls under the responsibility of the Regions, although the essential levels of performance remain under the responsibility of the State. The essential levels of performance correspond to the minimum standards of competences, that are defined by the State-Regions conference in order to recognize the qualifications at National and European level. For VET, the essential levels of performance allow the accreditation of the structures that provide courses. Regions must ensure the acquisition of nationally defined minimum levels concerning language, mathematics, scientific, technological and social competences and the correspondence of the qualifications to the local enterprises needs and nationally defined professional profiles [1].

Law 53/2003 established the education and training system in a pre-primary level, a first cycle of education (primary and lower secondary levels) and a second cycle of education including the licei system and the VET system. This law has also introduced the right/duty to education and training. It guarantees to all the right to education and training for at least 12 years or until the obtainment of a vocational qualification within 18 years of age. This right can be exercised both in the licei system and in the VET system [1,2].

As for the IVET, in 2003 an agreement between the State and the Regions instituted the threeyear experimental VET courses for the fulfilment of the right/duty to education and training. From 2006 the length of compulsory education is set at 10 years and the three-year courses have become a segment of the education system where it is possible to accomplish the compulsory education [1].

Law 40/2007 abolished the economic and technological licei, replacing them with the technical and vocational institutes that already existed [1].

In 2010 a new system for the second cycle of education came into force and an agreement between the State and the Regions established the development scheme of VET pathways [1].

## 2. LEGISLATIVE FRAMEWORK FOR IVET

Table 1. Legislative framework for IVET [1].

EDUCATIONAL LEVEL	MAIN LAWS	MAIN SCOPE AND OBJECTIVE OF THE LAW
Lower and upper secondary level	<ul style="list-style-type: none"> <li>• Law no.53/2003</li> <li>• Law no.296/2006 (Financial law 2007)</li> <li>• Law no.133 of 6 August 2008</li> <li>• Law no.169 of 20 October 2008</li> <li>• Ministerial decree no.249 of 15 September 2010</li> </ul>	<ul style="list-style-type: none"> <li>• Reform law of the education and training system;</li> <li>• It establishes, among other things, what follows: extension of compulsory education to ten years (up to 16 years of age) to be fulfilled by pupils either at school or through three-year vocational courses falling under the responsibility of the Regions;</li> <li>• It contains measures to reduce public costs also in the field of education. A range of interventions are foreseen by this law. In particular, the reorganisation of the school system (DPR 81/2009), the revision of the first cycle of education and of timetables (DPR 89/2009), the reform of the second cycle of education (DPR 87/2010) and the inclusion of Regional three-year vocational training courses in the educational system, for the fulfilment of compulsory education;</li> <li>• It introduces new criteria for the assessment and progression of students at primary and secondary levels;</li> <li>• It reforms initial teacher training.</li> </ul>
First-level initial vocational training	<ul style="list-style-type: none"> <li>• Italian Constitution (see also Constitutional reform law no.3/2001)</li> <li>• Law no.196/1997</li> </ul>	<ul style="list-style-type: none"> <li>• It assigns exclusive competences to the Regions on vocational education and training;</li> <li>• It reorganises the vocational training system;</li> </ul>

	<ul style="list-style-type: none"> <li>• Law no.53/2003</li>   <li>• Law no.30/2003 (Reform law 'Biagi') and Legislative decree no.276/2003</li>   <li>• Ministerial decree no.139/2007</li>   <li>• Law no.133 of 6 August 2008</li>   <li>• Law no.183 of 4 November 2010</li> </ul>	<ul style="list-style-type: none"> <li>• It foresees the fulfilment of the right/duty (diritto/dovere) to continue their training within the education system for at least 12 years or up to the obtainment of a qualification (three years) within the vocational education and training system within 18 years of age;</li>   <li>• They introduce three types of apprenticeships;</li>   <li>• It provides for the dispositions on raising the length of compulsory education up to 10 years;</li>   <li>• It establishes that compulsory education can be accomplished also in the three-year vocational training courses, falling under the competence of the Regions.</li>   <li>• It foresees, among other things, the possibility to fulfil the last year of compulsory education (right/duty to education and training) through an apprenticeship.</li> </ul>
<p>Post-secondary non-tertiary education and training: Higher technical education and training system (IFTS and ITS courses)</p>	<ul style="list-style-type: none"> <li>• Law no.144/1999</li>   <li>• Interministerial decree no.436/2000</li>   <li>• Agreement of the Unified Conference - 19 November 2002</li>   <li>• Agreement of the Unified Conference – 29 April 2004</li> </ul>	<ul style="list-style-type: none"> <li>• It institutes Higher technical education and training (Istruzione e Formazione Tecnica Superiore - IFTS) courses;</li>   <li>• It regulates Higher technical education and training system (IFTS) courses;</li>   <li>• It approves minimum standards for basic and cross-curricular competences;</li>   <li>• It establishes minimum standards for the technical-professional competences for the 37 professional profiles defined at national level by a</li> </ul>

	<ul style="list-style-type: none"> <li>• Agreement of the Unified Conference - 25 November 2004</li> <li>• Agreement of the Unified Conference – 16 March 2006</li> <li>• Financial law 2007 (Law no.296/2006)</li> <li>• Decree of the President of the Council of Ministers of 25 January 2008</li> </ul>	<p>previous Agreement of the Unified Conference (1 August 2002);</p> <ul style="list-style-type: none"> <li>• It establishes Training centres of Higher technical education and training system (IFTS);</li> <li>• It defines minimum standards of the technical-professional competences related to new professional profiles with regard to transport services;</li> <li>• It foresees the reorganisation of the Higher level technical education and training system (IFTS) to strengthen the high level vocational training and to improve the technical-scientific sector;</li> <li>• It establishes guidelines for the new organisation of the Higher technical education and training system and the institution of the Higher technical institutes (Istituti Tecnici Superiori ITS).</li> </ul>
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### **3. INSTITUTIONAL FRAMEWORK FOR IVET**

Compulsory education in Italy has a duration of ten years (from 6 to 16) and includes the first cycle of education and the first two years of upper secondary school (in state and non-state schools possessing the requisites established by the State) or the three/four years paths of vocational education and training for which Regions have competences [1,3].

Moreover, all the young people that have accomplished the right/duty to education and training till 16 years old, cannot abandon the education system because they have a right/duty to education and training for at least 12 years (from 6 to 18 years old in the upper secondary school ruled by the Ministry of Education) or until they have gained a professional qualification (inside the three/four years regional training paths) till 18 years old [1,3].

SCHOOL SYSTEM (IVET – LOWER SECONDARY EDUCATION, VOCATIONAL UPPER SECONDARY EDUCATION, UPPER SECONDARY EDUCATION)

Concerning the accomplishment of the right/duty to education in the school system, the overall responsibility is of the Ministry of Education, University and Research (MIUR) that operates at central level, while at local level there are Regional School Offices (Uffici Scolastici Regionali –USR) and Provincial School offices (Uffici Scolastici Provinciali-USP) [1].

Regions and Autonomous Provinces are responsible for planning education and training, planning school networks on the basis of provincial plans, implementing the school calendar and financial

contributions to non-state (private) schools. Schools have didactic, organisational and research, experimentation and development autonomy. They do not have financial autonomy. The Constitution establishes that the State has the obligation of offering a system of public education, but it also foresees the existence of non-state schools, to which the equity on the basis of pre-determined requisites is recognized [1].

#### VET SYSTEM (INITIAL VOCATIONAL TRAINING, HIGHER TECHNICAL EDUCATION AND TRAINING SYSTEM, SECOND LEVEL OF INITIAL VOCATIONAL TRAINING)

Constitutional Law n.3/2001 assigns to the State the responsibility of the general ruling and the definition of "minimum levels of services", i.e. the minimum common requisites with which the regional systems (included vocational training ones) must comply, and to maintain relationships with the European Union. The field of VET is co-administered by the State and the Regions, while the Regions have the exclusive competence in the field of vocational education and training. Regions manage competences also by delegating and transferring competences to Provinces. The training agencies providing vocational training pathways must be accredited by Regions and meet the requirements set by the the State and the Regions [1].

In synthesis, the actors involved in the framework of the education and training system in Italy, can be so represented [1]:

- 1) Ministry of Education, University and Research – defining overall principles and the essential levels of performance of the education and training system
- 2) Ministry of Labour – defining and guaranteeing the essential levels of services of the education and training system
- 3) Regions and autonomous Provinces – exclusive jurisdiction on vocational education and training, concerning both the planning and the supply of the training offer
- 4) Social Partners - contributing to design and implement active labour market policies, especially in the field of vocational training. To summarize this context, the following is a list of the actors involved according to their institutional level and function.

#### **4. LEGISLATIVE FRAMEWORK FOR CVET**

In 2010, as in 2009, legislation measures have mainly been adopted to face the effects of the occupational crisis. The measures promote the integration between active and passive labour market policies and involve Interprofessional Joint Funds. The parts engage themselves to promote the synergy of the financial resource to support employability, also with a more flexible of ESF and with the re-modulation of the resources of the Interprofessional Joint Funds [1,3].

The integration between employment services and training activities is the most important factor of innovation brought by these measures. About 250 thousand workers involved in employment services plans are esteemed in June-September 2010. Qualitative evaluations suggest that a significant part of them participated in training activities [1].

The occupational crisis showed different effects in northern and southern regions. These differences have affected regional policies, also regarding the definition of workers target. Generally, taylor-made initiative addressing workers in redundancy fund (CIG – Cassa Integrazione Guadagni) are promoted by the most important northern regions; smallest and southern regions, affected by the historical phenomena of unemployment, aim their interventions to a wider population [1].

Regional administrations sought to meet workers' training needs through a very flexible offer, enhancing what was already available at territorial level. In particular, the training offer system is based on training offer catalogs which collect initiatives carried out by training bodies and agencies qualified by regional administrations. Workers can choose the training module that best suits them with the support of employment services [1].

Another innovation, introduced by the Lombardia and Veneto Regions, consists in an individual account (named “dote”) through which individuals can access both training activities and employment services, such as skills assessment, vocational and occupational guidance. Tuscany Region promote the integration between active and passive employment policies through the ILA (Individual Learning Account) Cards, just experimented by the same Region in the last years [1].

Starting from 2007, some Regions have promoted some initiatives of integrated planning with the Interprofessional Joint Funds. Initiatives undertaken in this period belong to two main groups [1]:

- general agreements between the Regions and social bodies, in accordance with the principles of the National Agreement (Accordo Tripartito ) signed in 2007, aimed to a common planning of training activities; some of them have created specific committees and observatories to facilitate information and experience sharing, particularly for training initiatives not included in common plans;
- “experimental” agreements between Regions and Interprofessional Joint Funds, in which financial resources are shared to promote training plans that address wider targets of workers population; Tuscany and Lombardia Regions, such as the Genua District (Provincia di Genova), financed training plans aimed at employers and autonomous workers, while Interprofessional Joint Funds financed the same training plans but aiming them at employees only.

Decree 02/2010 implementation Law 236/93 allocates 150 million euro, among Regions ESF and Rotation Fund resources, for initiatives aimed at supporting “priority” workers if belonging from SMEs, and in particular:

- workers affected by occupational crisis, in order to improve their employability;
- workers in redundancy fund (CIG – Cassa Integrazione Guadagni);
- low qualified, over 45, unemployed young people.

The Decree finance training plans (at the level of single company, or local area or economical sector), also aimed at developing self-employment skills and opportunities.

## **5. INSTITUTIONAL FRAMEWORK FOR CVET**

Continuing Vocational Education and Training in Italy consists of the following elements [1]:

- continuing training activities for the updating and re-qualification of the workers' vocational skills.
- lifelong learning activities for the acquisition of basic, general and pre-vocationally-oriented skills;
- lifelong learning activities for the enhancement of cultural background and the attainment of skills for social life and active citizenship.

In recent years, a number of changes have been made to promote a consistent system for financing and managing continuing vocational education and training (CVET) and general adult education initiatives in Italy. The aim has been to establish a more consistent supply structure to

achieve the objectives of employability, active citizenship, social inclusion and personal development. The continuing vocational education and training system in Italy is quite complex and fragmentary since it is based on a variety of instruments referring to a policy and legislative scenario in constant evolution over recent years. In Italy there isn't a national law on CVET yet [1].

Table 2. Administrative structure for continuous training [1].

Ministry of Education	National level
Ministry of Labour	National level
Regional administrations, Autonomous Provinces and the Social partners	Regional Level
Provincial administrations	Local level

With regard to the ESF and national Laws 236/93 and 53/00, the authorities having jurisdiction are: the Ministry of Labour, the Regional administrations and autonomous Provinces, as well as the provincial administrations where a delegation measure is applicable.

With regard to joint multi-sectoral funds, the system is managed by the social partners and supervised by the Ministry of Labour.

With reference to the supply of continuing training, activities are carried out by a wide range of providers that may be summed up as follows [1]:

- public and private enterprises and organisations, programming training activities for their employees;
- training bodies and agencies as well as accredited organisations (enti di formazione ed agenzie formative accreditate);
- joint bodies, trade associations (social partners);
- professional associations and professional registers;
- institutional bodies (universities, Job centres, etc.).

Among the measures adopted at the aim of fostering the acquisition of basic, general and pre-vocationally- oriented skills, we need to mention the regulation programme on the re-definition of the teaching organisational structure of Permanent Territorial Centres, and their evening courses (June 2009). This regulation programme introduces vital changes, since it turns Centres into self-governing school institutions, which are organized in local service networks and, as for the offer, have the ability to have a training provision, which is structured according to learning levels and aimed at achieving diplomas and certificates of the first and second education cycles with reference to technical, vocational and art grammar schools. Adults, and also migrant adults, who have not completed compulsory studies or do not have diplomas of upper secondary education can apply to these Centres. The sixteen year olds, who have not achieved a certificate for the first education cycle, or who have not completed compulsory studies, can also apply [1].

## 6. ITALIAN EDUCATION AND TRAINING SYSTEM OVERVIEW

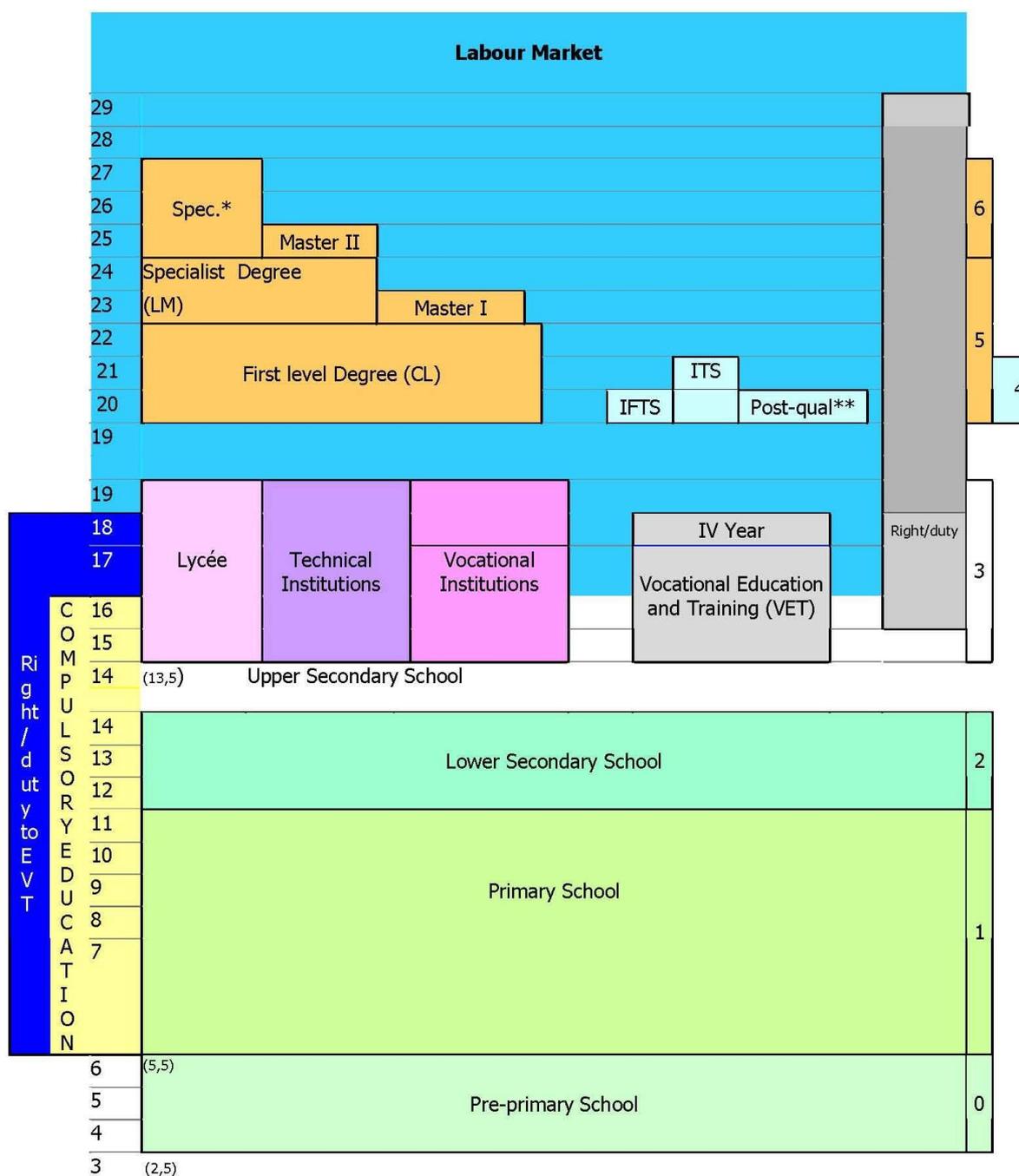


Fig. 1 Italian education and training system referred to ISCED 1997, state on February 2010 [1].

### LOWER SECONDARY EDUCATION

The Italian education system is divided into two cycles of education: the first cycle of education (primo ciclo di istruzione) is composed by primary school (pupils aged 6-11) and by the lower secondary school (scuola secondaria di secondo grado), which is attended by pupils from 11 to 14 years of age. Although they are part of the same cycle of education, they maintain their own peculiarities [1,4].

## GENERAL UPPER SECONDARY EDUCATION

Currently, the second cycle of education (secondo ciclo di istruzione) included the following types of institutes [1]:

- Liceo classico (classical upper secondary school),
- Liceo scientifico (scientific upper secondary school),
- Liceo linguistico (linguistic upper secondary school),
- Liceo artistico (artistic upper secondary school),
- Liceo musicale e coreutico (music and dance upper secondary school),
- Liceo delle scienze umane (human science upper secondary school).

## VOCATIONAL UPPER SECONDARY EDUCATION

Vocational upper secondary education includes technical education, i.e. istituto tecnico (technical school), attended by pupils aged 14-19 and vocational education, i.e. istituto professionale (State vocational schools), attended by pupils aged 14-19 [1,4].

Technical education aims at preparing students to carry out technical and administrative functions as well as some professions in trade, services, industry, building and agriculture. Vocational education aims at providing students with specific theoretical and practical preparation enabling them to carry out qualified functions in production fields of national interest [1].

As for technical and vocational institutes are concerned, the new regulations foresee only 2 types of technical institutes divided in 2 sectors [1]:

- technical studies (9 branches: mechanics and energy; transportation and logistics; electronics; ICT; graphics and communication; chemical and biotechnologies; fashion; agriculture; food processing and agro-industry; building and environment).
- economic studies (2 branches: administration, finance and marketing; tourism).

Vocational institutes (managed by the State) are divided into 2 macro-sectors with 6 branches:

- services (4 branches: agriculture; health and social care; food and wine and hospitality; trade)
- industry and handicraft (2 branches: industrial and handicraft productions; maintenance and technical assistance).

Both in the licei and in the technical and vocational institutes, the overall length of study will be 5 years.

At the end of the upper secondary school (general and vocational upper secondary education), students take a state examination. Those who successfully pass the examination obtain an upper secondary school leaving diploma, which allows them to continue their studies at higher level [1, 4].

The certificate mentions the branch and length of the studies, the final mark, the total mark obtained in the written tests, the mark obtained in the oral test, the points assigned through 'school

credit', the points assigned through training credits and the additional points given by the examination board (if applicable), the subjects included in the curriculum and the total number of teaching hours dedicated to each subject [1].

The certification models are drawn up by the Ministry of education, university and research. Diplomas and certificates are written in four Community languages so that they can be understood in the different countries of the EU [1].

#### INITIAL VOCATIONAL TRAINING (MANAGED BY THE REGIONS)

Initial vocational training (formazione professionale iniziale – FPI), is managed by the Regions and is offered by recognised training agencies operating nationwide (Vocational training centres). The FPI provides for [1]:

- First-level (or basic) training, addressed to those who have completed the first cycle of education. These paths have a three-year length and lead to the obtainment of a regional qualification certificate or to a qualification diploma;
- Second-level training pathways addressed to those who have completed the upper secondary level of education or who have obtained a first-level vocational qualification;

Apprenticeship are organised as follows [1]:

- An apprenticeship aimed at the fulfilment of the *diritto/dovere* (right/duty) to education and training: young people who have reached 16 years of age can be enrolled for all the fields of activity. The contract lasts a maximum of three years and is aimed at helping students obtain a vocational qualification;
- A profession-oriented apprenticeship: students aged between 18 and 29 years can be enrolled;
- A 'high apprenticeship' (*alto apprendistato*), for qualified students. Depending on the type of qualification to be obtained, collective contracts define the length of the contract which, however, cannot be less than two years or more than six years. There is also a minimum quota of 120 hours (240 for apprenticeships aimed at the fulfilment of right/duty) of formal training (internal and external).

#### POST SECONDARY EDUCATION (NON TERTIARY)

Post-secondary education and training is organised both in the higher technical education and training system and in the second-level vocational training courses managed by the Regions [1].

1. Higher Technical Education and Training System
2. Second level of initial vocational training – the regional VET courses

They are managed by the Regional Authorities and aim at providing students with specialized training. Curricula are based on vocational skills having a high theoretical, technical, technological and managerial content, also through practical exercises and on-the-job training periods.

## IVET AT LOWER SECONDARY LEVEL

Generally speaking, IVET is not provided at this level. Lower secondary school, of three year duration, has only one education pathway common to all students aged between 11 and 14 and is compulsory. Curricula include above all general subjects and do not include work-based training. Students learn a second European foreign language, in addition to English, and further study of ICTs. Admission is free and is subject to the attainment of a primary-school certificate. Legally recognized private lower-secondary schools are entitled to State subsidies and generally require parents to pay tuition fees. Following the schools' organisational and teaching autonomy provided by Legislative Decree 112/98, lessons can be spread over a period of 5 or 6 days per week, usually in the morning. It is also possible to modify both the duration of individual lessons and the weekly timetable depending on local needs and on teaching and educational programmes. On parental request, disabled children are entitled to a support teacher. At the end of the three-year cycle, students are required to take a State examination in order to obtain a lower secondary school-leaving certificate (Diploma di Licenza Media) and have to continue their studies by enrolling in and attending upper secondary education [1].

## IVET AT UPPER SECONDARY LEVEL (SCHOOL-BASED AND ALTERNANCE)

As the Education and Vocational Training System reform has been completed in 2010 (Law 53/2003 and Legislative Decree 226/2005), in Italy the second cycle programmes (14-19 years old boys and girls) consist of four different pathways: Lycées (now also including the old "Istituti magistrali", aimed at training primary schools teachers), Technical Schools, Vocational Schools (managed by the Ministry of Education), and Vocational Education and Training System (managed by the Regions). In particular, whilst Lycées are aimed to a generic education for pupils that intend to pursue their studies into higher education, Technical Schools, Vocational Schools (five years) and three years IFP are aimed at training students for technical professions. The curriculum of Technical Schools is based on scientific and technological subjects and enables students to acquire knowledge and competencies for managing productive processes related to technical professions. Compared to Technical Schools, the competencies provided by Vocational Schools are more directly usable in a working environment. The IFP pathways are managed by the Regions and similarly provide technical competencies directly usable in a working environment, but with a focus on specificities of the local market. Students can also gain a vocational qualification taking an additional year of training. These pathways can be realized either within accredited training Centres or within schools that realize interventions aimed to the integration between education and vocational training [1].

## APPRENTICESHIP TRAINING

In Italy apprenticeships are labour contracts with a specific training aim. They combine periods of work with training and apprentices are considered as employees [1].

The apprenticeship system, regulated by Law 30/2003, includes three types of apprenticeships, differentiated on the basis of age requirements, type and length of training, and final qualification [1,5].

1. Apprenticeships for the fulfilment of the right-duty to education and training aimed at young people aged 16 to 18 who have completed the compulsory training period.
2. Professional Apprenticeships represent a more strictly occupationally-based form of apprenticeships aimed at young people aged 18 (17, if apprentices have already obtained a national

qualification) to 29. This contract enables students to gain a competence certificate or a professional qualification. Depending on the type of qualification, the collective bargaining defines the length of the contract, which cannot exceed six years. It implies a formal training of 120 hours per year, provided by training centres within programmes promoted by the Regional authorities. Training activities are provided by accredited VET providers and funded by public bodies (Regions and Ministry of Labour). Formal training can also be provided by enterprises, as long as these meet a set of specific requirements.

3. Apprenticeships for acquiring a higher education Diploma (also known as Higher Apprenticeships) are a new form of apprenticeship. This type of apprenticeship links the labour contract with the aim to acquire a diploma issued by the education system, at secondary or tertiary level. Through this type of apprenticeship even a doctorate degree can be obtained.

The certificate acquired gives an opportunity to continue in the upper levels of the education system.

This type of apprenticeship is currently under experimentation in a range of pilot projects. Most of these projects involve universities and enable apprentices to gain a master degree of level Isced 5 (ISCED 1997).

#### OTHER YOUTH PROGRAMMES AND ALTERNATIVE PATHWAYS

For young people leaving lower secondary school, in addition to the right-duty to education and training pathways (lycées, technical schools, vocational schools, IFP three-year and four-year pathways), a number of training pathways specifically aimed at disadvantaged people (physical and mental disabled, youngsters with family hardships, young people that have not completed the first cycle of education, etc.) are also available. These can have different length (one or two years), lead to a regional qualification and use different pedagogical methodologies and support measures, mainly centered on “learning by doing”. These pathways are therefore training courses that use approaches and methodologies very similar to those used in vocational education and training. They are led by regional administrations and have different features as they are designed in accordance with different the intervention strategies adopted at regional level for disadvantaged people [1].

#### VOCATIONAL EDUCATION AND TRAINING AT POST-SECONDARY (NON TERTIARY) LEVEL

In Italy, two different training pathways are available at post-secondary non-tertiary level, (ISCED 4 – ISCED 1997) within the higher technical education and training system: those offered by Higher Technical Institutes (Istituti Tecnici Superiori – ITS), and those offered the Higher Technical Education and Training (Istruzione e Formazione Tecnica Superiore – IFTS). The above mentioned pathways have been reformed through Decree of the President of the Council of Ministers of 25 January 2008 [1].

#### VOCATIONAL EDUCATION AND TRAINING AT TERTIARY LEVEL

At tertiary level it is usual to differentiate between academic and vocational streams, though in practice there is a degree of overlap between them. The ISCED 1997 classifies 5A programmes as tertiary ones ‘that are largely theoretically based and are intended to provide sufficient qualifications for gaining entry into advanced research programmes and professions with high skills requirements’. More vocationally oriented courses are classified as 5B and ‘are typically shorter than those in 5A and

focus on occupationally specific skills geared for entry into the labour market, although some theoretical foundations may be covered in the respective programme' (Unesco, 1997, p. 35) [1].

As recently stressed by the last Education at glance 2010 OECD report<sup>15</sup>, education also plays a major role in keeping individuals in the labour force longer – an advantage that is becoming a necessity as more OECD countries face demographic and structural changes in the labour market. The fact that labour markets have absorbed the significant increase in individuals with tertiary education shows how rapidly labour market demand for skilled labour is changing. In this sense, the creation of specific VET paths at tertiary level has led the Italian government to develop policies to retain both high value jobs and highly educated labour [1].

On the basis of the European prospect, the Italian higher education system can be subdivided into three separate sectors [1]:

- University education (ISCED5A – ISCED 1997)
- Non-university higher education offered by the Higher level Arts and Music Education system (AFAM- ISCED5A – ISCED 1997)
- Higher technical education and training at ISCED4 –ISCED 1997 level (IFTS ), which has been recently reformed, according to the Decree of the President of the Council of Ministers (DPCM) of 25 January 2008. The DPCM has involved the following issues: the training offer and programmes of the Higher Technical Institutes; the training offer of the IFTS course, measures to help the development of technical-vocational centres.

The Higher Technical Institutes are a type of mixed public-private Foundation: they are Autonomous Bodies established under the private law aiming at providing a service of Public Utility, in a dynamic governance process among public and private sector. They can be set up by [1]:

- an upper secondary school belonging to the technical/vocational branch (as defined by the law 40/2007);
- training institutions accredited by a Region for the purpose of higher level training;
- enterprises belonging to the same productive branch of the ITS;
- university departments or any other body belonging to the technological/scientific research system;
- a local authority (municipality, province, extended urban area, etc).

## **7. CURRENT NATIONAL CRITERIA FOR ELECTRICIANS' EDUCATION CERTIFICATION**

In Italy electrical works are regulated mainly by the Decree of the Ministry of Economic Development 22/01/2008, No. 37.

This regulation shall apply to facilities placed at the service of buildings, regardless of intended use, located within the same buildings or related appliances. If the system is connected to distribution networks shall apply from the point of delivery of the supply. The mentioned plants referred in this decree shall be classified as follows:

- a) systems of production, processing, transportation, distribution, use of electricity, plant protection against lightning, as well as automation systems for doors, gates and barriers;
- b) radio equipment, antennas and electronic systems in general;

- c) heating, air conditioning, air conditioning and refrigeration of any kind or types, including the evacuation of combustion products and condensate, and ventilation of the premises;
- d) water and sanitation of any kind or types;
- e) facilities for the distribution and utilization of gas of any kind, including the evacuation of the products of combustion and ventilation;
- f) equipment for lifting persons or things by means of elevators, freight elevators, escalators, etc.;
- g) fire protection systems.

The plants or plant parts that are subject to safety requirements prescribed in the implementation of legislation, or specific legislation, are not subject to these aspects, the provisions of this Decree.

#### COMPANIES ENABLED TO ELECTRICAL WORKS

The companies entered in the register of companies in the DPR 07/12/1995, n. 581, as amended, hereinafter register, or the provincial of the trades referred to the Law 08/08/1985, No. 443, the following register of small businesses, are authorized to perform the activities referred to electrical works, if the individual entrepreneur or the legal representative or the technical manager in charge of a formal act by them, is in possession of the professional requirements [6].

The technical manager, mentioned before, shall perform that function for a single company and position is incompatible with any other activities.

#### TECHNICAL AND PROFESSIONAL REQUIREMENTS FOR ELECTRICAL WORKS

The technical and professional requirements are, alternatively, one of the following [6]:

- a) bachelor's degree in special technical degree from a state university or legally recognized;
- b) certificate of qualification awarded at the end of the second cycle of secondary education with a focus on the activities, at a state institution or legally recognized, followed by a period of integration, at least 2 years continuous, reporting directly to a company in the industry. The period of integration for the activities referred to water and sanitation of any kind or types devices is one year;
- c) the license or certificate obtained under the current legislation on vocational training, after a period of integration, at least 4 consecutive years, reporting directly to a company in the industry. The period of integration for the activities referred to water and sanitation of any kind or types devices is 2 years;
- d) work performed under the direct employ of a company enabled in the business covered by the installer service worker for a period not less than 3 years, except to count towards the apprenticeship and played as a skilled worker, as an installer with workers' qualification specializing in the installation, conversion, extension and maintenance of plants included in the Decree of the Ministry of Economic Development 22/01/2008, No. 37.

The inclusion of periods referred to radio equipment, antennas and electronic systems in general; heating, air conditioning, air conditioning and refrigeration of any kind or types, including the evacuation of combustion products and condensate, and ventilation of the premises; water and

sanitation of any kind or types devices may also take place in the form of ongoing technical collaboration within the enterprise by the owner, partners and family workers. It consider, also, to possess the technical and professional requirements pursuant to the authorized person, the company owner, family members and associates who have worked as a technical collaboration continued in the field of qualified firms for a period not less than 6 years. For the activities referred to water and sanitation of any kind or types devices this period cannot be less than 4 years [6].

## REQUIREMENTS FOR DESIGN OF FACILITIES

For the installation, transformation and expansion of plants included in the Decree of the Ministry of Economic Development 22/01/2008, No. 37 beside equipment for lifting persons or things by means of elevators, freight elevators, escalators, etc.; has prepared a project. Without prejudice to compliance with stricter regulations on the design, the project is written by a practitioner entitled to practice according to the specific technical skills required. In special cases, the project, as specified at 'Art. 7, paragraph 2 of Decree of the Ministry of Economic Development 22/01/2008, No. 37 can be written alternatively by the technical manager of the install [6].

The project for the installation, alteration and extension, is written by a professional registered professional registers according to the specific technical skills required in the following cases [6]:

- a) systems of production, processing, transportation, distribution, use of electricity, plant protection against lightning, as well as automation systems for doors, gates and barriers for all utilities and condominium units for individual households with more than 6 kW power used for domestic or individual units of an area exceeding 400 m<sup>2</sup>;
- b) electrical installations made with cold cathode fluorescent lamps, connected to electrical systems, for which the project is required and in any case by plants total power output of more than 1200 VA power supplies;
- c) systems of production, processing, transportation, distribution, use of electricity, plant protection against lightning, as well as automation systems for doors, gates and barriers relating to property used for productive activities, trade in services and for other purposes, when the loads are powered by voltage exceeding 1000 V, including the low-voltage, or when users are fed in low voltage systems with more than 6 kW power used or if the area exceeds 200 m<sup>2</sup>;
- d) electrical supplies related to real estate units, even if only partially, from areas subject to specific regulation of the CEI, in the case of premises used for medical purposes or for which there is greater danger of explosion or fire hazard, and the systems of lightning protection in buildings with a volume greater than 200 m<sup>3</sup>;
- e) radio equipment, antennas and electronic systems in general, relating to electronic systems in general when they coexist with electrical systems requiring a design;
- f) heating, air conditioning, air conditioning and refrigeration of any kind or types, including the evacuation of combustion products and condensate, and ventilation of the premises, with branched collective flues, and air conditioning systems for all uses with a cooling capacity greater than or equal to 40,000 refrigeration units / hour;
- g) facilities for the distribution and utilization of gas of any kind, including the evacuation of the products of combustion and ventilation, relating to the distribution and use of combustible gas with

heat input exceeding 50 kW with collective flues or branched, or related medical gas systems for hospitals and the like, including storage;

h) fire protection systems, if they are included in an activity subject to the certificate and fire prevention, however, when the hydrants are in number equal to or greater than 4 or detection devices are in number equal to or greater than 10.

The draft of the plants are processed according to the best practice. Projects developed in accordance with current legislation and implications of the guides and rules of UNI, the IEC or other standards bodies belonging to the European Union or Member States that are parties to the Agreement on the European Economic Area.

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