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## Erasmus+ Key Action 3

### GET INVOLVED IN EP4A: EUROPEAN PARTNERSHIPS FOR APPRENTICESHIPS

## Country Report – Serbia

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## Introduction

Providing qualified staff for the economy is one of the key challenges in Serbia (and outside Serbia). This is where the system of vocational education comes forward, which can contribute to economic development and prosperity.

However, the secondary vocational education system is not only a functional measure to achieve economic goals. The secondary vocational education system also has the potential of transfer from school to the world of labor offering youth the prospective to plan their careers and thus find their role in the society.

### 1. Country background and context

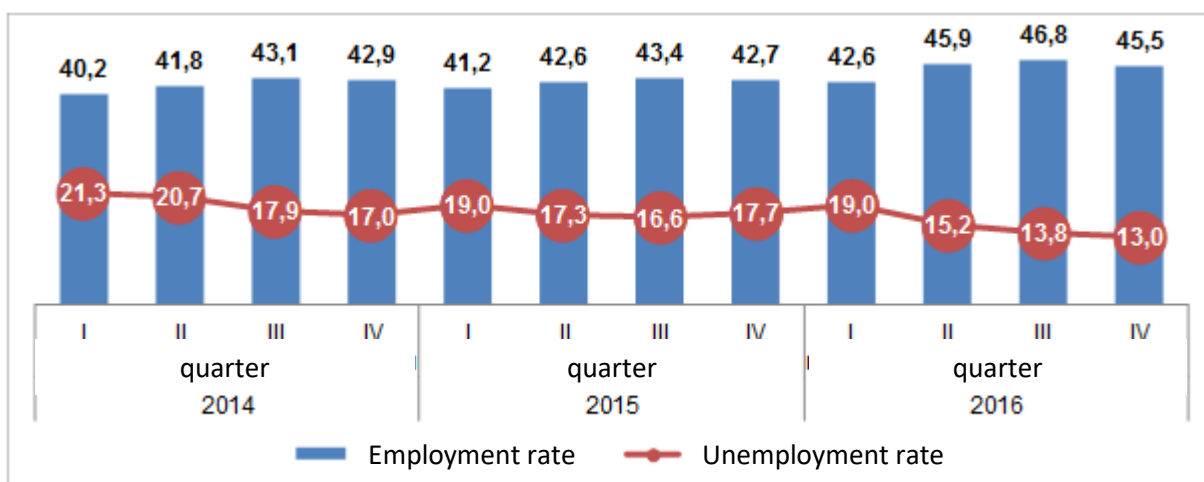
#### 1.1. Labour market situation

The number of formally employed in 2016 amounted to 2 160 700, while the number of informally employed amounted to 570 700, of which 2/3 (374 900) were engaged in agriculture.

The result of such employment and unemployment trend is a record low unemployment rate (13.0%), on the one hand, and increase of inactive population contingent (by 114 000), on the other hand, which, in addition to pensioners and students, includes inactive persons who wish and are able to start working although they do not search for employment actively.

Share of the young who neither work nor are included in any education system in the total youth population aged 15 to 24 amounts to 16.5%. This share amounts to 21.4% in the population age 15 to 29, which means that more that one fifth of the young of that age stands for unused resource both from the aspect of work and from the aspect of education.

**Graph 1 Employment/unemployment rate trend for population aged 15 and above, 2014–2016 (%)**



**Activity rate** for population aged 15 and above amounts to 52.3%, with activity rate 60.7% for men and 44.5% for women.

**Employment rate** for population aged 15 and above amounts to 45.5%, with employment rate 52.8% for men and 38.7% for women.

**Informal employment rate** amounts to 20.9%, where two thirds of the informal sector are taken by employment in agricultural activities.

**Unemployment rate** for population aged 15 and above amounts to 13.0%, where 13.0% form men and 13.1% for women.

**Table 1 Basic labor market trend indicators, 2015–2016.**

	2015				2016			
	I quarter	II quarter	III quarter	IV quarter	I quarter	II quarter	III quarter	IV quarter
	(%)							
Activity rate	50.8	51.5	52.0	51.9	52.6	54.1	54.3	52.3
Employment rate	41.2	42.6	43.4	42.7	42.6	45.9	46.8	45.5
Unemployment rate	19.0	17.3	16.6	17.7	19.0	15.2	13.8	13.0
Inactivity rate	49.2	48.5	48.0	48.1	47.4	45.9	45.7	47.7
Informal employment rate	19.7	19.7	21.5	20.4	20.3	22.7	24.1	20.9

The total number of unemployed at the end of 2016 in the Republic of Serbia amounted to 700 762.

**Structure of the unemployed in 2016 according to the level of qualifications**

Level of qualifications	Education level	Number of unemployed	Share %
I	Elementary education	197 844	28.23
II	Semi-qualified worker	24 741	3.53
III	Qualified worker	162 376	23.17
IV	Secondary education (4 years)	206 735	29.49
V	Highly qualified worker	5 467	0.78
VI	College education	38 418	5.48
VII	Higher education	65 181	9.32
<b>TOTAL UNEMPLOYED</b>		<b>700 762</b>	<b>100%</b>

**Source: National Employment Service of the Republic of Serbia**

At the end of 2016, at the territory of the Regional Chamber of Commerce of Moravica and Raska Administrative Districts there were 64 832 unemployed, of which 18 645 unemployed in the Moravica District and 46 187 in the Raska District.

According to the level of qualifications, most people have the fourth level of qualifications – secondary education (32.4%) followed by people with third level of qualifications - highly qualified

workers (26.3%). Percentage of people without qualifications (first and second level) is high and amounts 24.2%. Unemployed with sixth and seventh level of qualifications account for 15.8%.

In regard to employment according to the area of work in 2016, people were mostly employed in the processing industry 17.6%, commerce 14.9% and administrative and auxiliary service activities 8.6%.

## 1.2. Economy sector

According to the official data of the Statistical Office of the Republic of Serbia, the total number of employed in December 2016 amounted to 2 027 000, of which 1 939 000 in legal entities (business companies, enterprises, cooperatives, institutions and other organizations), persons who perform activities individually, entrepreneurs and their employees, and 88 000 registered individual farmers.

The biggest number of the employed is in legal entities 95.7%, of which 79.3% is employed in business companies (limited liability companies), 16.4% in entrepreneurial shops, while agricultural holdings employ 4.3% of the total number of the employed.

Employed in Serbia	total	share
Employed in business companies	1 607 000	79.3%
Entrepreneurs	332 000	16.4%
Individual farmers	88 000	4.3%
<b>TOTAL EMPLOYED</b>	<b>2 027 000</b>	<b>100%</b>

**Source: Statistical Office of the Republic of Serbia**

Observing according to the activities in the economic sector, the biggest number of the employed belongs to the processing industry sector 21%, followed by the services sector 18.4 %, commerce 17% and traffic 5.8%.

## 1.4. Vocational education and training system

Education in Serbia is a national competence. The main actors in this policy field are the Ministry of Education, Science and Technological Development (MoESTD), which administrates the whole education system, the National Education Council, and Council for Vocational and Adult Education, which are the highest bodies in the area of the development of education and quality assurance.

As far as the main problems of the education system are concerned, the World Bank (2015a) points to the inefficiency of public spending and the quality of student achievements, which can be considered below average when compared internationally.

Another challenge is related to skills mismatches between the education system and the labour market. This means that the education system has difficulties in measuring up to the demand of the labour market, as is the case in other transition countries, too.

Since the beginning of the transition period, various education initiatives have been started. In 2012, the Strategy for Education Development in Serbia 2020 was adopted. The strategy recognises the education system as a major factor for the further development of the country against the background of an aging population, regional disparities and high unemployment.

After completing elementary education students can enter vocational secondary schools. Vocational secondary schools last either 3 or 4 years. They offer education in 15 different fields – for example, Economics, Law and Administration or Electrical Engineering or Chemistry. Most of the schools (around 350 in total) are public and free of charge, but private schools also exist. The general aim of vocational secondary schools is to prepare students for their entrance into the labour market in the respective field. 4-year programmes grant additional access to higher education.

The MoESTD and the Institute for Improvement of Education (IIE) are responsible for issuing curricula, as is the case with elementary education and general secondary education. Curricula are nationally standardised and vary from field to field.

According to the Law on the Foundations of the Education System, practical learning should make up a significant amount of VET programs. In reality, however, VET programs in Serbia are practically school-based, as the law does not specify how the implementation of practical learning should work. Work-based learning in cooperation with companies only exists to a very small extent.

If the students either pass the final exam (after 3 years) or the graduation exam (after 4 years), they receive the Secondary School Certificate - diploma.

## 2. Apprenticeships in Serbia

### Apprenticeship in project countries – distinguishing features

#### 2.2. Legal framework

Secondary vocational education in Serbia is currently regulated by the **Law on Secondary Education** (“The Official Gazette of the Republic of Serbia” no. 55/2013) and the Law on Secondary School (“The Official Gazette of the Republic of Serbia” no. 50/92, 53/93 – state law, 67/93 – state law, 48/94 – state law, 24/96, 23/02, 25/02 – correction, 62/03 – state law, 64/03 – state law, 101/05 – state law and 72/09).

Secondary education provides knowledge and develops abilities for work and further education. In the education statistics, institutions having the activity in the field of secondary education are considered as regular secondary schools. Schools perform the educational activity by implementing the curriculum.

A secondary school may be established as a gymnasium (general and specialized), an art school, vocational school or mixed school (gymnasium and vocational or art school). Vocational

schools are profiled by the economy sector such as: civil engineering, mechanical engineering, agriculture, forestry, medical, economics, catering, traffic, etc.

75% of students in Serbia enroll in secondary vocational schools, 23% enroll in general education schools (gymnasium) and 2% enroll in art schools. For secondary vocational schools, 14.5% of students enroll in economics school, 9.8% in electrical engineering, 9.5% in medical school, 9.0% enroll in secondary vocational schools of mechanical engineering, and 8.5 % of students opt for commerce, catering and tourism.

Pursuant to Article 30 of the Law on Secondary Education, practical classes and apprenticeship may be implemented by the school in cooperation with a business company, an institution, another organization or another legal entity. Time, manner and conditions of implementation of practical classes and apprenticeship are specified in a contract.

From the 1990/91 school year, secondary education has been implemented according to the fields of work (economy sector), which include corresponding educational profiles.

Researches have shown that employers more often organize trainings to cover the deficiencies during schooling of the young than they implement trainings for professional improvement and development.

One of the research has shown that economic cost of deficiencies of the education system in the period 2002-2012 amounted almost 3.5 billion euros.

### **2.3. Governance structure**

The government of the Republic of Serbia has the competence to regulate the VET system at the (upper) secondary education level.

The principle statute for the VET system is the Law on the Foundation of the Education System (further referred to as Law on Education) and the Law on Secondary Education. The Law on Education does not exclusively regulate the VET system, but comprises regulations regarding preschool, elementary, secondary education and therefore regulates the VET system as part of the secondary education level. The Law on Secondary Education, which entry into force in 2013, regulates the organisation of the VET system, including teaching and the organization of the involved actors, institutions, etc., in detail. In general, VET is delivered by vocational schools. The law does not regulate in-company training, but it creates opportunities for work-based training.

To monitor, enable the development and enhance the quality of the education system, the Law on Education establishes the National Education Council (NEC), the Council for Vocational and Adult Education (CVAE) and the Institute for Improvement of Education

#### **2.4. Training content and learning outcomes**

The MoESTD and the IIE are responsible for issuing curricula, as is the case with elementary education and general secondary education. Curricula are nationally standardised and vary from field to field. A part of each curriculum is congruent with general secondary education curricula and is accordingly devoted to general subjects, such as mother tongue, maths, ICT, foreign languages, etc.. This general part amounts to 35% of curricula in the case of 3-year schools and 45% in the case of 4-year schools. Vocational subjects, which vary with the respective area and which feature practical instruction, make up the remainder.

According to the Law on the Foundations of the Education System, practical learning should make up a significant amount of VET programs. In reality, however, VET programs in Serbia are practically school-based, as the law does not specify how the implementation of practical learning should work. Work-based learning in cooperation with companies only exists to a very small extent.

#### **2.5. Cooperation among learning venues**

Although practical teaching is part of the curriculum in most “traditional” educational profiles in secondary vocational education, the general impression is that the manner it is implemented is inadequate, i.e. it does not lead to the results wanted in terms of adopting skills and developing competencies with students.

The Chamber of Commerce and Industry of Serbia (CCIS) has started the initiative to introduce a dual education model in the Serbian educational system in order to match education with the economy needs and reduce unemployment of youth. This kind of education is implemented in lots of European countries and the most famous and successful are the Austrian, German and Swiss models. Inclusion of representatives of the economy in the overall process of implementation, starting with identifying needs for certain educational profile, through modernization of curriculum and implementation of practice in companies, to participation in final examination and practical skills certification boards, are of key importance in the dual education model.

#### **2.6. Participation of and support to companies**

Dual education is learning at a work place in a company and in a secondary vocational school. Students are in a special educational-employment relationship with an employer and they receive certain revenue for that. The companies are expected to appoint instructors who will be licensed to work with students.

In addition to companies, school partners are local governments as well, which in accordance with their possibilities may provide certain kind of student support: financing transport, food, accommodation, insurance, purchase of textbooks, etc.

DUAL EDUCATION in Serbia in its initial phase is implemented as follows (all of the following will be regulated by the Law on Dual Education)

- Dual education is a part of a formal secondary vocational education system.
- It shall be introduced exclusively upon the request of the economy, i.e. in cities/municipalities where companies show the need and possibility to accept students for practical classes according to the dual model because they intend to employ them after they complete schooling (naturally if students wish to be employed in such companies).
- It shall be applied to three-year profiles primarily and to four-year ones in a smaller extent (three-year profiles account for 19% of the secondary education system and 81% account for gymnasiums, technician and art four-year profiles).
- The curriculum shall include:
  - o in three-year profiles – up to 35% general education, 65% vocational education of which 32.5% practical classes in companies
  - o in four-year profiles – up to 45% general education, 55% vocational education of which 27.5% practical classes in companies.
- Practical classes in a company shall be implemented as follows:
  - o for three-year profiles - (possibly) in the first year 1 day a week, in the following two years it shall be implemented 2 days a week
  - o for four-year profiles – in the second year 1 day a week, in the following two years it shall be implemented 2 days a week.
- Places for the implementation of practical classes (companies) shall be secured in advance – depending on the educational profile and in compliance with the agreement with the companies, training may be implemented in school workshops in the first year, and in a company in the following two or three years, or all three or four years in a company.
- The Chamber of Commerce and Industry of Serbia shall specify and check the conditions in companies for the possibility to accept students for practical classes before the beginning of student training, and monitor the compliance with the conditions after the beginning of training.
- Prior to the beginning of implementation of practical classes, a company will be obliged to provide a required number of licensed instructors/mentors.
  - o An instructor/mentor shall be obliged to undergo pedagogic-didactic training in order to be able to train students in a company, and they will have to pass an exam, i.e. acquire an instructor license.
  - o The Institute for Improvement of Education shall develop training programs and exam programs for instructors/mentors.



- The CCIS shall organize or provide venues for the implementation of instructor/mentor training.
- The CCIS shall implement the exam, issue the license and keep a register of instructor/mentor licenses.
- Prior to the beginning of implementation of practical classes, two types of contracts on implementation of practical classes in a company shall be concluded – a contract between the company and the school and a contract between the company and the students. The CCIS shall mediate in the conclusion of the contracts and shall keep a register of all contracts.
- In cooperation with the instructor/mentor from the company, the school (teacher of practical classes) shall monitor the implementation of a part of the curriculum, i.e. the implementation of the course in practical classes.
- For the implementation of practical classes in a company, the students shall be secured substantially (protective equipment and aids, food, transport, insurance) and financially by the company. The least amount of student revenue shall be specified by the Law and it shall be indicated in the contract between the company and the student.

After the completion of dual education, progression to higher education is possible. According to the Law on Higher Education, higher-vocational school are entitled under their internal bylaws to prescribe a possibility to accept students after three-year vocational education, which means that students may continue their education after completing dual education. In Serbia, after four-year vocational education (technicians) students are able to continue (progress) with their education to University, the same as after general secondary schools (gymnasium), if they pass entry exam.

## **2.7. Requirements and support to teachers and in-company trainers**

Within the IIE, the Centre for Professional Development of Education Staff regulates teachers' education. VET teachers are required to hold a Master degree from a university. After one year of teaching, VET teachers have to pass a license exam to continue teaching. Thereafter, teachers are required to use a given amount of their working time for professional development.

## **2.8. Financing and cost sharing mechanisms**

Active participation of the economy in the dual education model means that a company is willing to provide the following:

- places for student practice in the company – due to the economic crisis and the difficult conditions that companies operate in, a number of students to be accepted by the company will not be crucial, but the objective is to provide students with best quality practical training;
- financial support to students on practice either in terms of symbolic financial compensation or in terms of other forms of support such as food, transport, accommodation, scholarships and such; the amount of financial compensation and other forms of student support shall be

regulated by the contract concluded between the student/parent and the employer; such contract shall precisely specify other issues as well: period and duration of training, obligations and rights of the student and the company, conditions for termination of the contract, etc.

- workers in the company who would become instructors/mentors to students after passing adequate trainings,
- donating certain equipment for the purpose of equipping school workshops is optional.

## **2.9. Quality assurance**

Regarding the VET system, the MoESTD has the following responsibilities: research, planning, inspection and development of secondary education; participation in the development, equipping and maintenance of facilities; professional evaluation and inspection of skills upgrade of staff at education establishments. Furthermore, the MoESTD accredits VET institutions and programmes, as the Law on the Foundations of the Education System and the Law on Secondary Education specify.

The Institute for Education Quality and Evaluation is responsible for setting up educational standards and to evaluate the schools' performance.

## **2.10. Apprentice's working and learning conditions**

According to the forthcoming Law on Dual Education, students (apprentices) could be in the company during the whole school year, for 8.00 till 20.00 h, working max 8 hours per day i.e. max 35 hours per week. Working/learning conditions are the same as for the employed in the company which means according to all necessary safety and healthy standards prescribed by the laws.

## **2.11. Responsiveness to labour market conditions**

At the moment, the Republic of Serbia has no procedure for monitoring the harmonisation of the VET programs, including apprenticeships, with the labour market needs, but expectations of introducing dual education based on the abovementioned Law are to go in that direction – matching education with the economy i.e. labor market needs.

# **3. Conclusions and recommendations**

## ***3.1. Major bottlenecks and challenges***

Obstacles for including as many business entities in dual education are as follows:

- lack of awareness of students
- lack of awareness of employers

- a small number of companies that may be involved in the process of dual education implementation (lack of work load)
- a huge responsibility of the employers that they take on
- underestimation of work
- lack of incentives for all employers who participate in the dual education
- lack of cooperation between the school and parents with employers
- insufficient advertising of deficient professions on national television
- insufficient promotion of attractiveness of secondary vocational education for students attending final grades of primary school

### **3.1. Key strengths and potential points**

#### **Advances resulting from the dual education system:**

- achieving compliance of the educational offer with economy needs;
- companies have the opportunity to provide deficit staff during their schooling and thus make savings in additional training;
- students shall acquire knowledge and skills to be competitive in the labor market;
- school maintenance costs shall be rationalized by including the local economy and
- increase of employment shall be achieved, reducing the risk of outflow of young professionals.

#### **Benefits for companies in the dual education system**

- Opportunity to find competent workforce
- Improved productivity and performance
- Reduced costs of introducing new workers to the business
- Reduced costs of finding new staff
- Smaller risk of incorrect allocation
- Promotion – socially responsible behavior of companies

By providing places for practice in companies students are enabled not only to be trained on modern machines that are actually in use today, but also to adapt to the real work atmosphere that cannot be experienced in any school workshop. After finishing school, a student usually stays to work in a company where they attended practice. Companies would prefer investing in a student who they can profile through practice according to their business process rather than taking unskilled person from the labor market in whose retraining they will invest significantly more time and money. Particularly contributing to better quality of professional practice in the model are the mentors/instructors in companies that have passed pedagogic-didactic training to work with students. Benefit for the society is reflected in the fact that the workforce is educated entirely in accordance with the needs of the economy, thus the unemployment is lower.

### **3.2. Recommendations**

Based in the information received from the polls, interviews and discussions on focus groups, it is evident that companies would participate more actively in the process of dual education implementation if:

- Secondary vocational schools would be rationalized primarily in compliance with the needs of the economy, labor market and student abilities

- Employers would be included in the development and functioning of curriculums in secondary vocational schools
- Capacities of trades schools would be increased as a direct response to the needs of the economy – craftsmen education
- Apprenticeship and practical classes would be modernized and developed both in secondary schools and educational institutions and companies in compliance with the competent ministry and local government,
- Workshops would be organized for training in certain secondary vocational occupations that would employ top craftsmen (e.g. retired persons) in addition to the existing teaching staff for the purpose of better development of apprenticeship and practical classes
- Work of education planning and development services in local governments would be organized
- Partnerships would be supported at the local, regional and national levels
- Identification of employers participating in the process of implementation of practical classes in their companies would be secured

#### **Sources:**

- Law no Secondary Education (“The Official Gazette of the Republic of Serbia” no. 55/2013) and
- Law no Secondary School (“The Official Gazette of the Republic of Serbia” no. 50/92, 53/93 – state law, 67/93 – state law, 48/94 – state law, 24/96, 23/02, 25/02 – correction, 62/03 – state law, 64/03 – state law, 101/05 – state law and 72/09)
- Rules of enrolling students in secondary: (“The Official Gazette of the Republic of Serbia” no. 41/14)
- Education Development Strategy in Serbia until 2020 (“The Official Gazette of the Republic of Serbia” no. 107/12)
- Dual Secondary Vocational Education in Serbia feasibility study