



“LEARNING BY DOING” PROJECT

“Targeted capacity building of VET partnerships in the Danube Region for the effective modernisation of VET systems”

WP 6: Policy Engagement

Deliverable D: 6.1. SERBIA - country specific strategic documents

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1. Executive Summary

The “Learning by Doing” project aims to improve capacities of all relevant VET actors through reinforcing regional, national and transnational partnerships in the Danube countries, by involving 24 project partners. Following a common need for regional exchange and learning, the project aims to develop vocational education and training schemes helping labour mobility and responding to fast economic changes and to the needs of companies, by creating awareness on the socio–economic and cultural challenges and deficiencies. For so doing, the project focusses on reducing systemic disparities as well as labour market and educational imbalances within the Danube area. The ultimate goal is to promote the VET system as an attractive and competitive tool.

Specific objectives include:

- To improve institutional capacities and cooperation attitudes of all VET actors, prompting their sensitisation towards more company- and practice-oriented forms of WBL through learning activities on individual, stakeholder and institutional level.
- To develop transnational tools to support long-term transition of VET systems towards more competitive ones, including dual VET schemes and apprenticeship. The aim is to equip VET partnerships in the regional with durable transnationally convertible tools and change mind-sets to implement long-term changes in the institutional, cultural and organisational frames
- To support the project’s vision (enabling VET actors through capacity building to boost the transition of existing VET systems towards more company- and practice oriented WBL schemes) by developing national/regional strategies using participative co-creation methods and capitalizing on the increased capacities of stakeholders, including practical roadmaps defining clear responsibilities, rights and obligations for each key VET actors involved, to support VET reform. Besides, policy recommendations will be developed targeting policy level to integrate (or improve) WBL schemes into local education and training systems by creating the necessary regulatory framework in the context of practices, legislation and collective agreements.

The project is based on 3 steps of ideas generation:

1. **Ambition-setting:** identification of institutional, cooperation and cultural challenges by sharing EU good practices and conducting peer review. The process results in visions created by local stakeholders on how to “ideally” transform WBL schemes towards more company- and practice-oriented forms in their own context.
2. **Scenario development:** the creation of empowering capacity building actions using innovative and interactive training techniques, tailoring their themes/formats to the specific local

challenges identified by stakeholders, also with a view on previously explored European practices. Stakeholders, by using the new mind-sets and skills gained in the frame of capacity building, will set up different country specific scenarios, elaborating on how the transition of existing WBL VET could realistically take place in their local context.

3. **Strategy/tool development:** Partners prepare long-term strategies and appropriate toolkits. Firstly, a Guidebook for more efficient Work-Based Learning in the Danube Region will be created, highlighting key factors of the transition. This is based on partners' case studies on country specific challenges. Secondly, partners will establish a Work-Based Learning Observatory in the Danube Region aiming to follow-up and support the transition processes with expertise and knowledge sharing. Thirdly, reinforced partnerships of VET actors draft long-lasting regional/national strategies and policy recommendations, initiating and supporting the country specific transition of existing VET systems. Final papers will reflect the harmonized views of the whole partnership.

The project's target groups are:

1. National public authorities
2. Education/Training Centres and Schools
3. Enterprises and SMEs
4. Youth, as an indirect target group

1.1. Main Activities of LbD Project

In line with the above description of the project, thematic WPs navigate through 3 spheres of learning, starting with individual learning in WP3 (study visits, staff exchanges). It continues with stakeholder learning in WP4 (capacity building, ambition setting workshops) as well as in WP5 (scenario development workshops), resulting at the end of the project with institutional learning, where reinforced VET actors create innovative strategies (WP6).

1.2. Aim of the Strategic Document

The Strategic Document supports the project's vision (enabling VET actors through capacity building to boost the reform of existing VET systems) of the Serbia by developing national/regional strategies, including practical roadmaps defining clear responsibilities, rights and obligations for each key VET actors involved, to support VET reform. Besides, policy recommendations will be developed targeting policies to integrate WBL schemes into national/regional education and training systems.

1.3. Fields of Interventions

Some enablers were identified among stakeholders in Serbia on which the implementation of the apprenticeship can be build further (and in accordance with the Cedefop's Review):

- ✓ the existing legislation on apprenticeship
- ✓ already established cooperation between schools and companies (to be used as examples of good practice in order to inspire other schools and to inform guidance activities)
- ✓ involvement of social partners in VET at strategic level
- ✓ monitoring and update of qualifications standards
- ✓ general education component included in all formal secondary VET programmes (which enables permeability to higher levels of education)
- ✓ open curriculum (which allows adapting VET programmes to the local labour market needs and interests)
- ✓ existence of inter-company training centres

2. General information on VET system

Secondary vocational schools offer education programmes that last 3 or 4 years and prepare students for work and/or further education. In vocational schools, children get qualification in fields of construction, mechanical engineering, agriculture, forestry, chemistry, medicine, dentistry, economy, tourism, trade etc. Art schools last for 4 years and offer programmes in the fields of music, visual arts and ballet. At the end of secondary education (four-year programmes) students pass the Matura exam. At the end of 3-year programme students pass Final exam. Students who do a 3-year course are not eligible for further studies. Upon completion of secondary vocational education and two years of working, specialist and master's education lasting one to two years can be acquired, as well as additional qualification acquired in the process of additional qualification or retraining.

Apart from formal system that is described above, in Serbia system of non-formal or so-called adult education exist.

Secondary vocational education is organized in 15 fields of work and educational profiles (qualifications). Currently in VET system there are 277 active secondary VET qualifications. 59% or 164 qualifications are 4 years qualifications (level 4 in NQFS) and 41% (113) of all VET qualifications are 3 years qualifications (level 3 in NQFS).

Majority of programmes are in Machine engineering and metal processing, Culture, art and public information, Electrical engineering and Chemistry, non-metal and graphics.

All VET schools are equipped with school workshops and students are having their practical work there. Where there are companies relevant for the qualifications that are willing to accept students'

practical knowledge is gained in the companies. For most of the qualification, it is combination of school workshop and companies where they are acquiring the practical knowledge.

The quality framework for evaluating the work of educational institutions in the Republic of Serbia includes 30 standards and 158 indicators (Rulebook on standards of quality of work of educational institutions, "Official Gazette of RS", No. 7/11) distributed in seven key areas of school work: School Program and Annual Work Plan, Teaching and Learning, Student Achievements, Student Support, Organization of Work and Management and Resources. Evaluation of quality is achieved through self-evaluation and external evaluation.

The external evaluation process is an assessment by "external, independent observers" based on a large number of information collected by observation or through direct communication with actors of work in school, in accordance with evaluation criteria and established standards.

The process of self-evaluation is the most important means of ensuring quality at the institution's level, and it implies the autonomy of the school, the application of the prescribed standards for the quality of the work of schools, the responsibility, but also the mutual trust of the employees in the institution.

2.1. Contextual conditions of VET system

1. Total number of secondary schools and their division per type depends on the methodological approach. Some schools are mixed, meaning they are general and VET at the same time. Some schools are specialised for children with disabilities, some are artistic. All this provide for different number of schools in various sources.

4. According to the 2011 census, population in Serbia is ageing and shrinking by around 0.5 % annually. Serbia is characterised by depopulation: 2014 was the twenty-third consecutive year of negative natural growth consequently number of student population is decreasing for 2,5% annually.

5. Adult education schools enable persons aged over 15 (adults), who do not attend school on regular basis, to acquire elementary education. Adults can complete primary and lower secondary school by either regularly attending school or taking exams. Adults acquire upper secondary education as part-time pupils in upper secondary schools. The numbers are referring only to formal adult education.

6. Data for Serbia show that the trend in early school leaving is positive, i.e. percentages are decreasing, from 11.9% in 2005 to 7.8% in 2014¹. Data per education level and per type of secondary education is not available.

8. Data about teachers that are provided are referring to all teachers, no matter full or part time employed. Number of teachers with full time employment is 16 567 for the school year 2015/16. According to the Education policy and data center, in Serbia for 2014, pupil teachers' ratio in secondary education was 9, while for Upper- and middle-income country it is 14.

10. Regarding the companies involved in apprenticeship, the numbers stated here are referring only to companies involved in so called "dual education", not in the other forms of work-based learning.

14. Data on quotas are provided by economic sector not by education profiles/qualifications.

¹ Education in Serbia in Light of the MICS Data, UNICEF, 2015

No.	Indicator	Data (2008/2018)		
		2016	2017	2018
1	Number of secondary schools 462/470 ² (510 ³)	2016	2017	2018
		508	510	
2	Number of secondary vocational schools 355/362 ⁴	2016	2017	2018
		312	310	
3	Number of students in secondary schools	2016	2017	2018
		250011	249094	
4	Number of students in secondary vocational schools 26% General Secondary education /74% VET ⁵	2016	2017	2018
		169374	167049	
5	Number of adults in vocational qualification programmes as the part of lifelong learning process	2014/15 – 5 955 2015/16 – 5 972 ⁶		
6	Percentage of VET system graduates among all the secondary school graduates	2016	2017	2018
		74.6	74.3	
7	Success rate of finishing secondary schools vs. success rate of finishing secondary vocational schools	/		
8	Student/teacher ratio in secondary schools vs. ratio in secondary vocational schools 2015/16 - 29 883 ⁷ 2016/17 – 29 739		2016	2017
			8.4	8.3
		VET	8.2	8.1
9	Percentage of secondary vocational schools having their own workshops	100%		
10	Percentage of companies who accept apprentices during their secondary schooling	800 out of 250000 0.32%		
11	Number of secondary vocational school's student cooperatives	/		
12	Percentage of secondary vocational school students involved into student cooperatives work	/		
13	Total number of different vocational programmes,	277		

² June 2017

³ 2017/2018 school year

⁴ June 2017, without special needs schools

⁵ Ibid

⁶ SORS, Education for schools year 2015/16

⁷ SORS, Statistical Yearbook of the RS, 2017, Education - data for education is from 2015.

14	Programmes with greatest enrolment quotas	
1	Economy, law and administration – 13,3% (8 520)	
2	Electrical engineering – 10,9% (8 149)	
3	Health care, pharmacy and social protection – 9,6% (5 720)	
4	Machine engineering and metal processing – 8,7% (7 841)	
5	Trade, hospitality and tourism – 8,1% ⁸ (6 875)	
6	Agriculture, food production and processing (5 360)	
7	Traffic (3 856)	
8	Chemistry, non-metals and graphic arts (2 640)	
9	Geodesy and civil engineering (2 023)	
10	Textile and leather goods (1 290)	
15	Programmes with largest interest of the pupils finishing primary school (by enrolment applications) ⁹	
1	DENTAL TECHNICIAN – 14,03% popularity index	
2	MEDICAL NURSE TECHNICIAN – 13.37%	
3	PHARMACEUTICAL TECHNICIANS – 12.37%	
4	ELECTROTECHNICIAN FOR IT – 11,17 %	
5	COMPUTER NETWORK ADMINISTRATOR – 10.55%	
6	PEDIATRIC NURS TECHNICIAN – 9.77%	
7	AIRE TRAFIC TECHNICIAN FOR SAFETY – 9.79%	
8	CULINARY TECHNICIAN – 9.79%	
9	COOK – 8.97%	
10	PHYSIOTHERAPY TECHNICIAN – 8.67%	
14	Average division of hours between in class learning (theoretical and general knowledge) and practical work (in percentages).	3-year qualifications – 4-year qualification -
	Programme(s) with minimum percentage of practical work	General subjects – 35% Vocational subjects – 66% where around 30% is dedicated to practice

⁸ Ibid

⁹ Data from the MoESTD is for school year 2014/2015, per city or municipality

	Programme(s) with maximum percentage of practical work	General subjects – 45% Vocational subjects – 56% where around 30% is dedicated to practice
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2.2. The purpose of VET system

The Strategy for Development of Education in Serbia by 2020 (SEDS) adopted in 2012 (Official Gazette of the Republic of Serbia, no. 107/2012) and the Action Plan for the Implementation of the Strategy for Education Development in Serbia by 2020 (Official Gazette of the Republic of Serbia no. 16/15)¹⁰ are still valid. This strategy cites main principles of the quality education system, including VET, in the Republic of Serbia by 2020 and calls for the provision of high-quality education for all, an increase of students' coverage and attainment at all levels of education by maintaining the relevance of education and increasing efficiency.

The mission of secondary vocational education and training is to provide every individual with the opportunities and conditions to acquire knowledge, skills, abilities and attitudes - professional competences for effective integration into the world of labour or further education.

No	Indicator	Data
1	Percentage of finished VET system graduates with regard to the NACE code of the industry employing them, compared to the structure of the employees in industries by the NACE code (as a measure of a parity between the supply and demand on the labour market)	We have not introduced NACE codes in VET system yet – planned for 2020
2	Rate of secondary vocational school graduates among unemployed people	22,42% - III 29,13% - IV ¹¹
3	Number of adults enrolling in retraining/requalification programmes and their age structure ¹² .	16.5% ¹³
4	Rate of secondary school graduates among entrepreneurs (GEM research, TEA indices...)	/

¹⁰ http://www.mpn.gov.rs/wp-content/uploads/2015/08/Akcioni_plan.pdf

¹¹ NES Newsletter for March 2018

¹² This could show if the VET system produces sufficient structure of qualified workers, because if there are many young people who have finished secondary school just a few years ago and now already doing the requalification then something is wrong with the system.

¹³ ADULT EDUCATION SURVEY, 2011, Statistical Office of RS

2.3. The internal factors of VET system

Relevant regulation governing education are numerous but main one are: The Law on the Foundations of the Education System that regulates the basics of preschool, primary and secondary education, as follows: principles, objectives and standards of education; types of programmes of education, establishment, organisation, funding and oversight of the work of educational institutions, as well as other issues of importance to education and upbringing; Law on Preschool Education; Law on Primary Education; Law on Secondary Education; Law on Adult Education; Law on Higher Education; Law on National Qualification Framework; Law on dual education; Law of Textbooks and other Teaching Materials, etc.

In regard to implementation of WBL/dual education one of the main weaknesses is underdeveloped economy which can undermine implementation of the concept. Students' motivation to study, students' interest in three-year profiles, students' discipline as well as motivation of teachers to improve their performance is weakness that is influencing implementation of WBL/dual education. Linked to this is financing model that is not providing enough resources and incentives for education system to move forward. At the end, system of continuous teacher training and capacity building is not tailored for VET teachers and in the enterprise capacities of instructors to work with students are not sufficient and need to be developed.

Internal stakeholders are:

- Ministry of education, science and technological development
- Institute for Improvement of Education and Institute for evaluation of education
- Council for vocational and adult education
- School and teachers
- Students and their parents
- Chamber of Commerce and Industry of Serbia – for dual education

Formal education system is financed from the national state budget. However, VET schools and VET education have specific demands that are not suitable for centralised management of national budget. Individual school income is transferred to the national budget and then distribute upon request. School infrastructure is well developed and in general majority of schools are well equipped. Statistics show that teachers in secondary schools are very close to the average income in the country.

Possibly the most significant concerns of the Serbian pre-university education system (including VET) are its quality and relevance, as well as linking the education with the labour demand. Parallel, there is no data collection on VET graduates employability. The National employment service provides on request data collection on graduates' access to labour market. The enrolment policy in secondary education, school network and programs supply in each school are not harmonised with local and regional needs in terms of employability.

Also, structure of the Serbian companies (most of the companies are small and micro companies) with fewer employees have limited resources and cannot, or at least not to the same extent as larger

organisations to participate, in cooperation with schools when it comes to hosting of the students for the work based learning practice. When the students are involved in training in these companies they have to readapt its work schedules which is a more difficult task in a small company with fewer people and less numerical flexibility. In addition, in a micro company the entrepreneur holds many responsibilities and may not always be an expert for human resources management and training, which makes reconciling long-term strategic skills planning with immediate daily business concerns more complex.

2.4. SWOT Analysis

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> • Participation in VET in Serbia (around 75%) is high and above the EU average (47.3%). • Developed school network and schools' infrastructure. • Good existing teaching capacities in VET schools. • Developed legislative and strategic framework including the Law on dual Education. • Dual education as one of the Government of the Republic of Serbia strategic priorities. • Involvement of social partners in VET at strategic level. • General education component included in all formal secondary VET programs (which enables permeability to higher levels of education). • Ongoing promotion of WBL and dual education. • Specific actions for improvement in the field of career guidance. 	<ul style="list-style-type: none"> • Most of the Serbian companies are small companies that further roll out of WBL will make challenging. • System of continuous teacher training and capacity building is not tailored for VET teachers. • Capacities of in-company instructors to work with students are not sufficient and need to be developed. • Students' motivation to enrol three-year profiles is not high. • Completion rate in all VET programmes is low - in 2016/17 school year, 77,6% in 3-year profiles and 86,7% in 4-year profiles. • Financing model that is not providing enough resources and incentives for education system to move forward. • The quality assurance system needs to be strengthened (indicators, self and external evaluation...). • The governance system of skills anticipation is still in development phase since there is a room for improvement in the area of application of research findings into forward-looking skills and employment policies and programmes and in ensuring continuity of such activities.

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Cooperation with economy already exist. • Technological development in general and development of economy in Serbia as a drivers for VET system to move forward and to enable improvement of VET deliveries. • Increased motivation of companies for greater profit is opportunity to develop cooperation based on mutual interest. • In 2017, the Government adopted Strategy for Development of Information Technology Industry for 2017-2020 which, among others, assumes development of human capital and building the innovation infrastructure 	<ul style="list-style-type: none"> • Strong trend of demographic decline which influencing decrease of number of students and consequently future shortage of labour. • Serbia population is getting older which means that their competencies are more and more less relevant to labour market. • The data show that the EU average in the participation in adult education was 10.9% in 2017, while in Serbia only 4.4% of persons aged 25 to 64 were covered by some of the adult education programmes. Percentage of males involved in training programmes in 2017 was 4.2 while such percentage for females was 4.6.¹⁴

3. Strategic Plan

The following steps were recognized as strategically crucial for the ideal vision VET/WBL/ apprenticeship system:

- ✓ Further development/specification of policies, legal framework, regulations and funding mechanisms related to work-based learning.
- ✓ Continuous cooperation and institutional partnership of all actors and stakeholders
- ✓ Further development (adaptation) of qualifications'-based curricula in order to secure VET programmes relevance toward labour market needs.
- ✓ Establishment of regular monitoring and evaluation system of WbL.
- ✓ Quality assurance of WbL.
- ✓ Continuous development of the capacity of stakeholders to ensure effective implementation of work-based learning.
- ✓ Further development of the new final examination for three-year profiles and Matura examination for four-year profiles concepts.

¹⁴ SORS, Labour Force Survey 2018

3.1. Operational Plan

AREAS OF INTERVENTION	OPERATIONALIZATION - IDEAL VISION
<i>Relevance of VET qualifications and curricula</i>	<p>Sector Skills Councils (SSCs), as mentioned in the Law on NQF, are an important tool for ensuring the relevance of qualifications on the labour market and are organised as working bodies. Such councils are, also, expert and advisory bodies established in the form of partnership, whose main function is to determine the demand for qualifications on the labour market in Serbia, through dialogue and immediate cooperation of the representatives of the labour and education domains. So, their full formation and functioning will secure VET programmes relevance.</p> <p>Additionally, employment services, chambers and other institutions will regularly conduct surveys on medium-term labour market needs and skills.</p>
<i>Quality assurance</i>	<p>The Ministry of Education will adopt a long-term strategy of quality assurance, in coherence with EQAVET. A system of accountability mechanisms will be put in place in order to verify workplaces, with regular inspections to assess compliance with standards. CCIS will regularly monitor companies including development of a register of companies with apprenticeships.</p>
<i>Promotion</i>	<p>Comprehensive awareness-raising strategy for VET will be agreed at the national level and will allow for cooperation among chambers, schools and employment services, including promotional and informational activities such as fairs, open door events, visits, seminars... The low image of VET in general and 3-year profiles in particular will be specially tackled.</p>
<i>WbL</i>	<p>CCIS will provide guidance services for employers, functioning as mediators, and will develop and implement programmes for training mentors. Commission for dual education will prepare an annual report and develop recommendations. Evaluation will also include cost-benefit analysis, providing evidence to key players, especially employers.</p> <p>As result, WBL recognised as powerful tool in enhancement of the relevance and attractiveness of VET and that presents one of the incentives to employment especially for young people in search of their first job.</p>
<i>Financing</i>	<p>Dependence on different project funds will be slowly shifting towards a more government-supported model. A sustainable financing model for apprenticeship will be put in place.</p>
<i>Collaboration between stakeholders at national and local level</i>	<p>A clear and consistent regulatory framework will be in place based on a fair and equitable partnership approach, including a structured and transparent dialogue among all relevant stakeholders.</p>

4. Risks Management

Areas of intervention (operational plan)	Risk	Likelihood (high, medium, low)	Impact	Mitigation
<i>Relevance of VET programmes/curricula</i>	A mismatch between educational achievements and market needs	Low	The VET system is not relevant to the labour market needs.	Development of mechanisms that will secure that employers actively participate in work of SSCs and are involved in the process of drafting new qualification standards. Also, procedure of consultation process among stakeholders before the new qualification standards is enacted will be drafted.
<i>Quality assurance</i>	WBL quality varies and students acquiring of relevant and planned students' competencies are not developed.	Medium	There are no clear standards and regulations of role and responsibilities, no accredited instructors for delivery of WBL, no guidelines for enterprises to provide quality WBL.	Development of common national M&E and quality assurance framework for WBL (e.g. definition, duration, learning support, company support, contracts, rights and duties).
<i>Promotion</i>	Promotional activities are not systematic and not in accordance with needs of targeted audience	Medium	VET is not promoted and recognized as a value of society and has a bad image.	A comprehensive awareness-raising strategy for VET must be agreed at the national in cooperation with chambers, schools and employment services to develop specific promotional and informational activities.
<i>WBL</i>	WBL is implemented irregularly.	Low	The definition of the WBL concept is not clear, leading to national, regional and local inconsistencies.	The Law already includes a clear definition, agreed by all stakeholders at national, regional and local levels. Evaluation must include cost-benefit analysis, providing evidence to key players, especially employers.
<i>Financing</i>	A sustainable financing model of WBL is not put in place.	Medium	Companies are less and less involved in implementation of WBL.	More financial resources need to be allocated towards WBL-oriented education.
<i>Collaboration between stakeholders at national and local level</i>	Cooperation is not structured and not transparent.	Medium	WBL is not implemented in quality way and VET stayed irrelevant to labour market.	A structured and transparent dialogue among all relevant stakeholders needs to be maintained.

5. Summary of Financial Resources

This part lists the cost, budget and their resources related to the actual steps of how the strategic plan will be accomplished.

Areas of intervention	Activity	Cost
Further development of WBL system	Further development/specification of policies, legal framework, regulations and funding mechanisms related to work-based learning	€10.000
	Further development (adaptation) of qualifications'-based curricula in order to secure VET programmes relevance toward labour market needs	€50.000
Quality assurance of WBL	Engagement of experts that will support national institutions in development of WBL QA system	€10.000
Promotion	Creation and maintenance of nation-wide VET promotional strategy	€50.000
Support to continuous cooperation and institutional partnership of all actors and stakeholders	Implementation of different informative and consultative meetings and workshops	€15.000
Continuous development of the capacity of stakeholders to ensure effective implementation of work-based learning	Training of teachers	€50.000