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WORK-BASED LEARNING IN SERBIA

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EXECUTIVE SUMMARY

For the last decade the harmonisation of education with the needs of the economy and the labour market has been one of the main goals of the education reforms in Serbia. Among various steps taken, the most recent one has been the development of a national model of dual and entrepreneurship education, which has been highlighted as one of the priority goals of the government since 2017. At the same time, needs for informed decision-making in this area are growing. With that context in mind, this report is dedicated to reviewing how the quality of work-based learning has developed.

For this analysis, the methodology applied to data collection was both quantitative and qualitative, and comprised desk research, questionnaires and interviews. Desk research served as the base for an overview of the data and information regarding work-based learning quality in Serbia since 2005, as well as for sampling purposes. A range of quantitative and qualitative data was further collected through interviews, such as the number of companies schools cooperate with and the experience and perceptions of those involved, directly and indirectly, in the implementation of work-based learning in the country. The research was carried out in 2017.

The desk research showed that students' professional practice in general, and particularly work-based learning, is one of the weaknesses of the initial vocational education and training (IVET) system in Serbia. Moreover, there is still no structured framework, at the system level, to monitor and evaluate the quality of work-based learning, although the anticipated introduction of dual education, based on the Law on Dual Education and accompanying bylaws (still to be developed), are intended to address this situation.

During analysis of the responses of the company representatives, it was found that almost all the employers believed that professional practice in the workplace allows students to become involved in the processes of the company immediately upon completion of their studies, and more than 60% mentioned that there is a significant possibility of hiring the best students after graduation, but with the caveat that candidates' employment prospects still depend on external circumstances.

More than 90% of the employers surveyed were willing to continue their cooperation with schools in the implementation of the students' professional practice/work-based learning in the future, even though around 70% thought that the duration and organisation of such programmes in Serbia are not structured in such a way as to allow companies to recover their investment.

Several findings can be reported that highlight the importance of different elements for the implementation of high-quality work-based learning and current obstacles.

- The most significant obstacles that might occur in the process of implementation of work-based learning, assessed by companies, were the lack of interest on the part of the partner school leadership, failures in communication between representatives of the company and the responsible persons in the school, unmotivated students who are reluctant to actively participate in the implementation of professional practice in the company, and a shortage of human and financial resources to train students.
- Several obstacles related to the curriculum were rated as either moderately important or important, i.e. companies expressed the view that the content, duration and expected outcomes

are not clearly distributed and coherent and that curricula contain an insufficient number of hours for students' professional practice.

- Demanding administrative and pedagogical procedures related to the implementation of work-based learning were seen as very challenging by the companies. Perhaps surprisingly, this was perceived as a greater obstacle than the two monetary obstacles – i.e. the lack of incentives offered to the companies and their inability to provide financial compensation for the students.
- Analysis of the presence of obstacles indicates that the lack of trained company instructors is the most significant current challenge in connection with the implementation of work-based learning.
- The smallest obstacles in the implementation of work-based learning, according to participating companies, are a lack of interest on the part of the partner school leadership and poor communication between company and school. This was confirmed by statements illustrating that among all the partners in organisations implementing work-based learning, the companies were most satisfied with their cooperation with schools.

Companies require further support through promotion, campaigns and sharing information about the availability of places in companies for the implementation of work-based learning, as well as assistance in training and licensing company instructors, in the professional development of teachers of vocational subjects, and in the administrative tasks related to work-based learning.

Company representatives found a positive link between students' participation in work-based learning and their educational outcomes. For example, work-based learning and gaining experience of the real-world working environment increased the students' employment prospects through building and/or improving their vocation-related skills and knowledge, soft skills and sense of responsibility.

According to data provided by school representatives in the questionnaire, the overall quality of work-based learning is high, even though they underlined that this quality very much depends on the company, i.e. there are significant differences between companies related to the implementation of work-based leaning. Also, most of the school representatives valued the implementation of work-based learning more highly in small and medium-sized companies than in large concerns.

When it came to assessing the importance of various elements in the successful implementation of work-based learning, these were evaluated as follows:

- In most cases, schools highlighted those factors that facilitated close cooperation between schools and companies as important for the success of work-based learning.
- An unexpected finding was that the presence of assessment based on clear learning objectives/outcomes for work-based learning and providing financial compensation for students during professional practice were not rated as of the highest importance.
- The presence of the mentioned factors during the implementation of work-based learning was scored somewhat lower that their importance, but still with high average scores.

Schools evaluated cooperation with companies most highly and thought that national institutions should mediate in the process of concluding contracts for the implementation of work-based learning, as well as providing support for the establishment of good and sustainable partnerships and cooperation with companies. Assistance in the professional development of teachers of vocational subjects was something that all the school representatives believed to be important or very important.

Schools were very positive about the impact of work-based learning on students, and the highest percentage thought that work-based learning mostly influenced students' abilities in terms of their respective vocations/professions.

Most of school representatives thought that between 75% and 89% of students found a job six months after graduation, and 90% of them stated that graduates from the profiles in which students' professional practice is organised as work-based learning have a higher or significantly higher chance of finding a job than students in areas where students' professional practice is organised as school based. However, one highly concerning fact is that around 37% of teachers and school managers said that legal and health and safety conditions for students were not met.

In the majority of assessed areas, students' responses were positive. Students were generally satisfied with the theoretical and practical learning in schools, which was perceived as preparing them for the professional practice in companies. Most of them (75%) stated that during classes they were almost always fully aware of what they were expected to learn and what their tasks were. On the other hand, when they were asked about teaching practices and the possibility for more active participation, they were a little less satisfied, clearly stating that during school-based classes, teachers need to connect theoretical concepts with their practical use to a greater extent. In other words, it is alarming that 35% of students see no connection between theoretical teaching and the practical application of that knowledge since they are given no information on how these two relate.

The great majority of students (85%) were fully satisfied with their decision to choose a particular profile and felt they had made the right choice; however, the students perceived as necessary improving the physical and technical/material conditions in schools by providing the equipment and materials needed for teaching subject content that would prepare them for professional practice in companies. Students very much appreciated receiving a financial contribution (in the cases where this was offered), and proposed the introduction of such an incentive where this is currently not available.

As for the recommendations based on the above-mentioned findings, it is clear that activities related to building the capacities of the company instructors should be intensified, but, at the same time, the competences of vocational subject teachers should also be improved to ensure that students are fully engaged and active participants in their learning. Health and safety conditions and financial compensation for students during work-based learning should be secured and the promotion of the profiles that are linked to work-based learning should be continued. In addition, since there are still a number of students who are not completely satisfied with some of the elements comprising work-based learning, both companies and schools should be carefully selected in terms of granting official approval to the institutions and workplaces that can offer profiles based on the dual principle, since not only coverage, but also high quality standards should be mandated.

Last but not least, quality standards and a fully functional monitoring and evaluation system must be developed and institutionalised as soon as possible in order to secure a high quality of organisation and implementation of work-based learning, as well as establishing a consistent and equal quality of work-based learning in different companies.

INTRODUCTION

In order to secure a better understanding of the vocational education and training (VET) situation in Serbia and the terminology used in this report, it is important to stress that curricula for each educational profile contain a theoretical part (covering general subjects, vocation-specific general subjects and vocational subjects), and a practical part, which is officially called students' professional practice. This means that students' professional practice is a mandatory part of all VET curricula, but, in concrete terms, implementation arrangements allow different modalities (e.g. in some schools practice is limited to school workshops, in others students gain experience in virtual companies; in some schools there is combination of practice in school workshops and in companies, in others such work is conducted exclusively or largely in companies).

Furthermore, Serbia has introduced several VET reform initiatives in the last decade, so that, within the current system, students are presented with different 'types' of educational profiles. For example, there are a number of so-called pilot profiles that have a modernised syllabus and are based on qualification standards, but which are still in an 'experimental' phase and after evaluation will be cancelled or mainstreamed/systematised into the regular system and lose the prefix pilot. There are also profiles that were pilots and over the years have been mainstreamed/systematised into the regular system, which means that their syllabus has been modernised and they are based on qualification standards, but it is not possible to make a distinction between these and traditional (not modernised in any sense) profiles just by their names, thus insight into the curricula is required. Also, in addition to the traditional profiles, three profiles were introduced into the system as part of the GIZ VET project, along with 16 newly developed or adapted profiles that are considered 'pure' dual profiles and a group of profiles that are seen as profiles with strong elements of dual education – profiles where students' professional practice is conducted to the largest possible extent within companies. This means that only the last two groups of profiles have a mandatory work-based learning element, but with regard to the rest, there is a possibility that students' professional practice may be conducted as work-based learning.

An additional point to note on terminology is that the ETF uses two definitions of work-based learning. The first, narrow one, assumes that learning takes place in a real-life working environment through participation in the work process (producing real goods or real services), irrespective of whether the learners are young people, students, unemployed people or employees, or whether they are paid or unpaid. It may or may not be combined with school-based learning (usually it is linked to learning in schools or educational institutions). The second, wider definition, is where the first type is complemented by learning environments that simulate companies and real-work situations in a holistic manner (e.g. virtual firms, real firms in school, virtual worlds). At the same time, Serbian legislation (e.g. the Law on Dual Education), under the term 'work-based learning', assumes that every students' professional practice takes place under real working conditions, no matter whether it is school-based or organised in virtual companies, etc. Therefore, in the parts of this report related to the national background, context and analyses of the quality of work-based learning in previous years, the term work-based learning is used with reference to the wider definition.

1. BACKGROUND

1.1 General data on the vocational education system in Serbia

After completing primary school, students can be enrolled in general, art or vocational schools. The IVET system offers three- and four-year educational profiles divided into 15 fields/sectors of the economy. In the 2016/17 school year, there were 74 three-year programmes and 129 four-year programmes offered in 327 secondary schools (MoESTD, 2017a). Around 75% of students in the country are enrolled in secondary vocational schools (59% in four-year and 16% in three-year profiles) – a figure that has remained generally stable for a number of years. If the students pass either the final exam (after three years) or the graduation exam (after four years), they receive the Secondary School Diploma.

The mainstreaming of the pilot profiles (i.e. modernised profiles, based on qualification standards) in secondary vocational education has continued over recent years – 59 pilot profiles (around 26% of occupational profiles in vocational schools) have been introduced as mainstream profiles in the last two years, while in the school year 2016/17 an additional 14 pilot profiles were mainstreamed into the system (ETF/Cedefop, 2017).

In the school year 2016/17, 43% of the total number of students enrolled in secondary VET (21 561 students) were engaged in modernised profiles (MoESTD, 2017).

1.2 The shift towards dual education

Establishing a national model of dual and entrepreneurship education is one of the priority goals of the government and was presented in the Action Plan for the implementation of the government programme in 2017 (Government of the Republic of Serbia, 2017). In accordance with its proclaimed goals, the Ministry of Education, Science and Technological Development (MoESTD) has begun to implement a number of activities, for example the development of an institutional social partnership network together with representatives of local self-governments, employers and vocational schools; signing cooperation agreements with the Standing Conference of Cities and Municipalities and the Chamber of Commerce and Industry of Serbia (CCIS); field visits to local companies.

At the end of 2017, the parliament adopted the Law on Dual Education for the first time (Official Gazette, 101/17). This law, which sees dual education as a model for the implementation of vocational education within the formal secondary vocational education system, will be fully adopted from the school year 2019/20. It will be put into practice exclusively at the request of individual schools and in response to the needs of the local economy, only in those cities/municipalities where companies can show that there exist both the need for such a system and the capacity to accept students for practical classes according to the dual model.

Work-based learning will comprise between 20% and 80% of the curricula for dual profiles, within classes dedicated to students' vocational training. Also, according to this law, students could be placed in a company during the whole school year, between the hours of 8.00 and 20.00, working a maximum of six hours per day, i.e. no more than 30 hours per week. Working/learning conditions are the same as for employees of the company, which means that they should conform to all necessary health and safety standards prescribed by law. However, several by-laws will be adopted prior to the full implementation of this law.

The law also prescribes that places for the implementation of work-based learning shall be secured in advance – depending on the educational profile and in compliance with the contract between schools and companies. A maximum of 25% of work-based learning can take place in the school, including cases when it cannot be fully realised in the company.

The CCIS is responsible for specifying and checking the conditions in companies and assess their fitness to accept students for practical classes before the start of the training. It also has the duty of monitoring companies' compliance with these conditions after the training has begun. Prior to the implementation of work-based learning, companies are obliged to provide the required number of licensed instructors/mentors. Instructors/mentors are obliged to undergo a training focused on pedagogic-didactic competences in order to be able to train students in a company, and have to pass an exam, i.e. acquire an instructor's licence. The MoESTD will adopt this training programme, based on the input of the Institute for the Improvement of Education. The CCIS is further responsible for providing venues for the implementation of instructor/mentor training and for administering the exam, as well as issuing the licences and keeping a register of them.

Prior to the implementation of work-based learning, two types of contracts will be concluded – a contract between the company and the school and a contract between the company and the students, i.e. their parents. The CCIS will mediate in the conclusion of the contracts and keep a register of all contracts.

In cooperation with the instructor/mentor from the company, the school (i.e. the teacher of the practical classes) will monitor the implementation of work-based learning. With regard to the implementation of work-based learning, the company will take care of the students in both practical and financial terms (e.g. providing protective equipment and aids, food and transport costs reimbursement, insurance). The law specifies that students have the right to be paid for their work – the minimum amount earned by students cannot be less than 70% of the minimum wage and should be indicated in the contract between the company and the student.

After the completion of dual education, progression to higher education is possible.

Within the enrolment plan, the MoESTD reduced the quotas for four-year profiles in the fields of economy, law and administration by 6.29%, but those related to three-year profiles were increased in a number of sectors (e.g. construction 15%, forestry and woodworking 33%, textile 47%, catering and tourism 3%) as a response to the identified shortage of qualified workers in these areas and to better support the employment prospect of students after completion of IVET education (MoESTD, 2017b).

1.3 Dual profiles: development, introduction and implementation

As part of the support for the development of the dual education system in Serbia, a new VET profile – operator in furniture processing – was developed and introduced during the 2016/17 school year.

Ten existing profiles in the sector of aviation for the 2017/18 school year have begun to be implemented in accordance with the principles of dual education (i.e. implementation of students' professional practice in the form of work-based learning is mandatory). Also, for implementation in 2017/18 school year, five additional profiles have been newly developed or adapted in order to be instigated as dual profiles. Curricula for these profiles have been developed in accordance with a methodology which calls for permanent coordination by representatives of the economy. The implementation of these profiles assumes, among other things, that a significant number of students' professional practice classes will be carried out in companies. Depending on the year of study, this

figure will be one, two or three days a week – i.e. in the first year of study, students' professional practice will be delivered in school, while in the second or third year it will take place in the companies with which schools have previously signed cooperation agreements regarding the implementation of work-based learning. It is foreseen that, in some cases, contracts with companies could be made by students or their parents, which is envisaged as compulsory by the Law on Dual Education. At this time, the above-mentioned profiles are being implemented in 28 schools.

The 16 newly developed or adapted profiles and the three already existing profiles developed within the GIZ VET project (locksmith/welder, industrial mechanic and electrician; currently implemented in 46 schools in Serbia) are considered by the MoESTD as 'pure' dual profiles.

In addition, there are 43 educational profiles with students' professional practice being conducted mostly in companies, which the MoESTD has named as profiles with a strong dual education elements. One of those educational profiles is 'merchandiser', which was the subject of reform four years ago, but began to be implemented as a profile with strong elements of dual education during the 2016/17 school year in one school.

According to the MoESTD's internal data, it can be concluded that dual profiles or profiles with strong elements of dual education in the current school year are being implemented in 69 towns and municipalities across Serbia (including 13 local government areas where the development level is below 60% of the national average). The total number of students enrolled in these profiles is 5 751. The total number of participating schools is 127, which represents about 35% of all vocational schools in the country. The same source provides data which show that companies' interest in supporting dual education has exceeded all expectations, as over 2 000 companies have submitted to the MoESTD and the CCIS binding declarations of intent to cooperate with schools and support students who are enrolled in the dual-model-based profiles.

Bearing in mind all of the above, it could be concluded that work-based learning (including its introduction, strengthening and improvement) has become one of the most important elements of the present reform processes in Serbian IVET. However, since work-based learning is currently organised and implemented in different ways and its duration varies from profile to profile, it is highly possible that the quality of provision is also variable. However, up to now there has been no unified evaluation system or in-depth analysis of the main factors influencing the quality of work-based learning.

In the light of this situation, the European Training Foundation (ETF) has supported the MoESTD in commissioning this study on the quality of work-based learning in initial VET.

2. METHODOLOGY

This research was envisaged as an exploratory study combining desk and field research. More specifically, its objectives were:

- to review and analyse all relevant national documents and selected international publications related to the quality of work-based learning in IVET in Serbia since 2005;
- to evaluate the quality of the current implementation of work-based learning; and
- to identify the most prevalent obstacles and shortcomings in the implementation of high-quality work-based learning in IVET by collecting the opinions of school and company representatives, as well as students' perceptions and those of all the relevant stakeholders.

For these purposes a methodology was developed based on the following research principles: establishing valid data, collected by means of triangulation, while at the same time employing a highly participative approach, achieved through developing questionnaires and conducting interviews with participants from a range of schools and companies, talking to employers as well as students in the course of site visits.

Thus, the applied methodology was both quantitative and qualitative, including desk research and data collected through questionnaires and interviews.

1. **Desk analyses.** This part of the study related to the development of summary conclusions on the Serbian context and the quality of work-based learning in IVET (including an identification of the challenges it faces and any deficits in quality), based on a review and analysis of existing national documents and selected international publications since 2005.
2. **Questionnaires.** Based on the findings from the desk research phase, a set of indicators for the evaluation of the quality of work-based learning in IVET was developed. The indicators responded to the research questions and thematic areas, and the questions posed by the questionnaires passed multiple rounds of cross-checking by representatives of the MoESTD, the ETF and donor organisations involved in IVET in Serbia (e.g. GIZ). After the final versions of questionnaires were developed (Annexes 1, 2 and 3), they were sent by email to the identified respondents from the groups of school representatives and companies that the schools themselves had selected to be involved in the research. Schools were advised to select companies with which they had an established record of cooperation, and in particular to involve those receiving greater numbers of students. With regard to the students, they were selected by schools from those who were in their last year of education, since there was an assumption that these students would have more experience in participating in work-based learning. The students filled out a paper questionnaire (as it was not expected that all of them would have internet access). Upon collection of the completed questionnaires, the data were collated systematically, enabling conclusions to be drawn concerning the quality of work-based learning implemented in the selected schools.
3. **Interviews.** The interviews were conducted using a 'flexible' interview guide containing specific questions related to the quality of work-based learning. The questions in the interview guide were used simply as a framework for conducting the interviews and the respondents were offered the opportunity to share in all the observations and conclusions they might find relevant.

The analysis of interview data was conducted through the following steps:

- All the interviews were recorded and a general summary was developed for each one.
- During the analyses, all the findings are anonymised and presented in the form of general conclusions (e.g. 'most respondents were positive about work-based learning implementation', 'there were mixed responses', 'most interview respondents indicated that …', or 'there was little agreement among respondents').
- Selected quotes to illustrate key findings were also anonymised and presented, for example, as follows: 'one employer stated …', 'a typical attitude is visible through the statement of one of the students, who emphasised …'.

The final phase comprised the synthesis and integration of quantitative and qualitative data collected throughout different phases of the research.

2.1 Sampling

Since there is no database within the MoESTD containing precise data on the schools that cooperate with companies in the implementation of work-based learning, except for the 'pure' dual profiles that have been initiated from the 2017/18 school year, and bearing in mind that the 'pure' dual profiles have mainly been implemented very recently (and are therefore not completely appropriate for the collection of data related to work-based learning), the schools selected were those where the MoESTD had a record of their cooperation with companies in carrying out work-based learning. In accordance with this situation, 15 schools implementing different profiles were selected as a sample for this study. In more concrete terms, all the schools are selected based on the points listed below.

1. The profiles implemented in the selected schools were taken from different 'generations' of modernisation (in order to present different 'styles' of work-based learning implementation).
2. The included schools represented different sectors.
3. Both three- and four-year profiles were selected.
4. In all the chosen schools, students' practice was partially or totally conducted in companies.
5. Schools were located in different regions of Serbia.
6. The selected schools cooperated with different companies – from small and medium-sized enterprises to large international companies.

Table 2.1 presents the planned sample of schools, companies and students intended to be involved in completing the questionnaire.

TABLE 2.1 QUESTIONNAIRE-BASED PART OF THE SURVEY SAMPLE

Schools and profiles	Profiles	Number of students to fill in the questionnaire	Number of companies to fill in the questionnaire
Three schools which offer modernised and qualification-standards-based profiles, which had been pilot profiles and then mainstreamed into the regular system between 2011 and 2013	■ Baker ■ Butcher ■ Cook ■ Waiter ■ Confectioner ■ Touristic technician	30 students in the final year of the selected profiles (10 per school)	A minimum of one representative of a company (person in charge of the students' professional practice) per each of the profiles the school is offering OR A minimum of two representatives of two different companies if the school is offering just one profile
Seven schools which offer profiles that were developed with the GIZ VET project, initiated in 2014, and are considered by the MoESTD as 'pure' dual profiles	■ Locksmith/welder ■ Industrial mechanic ■ Electrician	35 students in the final year of the selected profiles (5 per school)	
Two schools which offer a profile developed within the Swiss Development Cooperation project, initiated in 2016, and also considered as a 'pure' dual profile	■ Operator in furniture processing	20 students in the second year (10 per school)	
Three schools which offer 'traditional'/not modernised profiles, but students' practice is implemented as work-based learning (i.e. in companies)	■ Mechanical engineering technician for computer construction ■ Car mechanic ■ Electro-fitter of networks and plants	30 students in the final year of the selected profiles (10 per school)	
Total of 15 schools x 2 representatives (school director and person in charge of students' practice) = **30**	**13**	**115**	A minimum of **15** company representatives

Regarding the interviews, the representatives of three schools were interviewed, among which, one school offered 'pure' dual profiles that had been introduced prior to this school year. Five students from schools which participated in the research and who had been involved in the implementation of their professional practice in companies for more than one year were selected and participated in the interviews. Representatives of two additional companies (that did not participate in the questionnaire-based part of the survey) were selected to be part of the group of interviewees in order to obtain more qualitative data and to provide researchers with further details on the quality of work-based learning implementation in their companies. Finally, five interviews were conducted with representatives of the MoESTD, the CCIS and the VET and Adult Education Centre.

Thus, the sample for this part of the research consisted of 15 persons.

2.2 Limitations

It is important to highlight some of the limitations of the findings provided in the following chapters.

1. A distinction needs to be made between data related to the opinions and attitudes provided by the interviews and questionnaires, on one hand, and the data obtained from official sources (e.g. that which was provided by the MoESTD) and some quantitative data obtained through a questionnaire, on the other. The former represents the perceptions of the interviewees and is thus subjective in its nature, while the latter represents facts and is, therefore, more objective when compared to the former. In this sense, most of the qualitative data reflect nothing more than the personal impressions of the survey participant.
2. The findings are always conditioned by the scope and depth of the study, as well as by the sampling. Even though the intention was to collect as much reliable data as possible, it could be that some aspects of the reality that the report attempted to explore and map are not adequately presented here.
3. The perceptions identified as belonging to the informants do not necessarily represent the views of all the individuals in each of these three groups of interviewees.
4. The sampling was based on the need to cover as far as possible different types of work-based learning in various schools, but without the intention of underlining differences between practices of work-based learning implementation or factors influencing differences.
5. All the observations, interpretations and generalisations made in this report are those of the researchers. Likewise, all mismanagements and mistakes associated with the research are their sole responsibility.

3. QUALITY OF STUDENTS' PROFESSIONAL PRACTICE AND WORK-BASED LEARNING IN INITIAL VOCATIONAL EDUCATION: DESK RESEARCH MAIN FINDINGS

3.1 General findings

As mentioned previously, different studies on the VET system in Serbia exist, but analyses of the quality of work-based learning are very much lacking. In practical terms, this means that almost all the available studies provide rather general and indirect data and information on students' professional practice, and to an even lesser extent on work-based learning. This outcome is somewhat logical considering that, despite the recent developments in introducing dual education, students' professional practice in initial VET is still, in most cases, school-based, which raises a question regarding its general quality as we know that schools are not well equipped and that teaching staff do not always follow social and technical developments, thus preventing them from providing students with a high-quality learning process in the best possible and most competent way (ETF, 2013).

Bearing that in mind, a general conclusion on the quality of IVET in Serbia, and especially students' professional practice, can be drawn from data which underlines that a permanent problem for employers in the country is the lack of adequate staff – for example 28% of employers in the trade sector and 46% in the finance sector stated that their newly employed young staff do not have the required professional knowledge and competences or the soft skills which can be best acquired through work experience, so they need to provide them with additional on-the-job training. Also, the young people and the employers agree that the reason for this is the lack of adequate professional practice during formal education (CCIS, 2012). Other research has shown that employers more often organise training seminars to cover the deficiencies in the schooling of young people than they implement training for professional improvement and development (EP4A, 2017). In addition, there are data that, more directly, underline that one of the causes of high youth unemployment and the shortage of appropriately skilled workers to meet the needs of the economy, could be the lack of systematic and continuous cooperation between the labour market and the VET system, which is very much connected with deficiencies in the quality of students' professional practice (BOS, 2015a).

At the same time, information on the quality of students' professional practice can be found in the Strategy for Education Development in Serbia 2020, where it is stressed that the current VET system does not meet labour market requirements. Furthermore, in the accompanying SWOT analysis of secondary VET, the issue of quality assurance in relation to the process of practical learning outside school is recognised as a weakness (Government of the Republic of Serbia, 2012).

As a result, these factors could lead to the conclusion that the competences gained through formal IVET, including the component of students' professional practice, meets only partially, or not at all, the needs of working in real-life conditions, which could further lead to the conclusion that the quality of work-based learning in IVET in Serbia is relatively poor.

Cooperation arrangements and students' professional practice implementation

For decades cooperation between schools and companies has not been regulated, and consequently quality assurance mechanisms have not been established. This led to a situation in which employers

were interested in cooperating with schools but had no guidelines with regard to how to organise work-based learning or what the quality standards should be for the work-based learning they aimed to implement (CCIS, 2012). The Strategy for Education Development in Serbia 2020 also underlined that the national VET system did not have accredited work placements and instructors to carry out quality checks on students' professional practice in companies and to provide high-quality work-based learning. Furthermore, regarding students' professional practice in companies, this was implemented in just a few international companies (ETF, 2016), but even in such cases there were no unified quality assurance standards.

The Forum of Secondary VET Schools highlighted several serious challenges related to students' professional practice: a lack of structured monitoring of the quality of the teaching taking place in enterprises; no defined standards that the company must meet; a lack of criteria for the selection of instructors in workplaces or the licensing of staff; students being monitored only by teachers; students in companies often not acquiring the necessary competences as they are carrying out various other tasks not related to the particular profession (Forum of Secondary VET Schools, 2012).

Similar conclusions appear in one of the studies dedicated to the assessment of the quality of students' professional practice, where it is stated that even in situations where cooperation between schools and companies exist, this is often carried out in a manner that is not appropriate and does not demonstrate the expected results in terms of students acquiring the competences needed (BOS, 2013).

Similarly, the feasibility study on dual VET conducted by GIZ concluded that the manner of implementation of students' professional practice is inadequate, i.e. it does not lead to the desired results in terms of skills adoption and developing competences. In addition, the links between vocational schools and companies often rely on the initiative and networking ability of individual school directors (GIZ, 2015).

In the light of the above, and in the absence of firm and official quality indicators, it is assumed that a unified assessment of the quality of students' professional practice and work-based learning is not possible, but it is highly likely that its quality is significantly low.

3.2 GIZ data

Initiatives under the GIZ Reform of Vocational Education and Training in Serbia project were the first in the country to focus on the introduction of so-called cooperative model in VET, which assumes strong collaborative ties between schools and companies in the implementation of students' professional practice. Information available in their studies provide vital insights into the quality of work-based learning.

Feasibility study on dual VET in Serbia

According to GIZ's feasibility study, although there are good practices in terms of integrating companies into the implementation of students' professional practice, neither quality standards nor the quantity (number of hours, days) of work-based learning is regulated, which jeopardises the implementation and quality of work-based learning itself (GIZ, 2015).

The same study concluded that, in Serbia, there is no correlation between the quality of students' professional practice and its type. In both company and school-based training, the quality of implementation may range from very good to very poor. This means that both the nature and quality of students' professional practice differ from school to school. Moreover, these courses are often run as part

of a pilot programme, and last only for the duration of the project. Differences are probably greater within each type of students' professional practice than between the different types themselves. Therefore, the study underlines that a question more important than 'where students' professional practice is implemented' is a question related to the quality of students' professional practice itself, since, according to the study's author, the implementation of school-based students' practice is not automatically negative if a high quality of practice is secured, which assumes the simulation of the real working environment, the application of contemporary equipment and highly qualified teachers, etc. (GIZ, 2015).

Recommendations proposed in the study stated that in order to secure the quality of work-based learning, the rights and responsibilities of the companies involved in work-based learning have to be set out in the legislation regulating secondary VET, and the criteria that companies' need to meet must be clearly defined. In addition, the requirements and qualifications for mentors in charge of company-based training and learning have to be considered, as well as the contractual agreements between the companies and the students involved (GIZ, 2015).

Evaluation of GIZ profiles within the cooperative model

Important conclusions about the implementation of students' professional practice (in companies in this case, i.e. work-based learning) were also drawn from the interviews conducted with the employers and schools involved in the implementation of the cooperative model within the GIZ VET project, and systematised in the document *Lessons learned – implementation experience* (GIZ, 2016). Employers provided answers and opinions regarding their motivation to become involved in the project (i.e. in the implementation of work-based learning) and their experiences of cooperation with schools and students, while interviews with the schools focused on how they assessed their relationship with the companies involved in the implementation of the cooperative model within this project.

In brief, companies stated that students (in the majority of cases) were not completely involved in the working processes of the companies, since these tasks require highly skilled workers (e.g. locksmith/welders) who work in potentially risky situations, where the involvement of students is not allowed, especially if they are under 18 (in accordance with the law on health and safety in the workplace). Some of the employers underlined that they could not be sure that the students would perform all the activities in accordance with the company's standards and to prescribed deadlines, and that they are not able to risk being in a situation which would incur additional costs to the business. At the same time organisational patterns in the companies were not usually developed in such a way as to have employees who could be dedicated to the students for a significant part of their working hours. Companies expressed the wish that work-based learning be organised so as to allow both students and company mentors to fulfil all their obligations, including mentors' regular working duties. The schools' conclusion was the same – they identified a strong need for a clear legal framework for the implementation of work-based learning in order to meet appropriately the everyday challenges faced by students, schools and companies, and to increase the quality of work-based learning, in a context where companies could not always provide one full-time person to be in charge of students, as they would also have to be involved in regular work-related activities and processes. Schools also underlined that it is hard for them to coordinate and supervise practical training activities and to ensure quality standards if these activities take place in several locations (which was the case).

One of the conclusions was that work-based learning was organised in accordance with the profile curriculum and that it required regular and continuous cooperation and coordination between the teachers and the company instructors who worked directly with the students. Nevertheless, schools pointed out that a certain level of flexibility in the organisation of work-based learning is necessary as

the agreed days for work-based learning sometimes changed, depending on the needs of the company, and the school should be able to adapt to the companies' schedules.

In general, the main conclusions that could be drawn from this study were that a better quality of work-based learning could be achieved if the following conditions were met: (i) an established system of accreditation for companies wishing to be involved in work-based learning; (ii) established practices of signing written cooperation agreements between schools and companies, as well as service contracts between students and companies; and (iii) clear communication patterns between schools and companies (GIZ, 2016).

3.3 Business Development Centre Kragujevac data

This research report on the effectiveness of work-based learning in secondary vocational schools in Kragujevac, developed within the project 'Right Skills for the Employers'[1], was created to identify existing forms of students' professional practice in secondary technical schools in Kragujevac, analyse how students are being prepared for the labour market, and assess whether their competences are in line with labour market needs. It further evaluates how the cooperation between schools and employers works and what needs to be improved in order to adjust the competences of the technical schools' students to the needs of the economy. Therefore, this study contains relevant findings on the quality of work-based learning.

According to this research, many different factors affect the quality of work-based learning, factors that, in most cases, are not defined or set by the system; hence, it is up to schools and employers to prepare the ground for the planning, implementation and monitoring of work-based learning. The following list shows the main factors that were perceived as negatively influencing the quality of work-based learning.

1. Employers are not informed well enough about the requirements of students' professional practice and the profiles' curricula.
2. Company employees are not trained to work with students (unless they have participated in initiatives such as the GIZ project).
3. Different conditions for the implementation of work-based learning exist across the companies involved (e.g. lack of qualified staff, variations in the amount of time and levels of commitment given to the trainees by the employers, with some paying for students' meals, travel and remuneration and others not), resulting in uneven quality of students' work-based learning.
4. The quality of cooperation between schools and companies is variable across different aspects – from the involvement of companies in designing work-based learning to the different roles of teachers in work-based learning coordination.
5. Students have insufficient prior knowledge and skills (vocational but also soft skills) in order to be engaged in work-based learning, which is connected to the issue of there being an insufficient number of classes for practical teaching in schools and a lack of proper equipment.
6. Cooperation between schools and employers is undefined (e.g. in terms of the contracts and their necessary elements) (Business Development Centre Kragujevac, 2015).

[1] This project is implemented by the Business Development Centre Kragujevac in partnership with the City of Kragujevac and the Polytechnic School in Kragujevac, with financial support from the Swiss organisation Solider Suisse/Swiss Labour Assistance.

Nevertheless, this research has shown that for those in secondary technical schools that participated in research, a good level of cooperation with employers exists, and that teachers are deeply involved in the process of work-based learning implementation. It also demonstrates that students are motivated to participate in work-based learning, especially in situations where they regularly use modern technologies, companies have the necessary resources and employees trained to work with the students as well as in situations where students have the opportunity to find employment after graduation in the company where they had previously conducted their practical training (Ibid.).

3.4 Conclusion

Bearing in mind the above, it could be concluded that students' professional practice has been, in reality, one of the weaknesses of the IVET system, and that the quality of work-based learning has been influenced by the fact there was no structured monitoring and evaluation framework for assessing the quality of work-based learning. Furthermore, there are no defined quality standards that the enterprises have to meet, no criteria for the selection of instructors in companies or staff licensing system (EP4A, 2017), although the introduction of dual education based on the above-mentioned Law is expected to move work-based learning in that direction – matching education with the needs of the economy and ensuring the quality of students' practice (ETF/Cedefop, 2017).

3.5 Latest developments

As part of the process supporting the introduction of dual education, in addition to the adoption of the Law on Dual Education, which regulates most of its important elements, a number of key activities have taken place over the last two years.

1. Bylaws have begun to be developed to support the full implementation of the Law on Dual Education (bylaws related to companies' accreditation, students' placements, etc.).
2. Pilot activities focused on the training of company instructors/mentors were implemented by GIZ, and experience from these initiatives has shown that such training has positive effects on the quality of the students' in-company practice.
3. The CCIS organised training for instructors within companies for the education profile 'merchandiser', conducted by experts from the Austrian Chamber of Commerce (ETF/Cedefop, 2017).
4. The MoESTD established a working group for the development of a Rulebook for the in-company instructors' training programme, containing more detailed requirements for passing the exam. Furthermore, in support of this working group, the Institute for the Improvement of Education/VET and Adult Education Centre is preparing a proposal for a training programme for company instructors and a procedure for taking the licencing exam, through a joint project between the CCIS, the Austrian Federal Economic Chamber, the Institute for the Improvement of Education, GIZ Reform of Vocational Education and Training in Serbia project and Education to Employment – E2E (Swiss Development Cooperation) project, on the basis of international and national experiences (ETF/Cedefop, 2018).

In addition, it should be noted that in 2017 Serbia formally joined the European Alliance for Apprenticeships. It is expected that involvement in the alliance will help the country improve the supply, appeal, relevance and quality of each existing form of apprenticeship across all levels of its education system, including VET.

4. QUESTIONNAIRES AND INTERVIEWS

4.1 Companies

Basic information about participating companies

A total of 30 companies participated in this part of the research. The criteria for representation were a minimum of one company representative (the person in charge of the implementation of students' professional practice[2]) for each profile offered by the school, or two representatives from two different companies, if the school teaches just one profile.

Regarding the interviews, representatives of two additional companies provided insights into the implementation of students' professional practice in their companies, including an assessment of the quality of students' professional practice and the competences acquired by the students, as well as generally considering expectations, obstacles and recommendations.

All except two of the participating companies were private. In terms of size, most of them were small and medium-sized (48% and 42% respectively), while 10% were micro companies, and there were no companies considered to be large. In participating companies, work-based learning had been implemented for students from 27 different profiles.

The number of students participating in work-based learning, by company, in the last 12 months varied – from four to 160 students (e.g. three of the companies had hosted just four students, while there were three companies that had hosted between 120 and 160 students in the last 12 months). The most common number of students undertaking professional practice per company was between 20 and 25.

General conclusions about students' professional practice

More than 90% of company representatives thought that if the students' professional practice is organised as work-based learning this allows students to become involved in the work processes of the company immediately upon completion of their studies. Almost the same percentage of companies were willing to continue their cooperation with schools in the implementation of work-based learning in the future.

Among all the employers, 62% of them underlined the significant possibility of hiring the best students after graduation, while 34% were not certain that such an option existed[3]. The rest of the participating employers said that even though they are willing to support schools and students in the implementation of work-based learning, employing students after the completion of their practice was not a realistic prospect.

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[2] In this part of the report, whenever students' professional practice or students' professional practice in companies is mentioned it is used as synonym for work-based learning since all the participating schools implement students' professional practice as work-based learning (see Chapter 2 'Methodology'). The term 'students' professional practice' was used in communications with schools and in questionnaires in order to harmonise the terminology with that which is prescribed by legislation, and which, consequently, schools are familiar with.

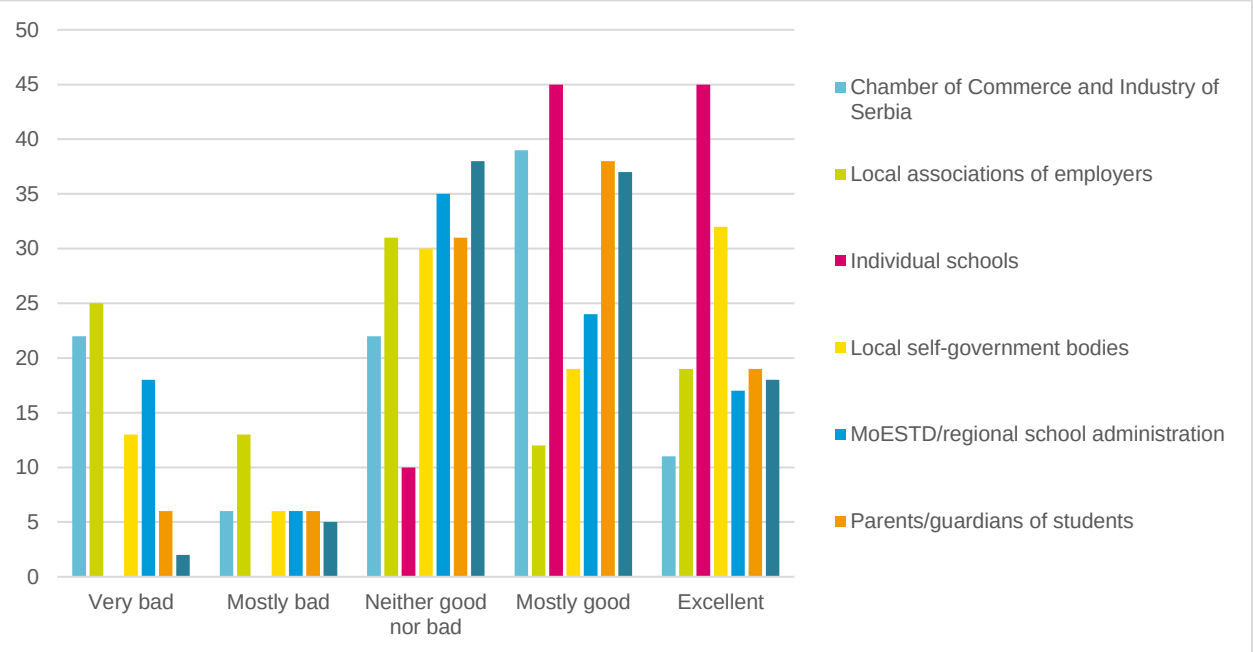
[3] During the interviews, employers clarified such opinions, stating that hiring possibilities would be influenced by external circumstances, e.g. the country's economy.

One of the most interesting findings was related to the benefits that the implementation of students' practice might bring to the company. Namely, 73% of employers were of the opinion that the duration and organisation of students' professional practice in their companies was not structured in such a way as to allow companies to recover their investment, and only one company strongly agreed with the statement that the company can recover their investment through students' engagement during work-based learning and, later, employment.

Overall quality of cooperation companies have with different partners

The overall quality of cooperation was assessed by multiple criteria, such as supportiveness and responsiveness in the planning and implementation of students' practice; carrying out activities related to work-based learning in a timely manner; the availability of staff to support work-based learning implementation. According to the answers provided, it could be concluded that companies are mostly satisfied with the quality of their cooperation with schools (none of the interviewed employers rated this cooperation as very or mostly bad, and cooperation with schools had the highest percentage of answers in the categories mostly good and excellent). The assessment of companies' cooperation with all their partners is presented in Figure 4.1.

FIGURE 4.1 QUALITY OF COOPERATION WITH DIFFERENT STAKEHOLDERS (COMPANIES' OPINION) (%)



A representative of one company stated that a 'network of companies' mentors at the level of local self-government could be established in order to have the possibility to share good practice, discuss challenges and to harmonise the quality of work-based learning'.

Obstacles to the implementation of students' professional practice

Regarding the importance of possible obstacles to the implementation of students' professional practice in companies, the following were rated as very important by 50% or more of the company representatives: lack of interest on the part of the partner school leadership; poor communication

between company representatives and the responsible persons in the school; students lacking the motivation to actively participate in the implementation of professional practice within companies; and a shortage of human and financial resources to train students. The lack of trained company instructors and situations in which the content, duration and expected outcomes of the company- and school-based learning are not clearly distributed or do not form a coherent sequence were also among the obstacles to the implementation of high-quality work-based learning which were regarded as very important (Table 4.1).

It should be underlined that the shortage of trained instructors and the need for intensive training for companies' instructors were mentioned more than five times in the qualitative part of the questionnaire, as well as during the interviews with employers, while appreciation was also expressed for the work of individual teachers and directors in establishing cooperation with companies and for their support in enhancing the quality of students' professional practice.

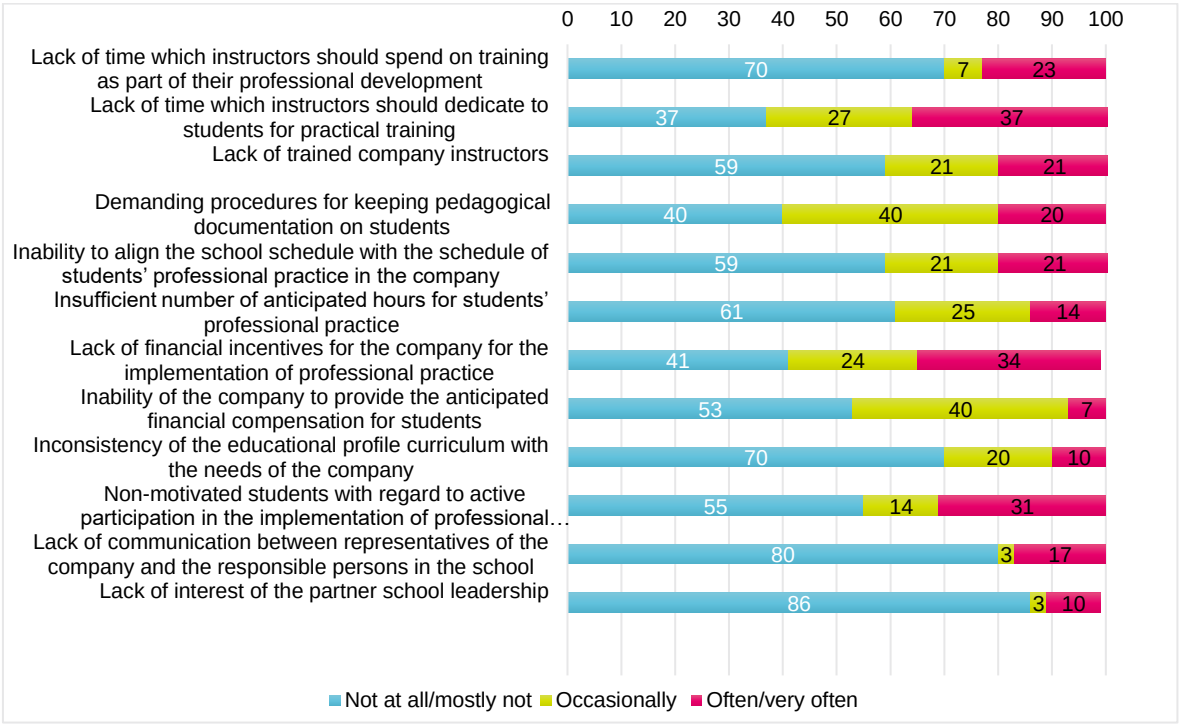
TABLE 4.1 OBSTACLES IN THE IMPLEMENTATION OF HIGH-QUALITY STUDENTS' PRACTICE/WORK-BASED LEARNING (%)

	Not at all important	Mostly not important	Neither important nor unimportant	Mostly important	Very important
Lack of interest of the partner school leadership	7	0	10	33	50
Lack of communication between representatives of the company and the responsible persons in the school	4	0	4	36	57
Non-motivated students in terms of active participation in the implementation of professional practice in the company	0	0	10	40	50
Inconsistency of the educational profile curriculum with the needs of the company	4	4	15	58	19
Inability of the company to provide the anticipated financial compensation for students	11	25	21	36	7
Lack of financial incentives for the company for the implementation of the professional practice	11	15	26	26	22
Insufficient number of anticipated hours for students' professional practice	4	0	14	57	25
Inability to align the school schedule with the schedule of students' professional practice in the company	4	4	21	43	29

	Not at all important	Mostly not important	Neither important nor unimportant	Mostly important	Very important
Content, duration and expected outcomes of the company- and school-based learning clearly distributed and forming a coherent sequence	7	0	17	43	33
Demanding procedures for keeping pedagogical documentation on students	7	0	21	55	17
Lack of trained company instructors	7	0	17	34	41
Lack of resources (financial, time, qualified employees/ instructors) to train students	3	10	17	20	50

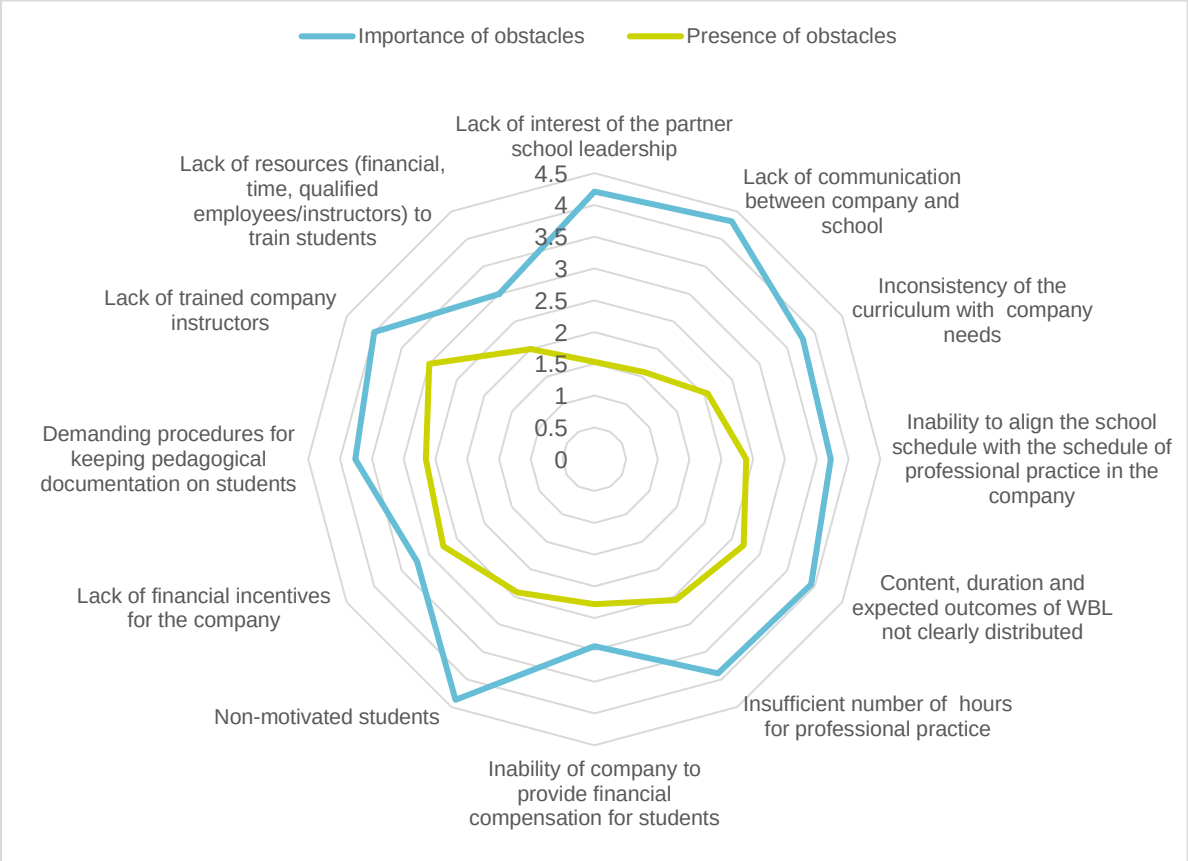
If we compare how often the above obstacles are present in the implementation of work-based learning in the companies that participated in the survey, it can be concluded that all of the obstacles rated as most important are present in the current practice of work-based learning even not reported by high percentage of participants. However, the lack of financial incentives for companies to implement students' professional practice, the low motivation of students with regard to active participation and the shortage of trained company instructors are mentioned by a high percentage of the company representatives (Figure 4.2).

FIGURE 4.2 MOST COMMON OBSTACLES IN THE IMPLEMENTATION OF HIGH-QUALITY STUDENTS' PRACTICE/WORK-BASED LEARNING (%)



In order to gain a clear comparison of the importance of obstacles and the frequency of their occurrence in the implementation of work-based learning, the mean values of the received responses were calculated (given on a scale from 1 to 5, where 5 represents the maximum importance of some obstacles and the maximum level of its current presence in the company) and presented in Figure 4.3.

FIGURE 4.3 IMPORTANCE AND PRESENCE OF OBSTACLES DURING WORK-BASED LEARNING (COMPANIES' OPINION)



Despite the above-mentioned positive results, during the interviews an interesting conclusion emerged, as articulated by one respondent:

> *[Employers are strongly in favour of being able to exercise freedom] in the selection of the students who are going to be involved in work-based learning in their companies, since one obstacle used to be the fact that the huge numbers of students who are involved in work-based learning (and not all of them are motivated to learn and work) prevents the company's instructor from dedicating time to all of them and decreases the efficiency and effectiveness of the implementation of students' professional practice in the company.*

Those employers were aware that selecting the best students to be placed in companies, with the rest staying in (mostly) insufficiently equipped schools is not in accordance with the principles of equity and equality in education but '*some of the most developed dual systems, e.g. the one in Germany, assumes selection of student that is based on their achievements and motivation*'.

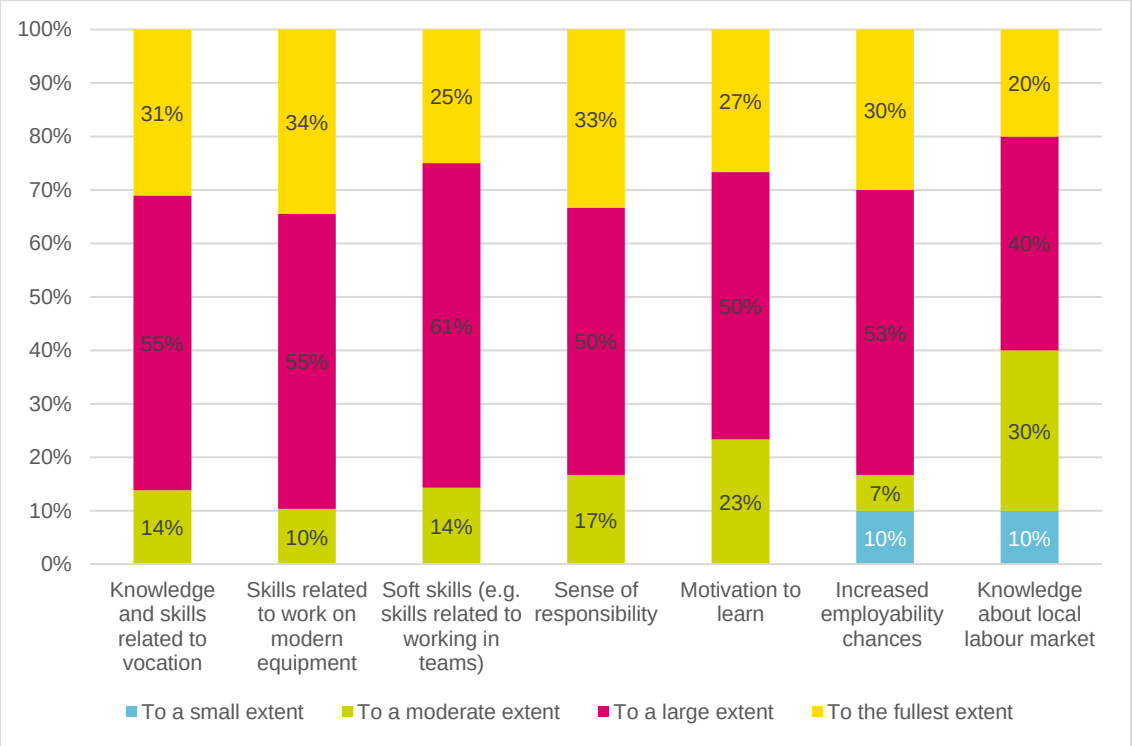
Forms of support

When it comes to the importance of forms of support that can be provided by the national institutions to companies in order to improve work-based learning, it seems that all the evaluated proposed actions are regarded as important. However, companies generally favoured support given through promotion, campaigns and information sharing about available places in companies for the implementation of work-based learning, and particularly appreciated support in the areas of training and licensing company instructors, as well as assistance in the professional development of teachers of vocational subjects, and help with the administrative tasks related to work-based learning (selection and registrations of learners, checking the suitability of the training environment (technically and personnel-wise), logging internship contracts, etc.). All those areas of support were assessed as mostly or very important by between 86% and 93% of respondents.

Impact of work-based learning on students

Since work-based learning should place students at the centre of the working process, it was important to assess how employers see the impact of work-based learning in their companies on the students' acquisition of different attitudes and abilities, including those that are not exclusively or directly connected to work-based learning. In general, all the participating employers found positive associations between students' participation in work-based learning and their educational outcomes. Positive effects were reported throughout the whole range of the work-based learning experience, from attendance to final exams. As can be seen from Figure 4.4, employers thought that work-based learning positively influenced most of the students' attitudes and abilities to a large or full extent, among which vocation-related skills and knowledge, soft skills and a sense of responsibility were ranked the highest.

FIGURE 4.4 EXTENT TO WHICH STUDENTS' PROFESSIONAL PRACTICE IN COMPANIES HAD AN IMPACT ON THEIR ACQUISITION OF DIFFERENT ABILITIES (COMPANIES' OPINION) (%)



All the above-mentioned findings related to the students' acquisition of different attitudes and abilities were also confirmed during the interviews with school and company representatives, during which all the respondents confirmed that work-based learning (since it is set in the real-world context of work) not only makes academic learning more accessible to many students, but also, sometimes to an even greater extent, 'increases students' engagement in schooling'. School representatives underlined that students from the profiles with strong elements of work-based learning showed improvements in their school attendance and that 'students' professional practice in companies, probably, supported schools in their efforts to decrease dropout rates'.

Furthermore, school representatives reported that the positive effects of work-based learning 'were not limited to persistence but also associated with academic achievements in theory-based subjects'.

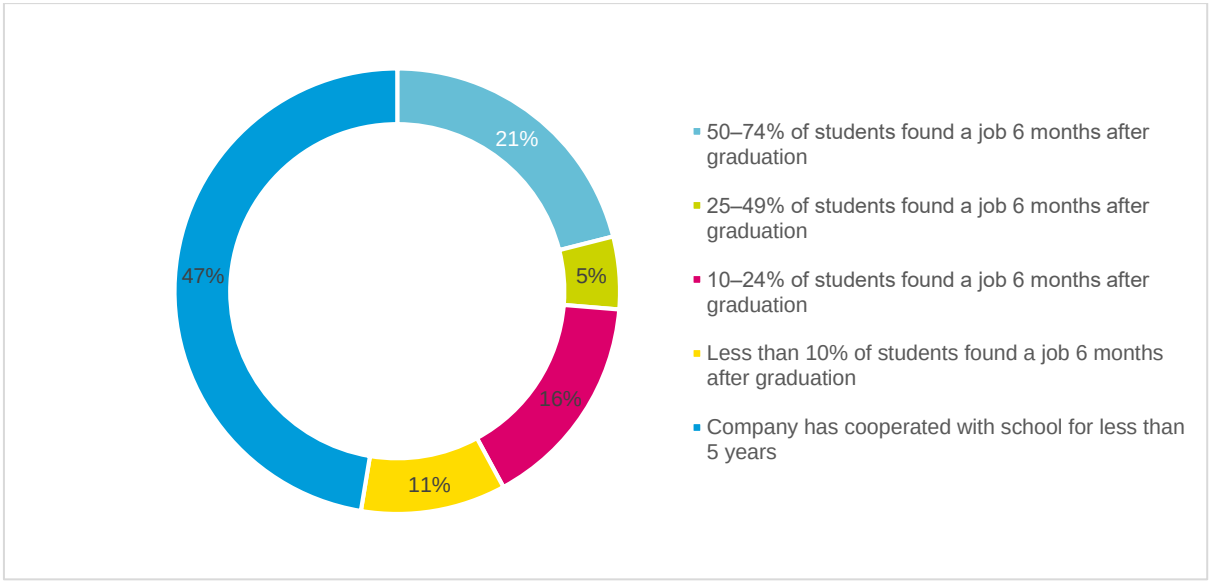
Organisation and implementation of work-based learning as a factor in changing the schools' culture

Company representatives were also positive about the influence that cooperation with schools in the organisation and implementation of work-based learning has had on changing the schools' culture towards more intensive cooperation with companies. They stated that even 'sceptical' schools witnessed progress in many students' abilities after participation in work-based learning, and as a result changed their opinions and started to cooperate with companies more closely and intensively.

Students' employment after graduation

One of the last questions in the questionnaire was dedicated to the employment of students. It should be noted that only companies that have cooperated with schools regarding the implementation of work-based learning for more than five years were able to answer this question. In more concrete terms, companies were asked to estimate how many students who had undertaken professional practice in their company had found a job, within six months after graduation, in their company or any other company.

FIGURE 4.5 EMPLOYMENT OF STUDENTS WHO HAD PARTICIPATED IN PROFESSIONAL PRACTICE IN COMPANIES SIX MONTHS AFTER GRADUATION (COMPANIES' OPINION) (%)



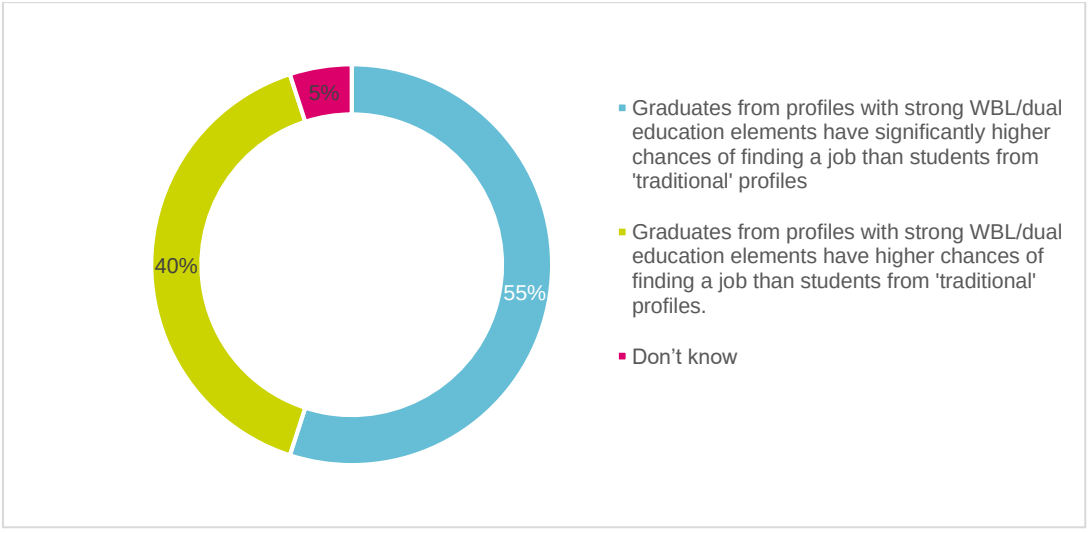
Most of the companies were not able to answer this question since they had been cooperating with schools for less than five years, but among those that could, none of the company employees thought that between 75% and over 90% of students could be employed, stating that was impossible that such a huge percentage of students could find a job six months after graduation, despite good work-based training. However, 21% of employers reported that between 50% and 74% of students find employment within the stated period (Figure 4.5).

Student employment prospects in relation to the type of profile engaged in

Although previous answers had not led to the conclusion that all the students who participated in work-based learning could find a job quickly and easily; 95% of employers stated that graduates who had undertaken students' professional practice in companies (those completing profiles with strong work-based learning/dual education elements) have higher or significantly higher chances of finding a job compared to students from 'traditional' profiles, where such practice is mostly school based (Figure 4.6).

This means that, in general, employers believe that work-based learning and experience of an actual working environment increases students' employment prospects. Nevertheless, two employers referred to the general situation in Serbian economy and one of them emphasised that: 'Even if we neglect the overall situation in the county's economy and the situation-related concrete context of individual local self-governments, we should all be aware that there is no company in the country which could employ all the students that have undergone professional practice in companies' and 'the education system should be flexible enough and allow schools to change the profiles they offer whenever it is needed (based on the requirements of the local economy).'

FIGURE 4.6 CHANCES OF FINDING A JOB – A COMPARISON OF GRADUATES FROM THE PROFILES WITH STRONG WORK-BASED LEARNING/DUAL EDUCATION ELEMENTS AND GRADUATES FROM 'TRADITIONAL' PROFILES (COMPANIES' OPINION) (%)



Employers also addressed the issue of differences in the quality of work-based learning between companies in the light of students' employment prospects, with one stating that: 'In the situation where students have work-based learning in small or not so technologically advanced companies, this will be of limited advantage if the student intends to be employed in a large company after graduation.'

Ultimately, the following statement of one of the company representatives could form a kind of conclusion:

> *Education which assumes strong cooperation between schools and companies has brought and increasingly brings about changes in the attitudes and perceptions of pupils, parents and the wider community regarding craft educational profiles. Benefits that this type of education provide positively influence changes in these perceptions. Changes, maybe, do not go at the desired pace, but this should not discourage all those who participate, and everyone must work harder to implement the concept of education which contains work-based learning.*

4.2 Schools

Basic information about participating schools

From the planned sample of 15 schools (i.e. 30 persons – the school director and the teacher in charge of coordinating students' professional practice), 13 schools submitted answers from at least one person. In order to achieve the planned sample, the questionnaire was sent to an additional five schools with the same characteristics as the schools that did not answer, and at the end of this part of the survey, 33 completed questionnaires were received.

Before looking at the answers to individual groups of questions schools provided within this part of the survey, it should be noted that there were no significant differences between schools in terms of their opinions and attitudes. Also, there were relatively small differences between the answers provided by representatives of the same school.

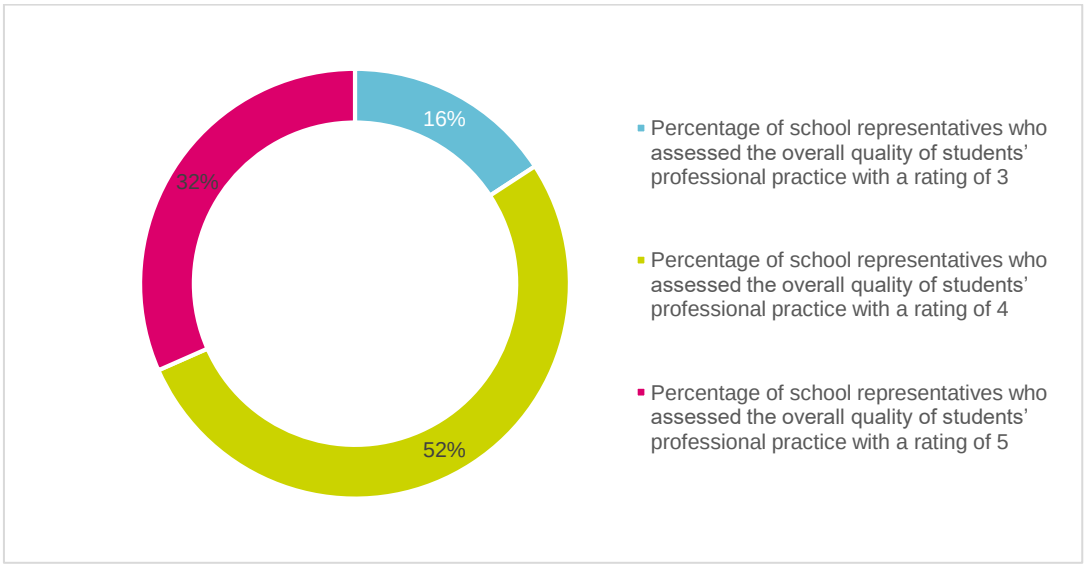
Moreover, in situations where there was room for narrative explanations within the questionnaire, school representatives used the chance to provide information that was not always connected to the asked question, but was very useful in further analysis and in obtaining more information on general perceptions related to concepts of work-based learning in Serbian schools.

Assessment of the overall quality of students' professional Practice

The overall quality of students' professional practice in companies (taking into account the professional and pedagogical skills of company instructors, the working conditions, the potential to cover all the training content envisaged by the curriculum, the equipment available for students, as well as the facilities, infrastructure, levels of cooperation with the schools, etc.) was, in the majority of cases, given scores of 4 and 5 (where 1 is the lowest and 5 is the highest quality), and no schools assigned marks of 1 or 2 for the quality of students' professional practice in companies (Figure 4.7).

However, in providing qualitative answers within the questionnaire and during the interviews, school representatives clearly stated that the quality of work-based learning very much depends on the company, and that there are significant differences between companies when it comes to the organisation as well as the implementation of work-based learning. At the same time, representatives from the two schools that cooperated with the highest number of companies stressed that there are huge differences between companies with regard to work-based learning, with one representative highlighting that this applied in all aspects – 'from work organisation, number of company instructions, equipment, inventory, work relations, financial possibilities, types of services, etc.' – and going on to emphasise that 'all these differences contribute to how the student can gain knowledge and more diverse experience from multiple companies, which will later facilitate workplace adaptation when it comes to real employment'.

FIGURE 4.7 OVERALL QUALITY OF STUDENTS' PROFESSIONAL PRACTICE IN COMPANIES (SCHOOLS' OPINION) (%)



All the interviewed school representatives agreed that the overall quality of work-based learning mostly depends on the skills of the workplace mentor, the company's vision for human resource development and the consistent implementation of agreed financial incentives for students. A few interviewees stressed the importance of timely feedback from companies to schools on students' behaviour and achievements during their professional practice in order to support schools in dealing with students whose behaviour is not appropriate or whose achievements are unsatisfactory. Also, all agreed that training the company mentor to work with students is of the highest importance, and, as one of the teachers pointed out:

> *It should be emphasised that the entire programme of the students' professional practice is not always implemented in one company, which does not mean that the programme is not good or that the company does not implement the programme properly, but it could influence the overall quality of students' professional practice.*

It is interesting to note that most of the schools' staff gave preference to work-based learning in small and medium-sized companies, underlining that cooperation with large companies suffers from a lack of timely communication with management and that the 'rigid hierarchy in large companies prevents fast and effective decision making'. At the same time, two school directors noted that work-based learning in large companies has its benefits, including 'more staff to be dedicated to students' and 'less profit chasing'. Also, school representatives thought that the schools which had begun to instigate the 'pure' dual profiles or profiles with strong elements of dual education had fewer challenges in terms of the organisation and implementation of work-based learning since the procedures and actions taken before the initiation of such profiles meant that the differences in the quality of work-based learning between companies were minimised since 'each company organises practical training only for the contents where they have adequate human and other resources and capacities within the company'.

Assessment of the importance of different conditions/elements for the successful implementation of work-based learning

When school representatives assessed the importance of different conditions/elements for the successful implementation of students' professional practice in companies, they rated all the suggested factors as mostly or very important. Nevertheless, rated 'top of the list' were the following: cooperation between school and company in planning all the aspects of work-based learning; the company's approval of the school having an insight into the implementation of work-based learning; and the coordination of schools and companies in providing students with feedback on their professional practice. Also, since cooperation between the school and the company in organising/distributing the content in terms of its duration and the expected outcomes of company- and school-based learning (so that they form a coherent sequence) is one of the dimensions which gets a significant percentage of the highest marks, it could be concluded that schools see those statements (i.e. elements) which assume close cooperation between schools and companies as among the critical success factors for the implementation of students' professional practice.

The unexpected findings regarding the elements of a successful implementation of work-based learning were those that referred to the existence of assessment based on clear learning objectives/outcomes for work-based learning and having secure financial compensation for students during professional practice as not of the highest importance.

One teacher stated that it is vitally important that 'teachers together with mentors in companies jointly develop monthly work plans for practical classes in order to harmonise what is thought in schools with practice in the company'.

Assessment of how different conditions/elements for the successful implementation of work-based learning are met in practice

As can be seen from Table 4.2, a positive sign is that all the elements which were previously assessed as mostly or very important appear as mostly or completely met in the implementation of work-based learning, while only 5% of school representatives expressed the view that teachers are mostly unable to have an insight into the implementation of students' professional practice in companies.

TABLE 4.2 DEGREE TO WHICH THE CONDITIONS FOR THE SUCCESSFUL IMPLEMENTATION OF WORK-BASED LEARNING ARE MET (%)

	Not at all	Mostly not	Neither yes nor no	Mostly yes	Completely
Commitment of the company's management	0	0	5	42	53
Cooperation of the school and the company in the planning of all aspects of work-based learning	0	0	5	42	53
Existence of materials and technical conditions in the company for the implementation of professional practice	0	0	10	37	53
Having a training plan for each student participating in work-based learning	0	26	11	26	37

	Not at all	Mostly not	Neither yes nor no	Mostly yes	Completely
Sufficient number of professionally and pedagogically trained instructors in the company	0	0	0	42	58
Possibility of constant communication between school representatives and instructors in the company	5	0	0	5	90
Ability of the school to have an insight into the implementation of professional practice in the company	0	5	11	31	53
Capability of the school and the company to organise/distribute the content, duration and expected outcomes of the company- and school-based learning (so that they form a coherent sequence)	0	5	16	53	26
Compliance of the curriculum with the company's expectations	0	0	5	53	42
Motivation of students in terms of active participation in the professional practice at the company	0	0	5	32	63
Compliance with legal and health and safety conditions for students	37	16	26	16	5
Secured financial compensation for students during the professional practice	0	5	11	37	47
Existence of clear learning objectives/outcomes for work-based learning and assessment based on these goals	0	5	0	32	63
Cooperation of schools and companies in providing students with feedback on their professional practice	0	0	0	26	74

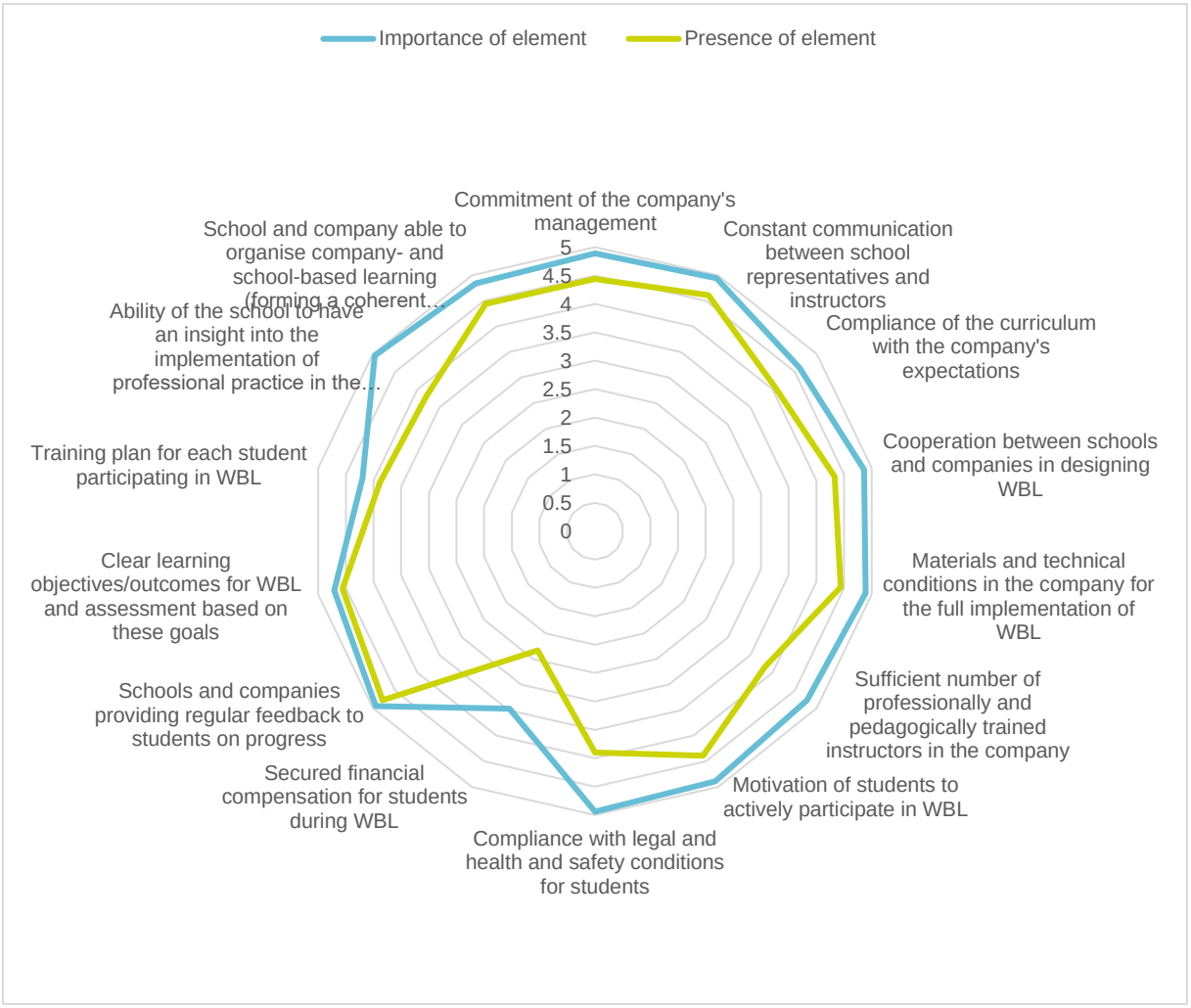
One highly concerning fact is that some 37% of teachers and school managers said that legal and health and safety conditions for students are not met at all.

In order to gain a clear insight into the comparison between the importance and the presence of obstacles in the implementation of work-based learning, the mean values of the received responses were calculated (given on a scale from 1 to 5, where 5 represents the maximum importance of some obstacles and the maximum level of its current presence in the company) and are presented in Figure 4.8.

A further point to be noted is that, in addition to the answers assessing the importance of various elements in the successful implementation of work-based learning, school representatives emphasised that connecting the curriculum to real-work experiences requires teachers to work with company professionals and with each other, since 'joint planning facilitates the development of integrated work-based learning training plans and content, which will be of ultimate importance for students' benefit' and the 'school-based work of teachers should be organised in such manner as to

allow teachers to have time for the integration of the theory of the subject matter into work-based learning plans'.

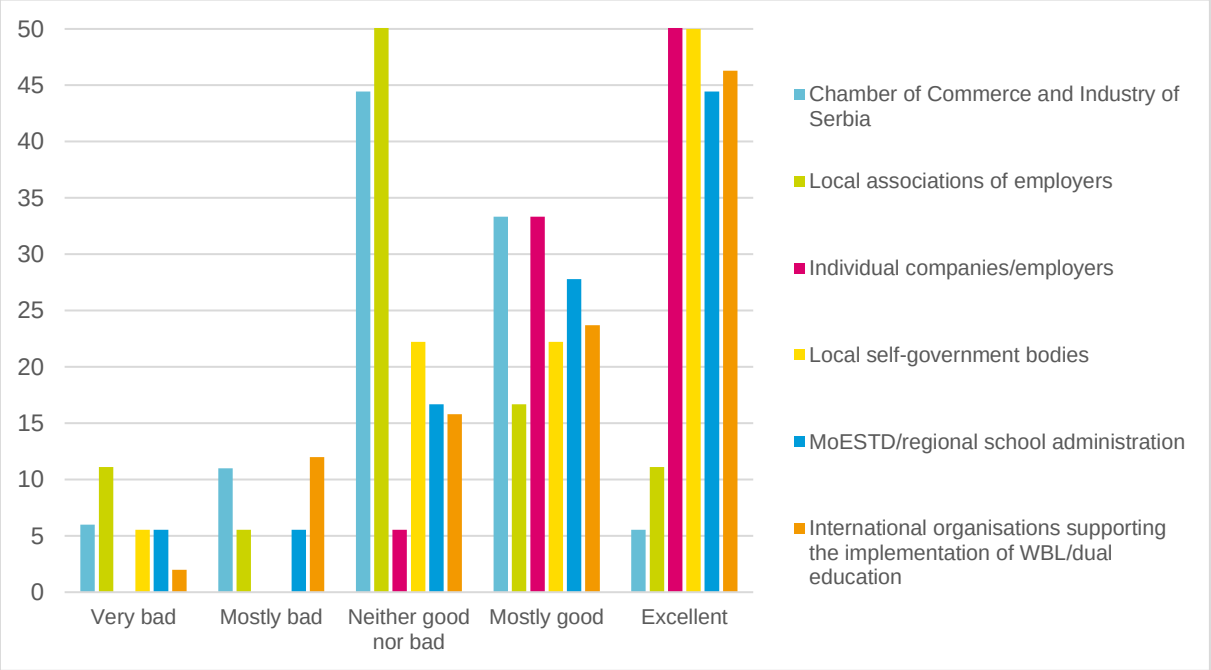
FIGURE 4.8 IMPORTANCE AND PRESENCE OF OBSTACLES DURING WORK-BASED LEARNING (SCHOOLS' OPINION)



Overall quality of cooperation schools have with different partners

Just as the companies were mostly satisfied with their cooperation with schools, schools gave a similar evaluation of their cooperation with companies – none of the interviewed school representatives rated cooperation with schools as very or mostly bad, and cooperation with companies had the highest percentage of answers in the mostly good and excellent categories. At the same time, cooperation with local self-government bodies was also assessed very positively (Figure 4.9).

FIGURE 4.9 QUALITY OF COOPERATION WITH DIFFERENT STAKEHOLDERS (SCHOOLS' OPINION) (%)



Forms of support

While companies thought that promotion, campaigns and sharing information about the availability of places for the implementation of work-based learning are very important, and that national institutions should support businesses in this area, around 10% of schools were of the view that this is not important at all; indeed, the school representatives would rather see national institutions taking the role of a mediator between students, schools and companies in concluding contracts for the implementation of work-based learning (almost 90% of school representatives thought that this is very important), or as a bodies that support the establishment of good and sustainable partnerships and cooperation with companies. At the same time, assistance in the professional development of teachers of vocational subjects was something which all the school representatives believed to be important or very important.

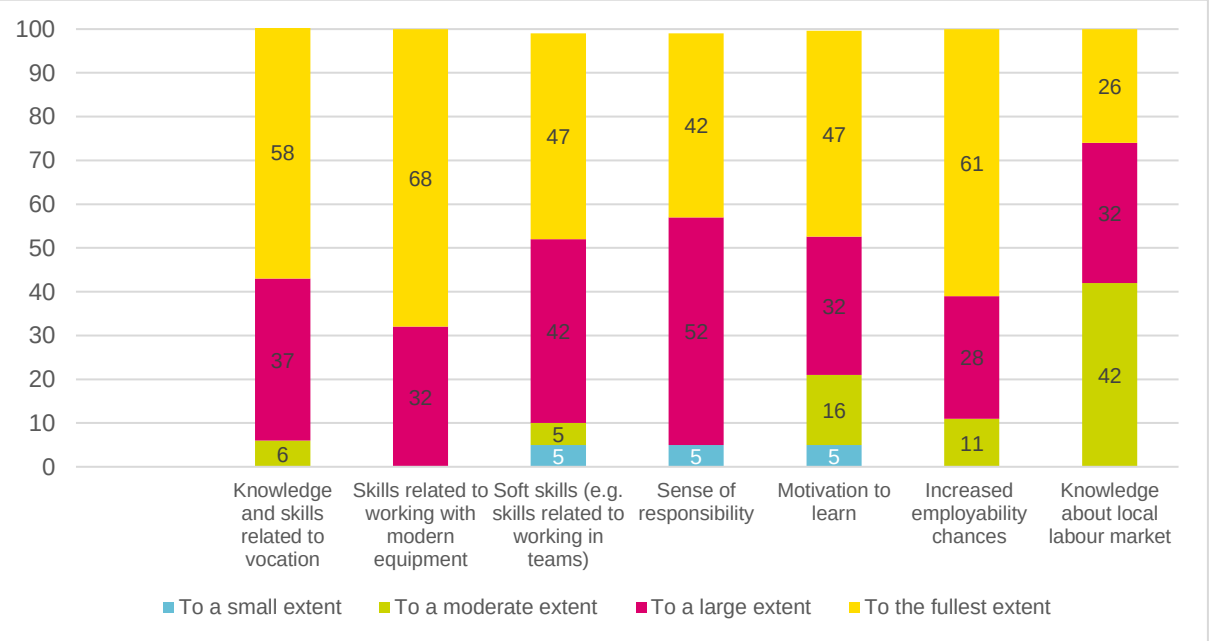
One of the interviewed school representatives underlined that it is very important that the 'ministry in charge for education should be better informed about the actual and concrete needs of a local economy and the possibilities of local companies to implement work-based learning in order to make evidence-based decisions when it comes to the planning of enrolment policy'. Other schools agreed that maintaining flexibility in deciding which profiles schools will offer each year is very much needed.

Impact of work-based learning on students

All the school representatives were positive about the impact of work-based learning on students, regardless of whether the impact was connected to vocation-related or soft skills and attitudes. They underlined that work-based learning strongly links what students learn in school to the skills and knowledge needed for real-world careers, and most of them were sure that students from their school could properly apply their classroom knowledge to work-based situations. Nevertheless, the highest percentages of school representatives thought that work-based learning mostly influenced students'

abilities in relation to vocation/profession (e.g. knowledge and skills related to vocation, skills related to working with modern equipment) and that work-based learning increased students' employability chances. At the same time, in contradiction with the findings related to employers' opinion, a number of teachers and school principals (albeit a small number) did not believe that work-based learning had an influence on students' motivation to learn, sense of responsibility and development of soft skills, even though a rather a large percentage of survey participants were of the opinion that work-based learning very much influenced the development of soft skills and a sense of responsibility (Figure 4.10).

FIGURE 4.10 EXTENT TO WHICH STUDENTS' PROFESSIONAL PRACTICE IN COMPANIES HAD AN IMPACT ON THEIR ACQUISITION OF DIFFERENT ABILITIES (SCHOOLS' OPINION) (%)



During the interviews, school representatives highlighted that where students' professional practice is organised as work-based learning, young people have the chance to explore potential career options since they have the opportunity to question professionals working in companies and obtain 'first hand' experience about their choice of vocation. Also, all the interviewees agreed that, as members of the workforce in the 21st century, everyone needs to develop 'soft skills' and, as one respondent stated :

> *[Employers are] going to hire only individuals who display such skills and positive social skills as reliability, thus work-based learning will provide students with the opportunity to develop them. All these skills will be highly valued in future careers, and even students who do not find a job in the company will have professional experience.*

A particularly strong statement by one of the school representatives articulated the view of most of the teachers and schools' directors in the survey: 'High-quality work-based learning does not place school-based and work-based learning into separate "boxes", but rather connects classroom learning with work-based learning and supports the creation of the full picture of what a particular occupation looks like.'

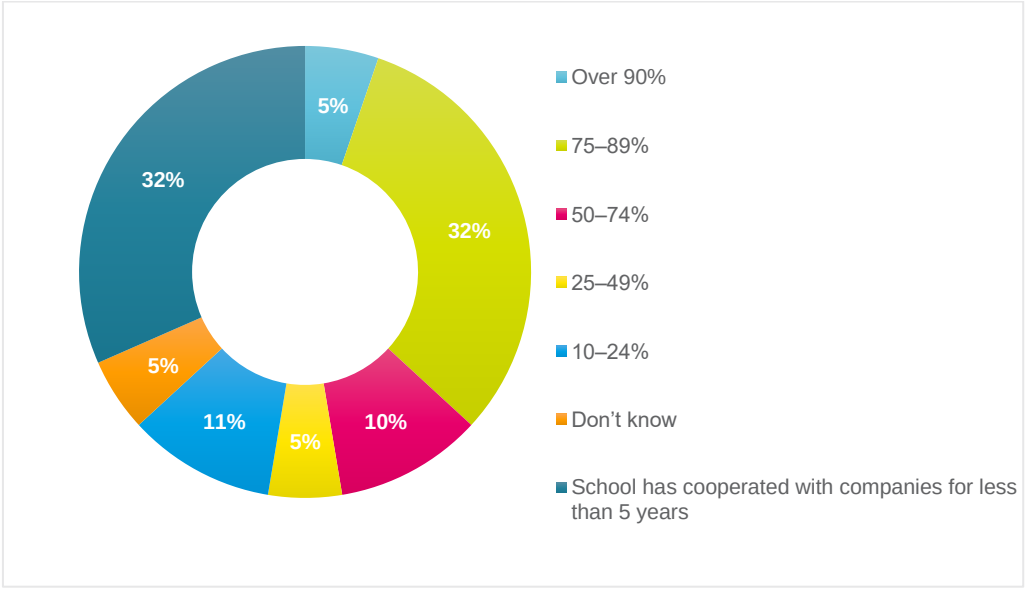
It is important to mention that the school representatives interviewed were very positive about the adoption of the Law on Dual Education, although they underlined that the law is not completely clear

about all the areas intended to be regulated. Nevertheless, the new law represents a huge step forward in a situation where students' professional practice has been variously regulated through different regulations and schools are left to interpret the regulations for themselves when it comes to establishing cooperation with companies and implementing work-based learning.

Students' employment after graduation

Even though Serbia has not developed a system for tracing students after graduation, it was expected that schools would have some information about the employment of their graduates, at least in relation to the work-based learning that took place in companies. The answers provided were as follows: among participating schools, 32% had cooperated with companies for less than five years, but the majority of the rest thought that between 75% and 89% of students find a job six months after graduation (Figure 4.11).

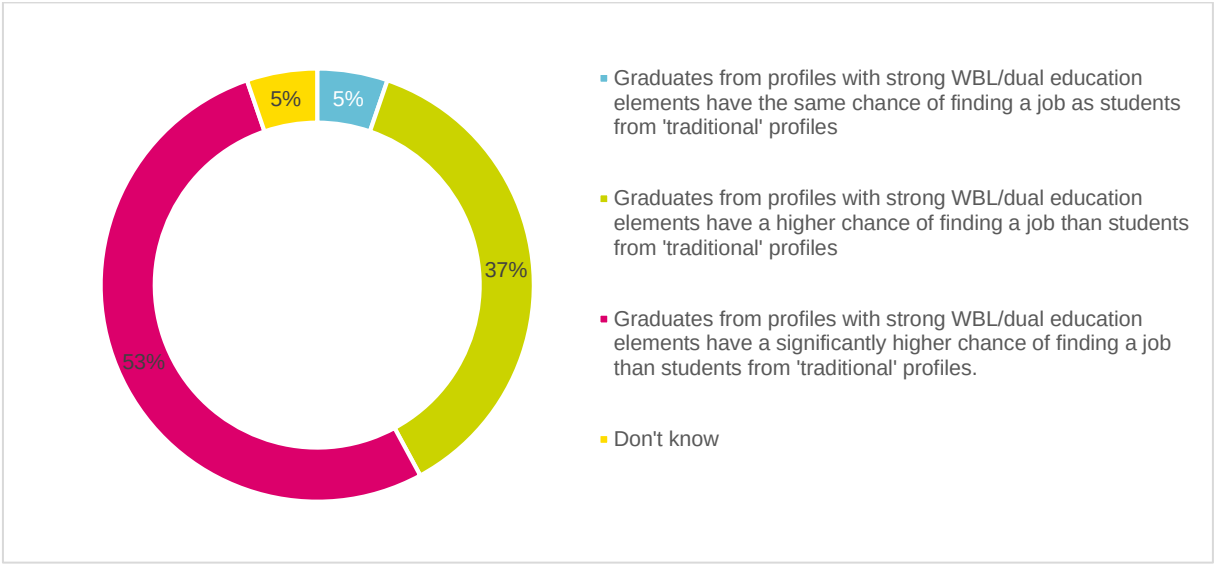
FIGURE 4.11 EMPLOYMENT OF STUDENTS WHO HAD PARTICIPATED IN PROFESSIONAL PRACTICE IN COMPANIES SIX MONTHS AFTER GRADUATION (SCHOOLS' OPINION) (%)



Student employment prospects in relation to the type of profile engaged in

Similarly to employers, 90% of school representatives stated that graduates from the profiles where students' professional practice is organised in the form of work-based learning (profiles with strong work-based learning/dual education elements) have a 'significantly higher' or 'higher' chance of finding a job than students from 'traditional' profiles. Only 5% of school representatives thought that both groups of students had the same employment prospects (Figure 4.12).

FIGURE 4.12 CHANCES OF FINDING A JOB – A COMPARISON OF GRADUATES FROM THE PROFILES WITH STRONG WORK-BASED LEARNING/DUAL EDUCATION ELEMENTS AND GRADUATES FROM 'TRADITIONAL' PROFILES (SCHOOLS' OPINION) (%)



4.3 Students

Basic information about participating students

In the questionnaire-based part of the survey, a total of 120 students from all of the planned profiles participated. As with the school representatives, the lack of participation of three schools meant that the number of students was smaller than planned, therefore students from additional schools were invited to participate in completing the questionnaire.

Participating students engaged in professional practice in a total of 39 companies. Out of 120 students, 47 were experiencing professional practice in more than one company (around 40%). The majority of students had a signed contract with the companies during their professional practice (76% answered in the affirmative, while 24% stated that they had not signed a contract with the company), and the majority of students had enrolled in their respective profiles mainly because students' professional practice was implemented in real working environments (i.e. as work-based learning) (68%).

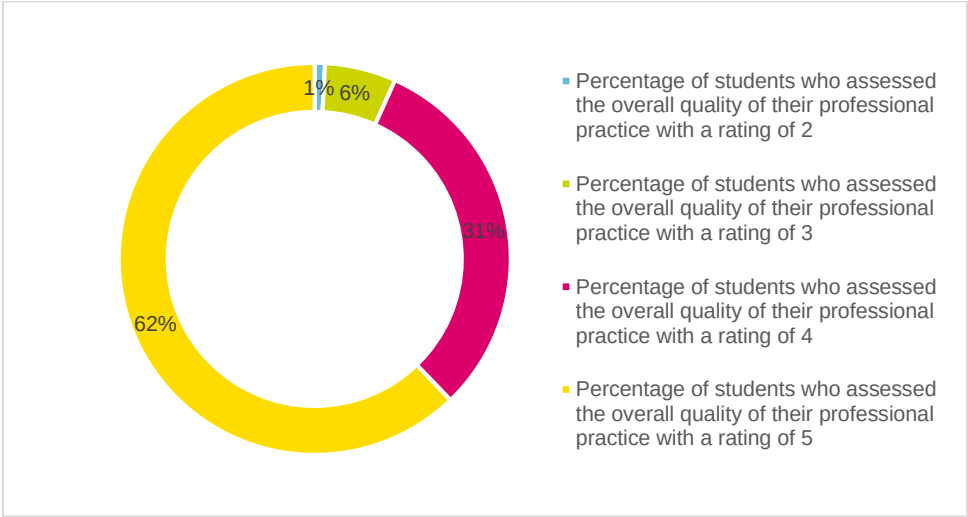
It should be noted that the students who participated in this study were those who were attending the schools at that time, so that any dropouts out were not included in the survey sample. All the students' responses need to be interpreted bearing that in mind.

Overall quality of students' professional practice

As with other groups of respondents, students were set the task of rating the overall quality of the professional practice they had experienced in companies. The criteria for such assessment were the professionalism and attitudes of companies' instructors; the clarity of the students' expectations and the defined outcomes for work-based learning; the working conditions; the equipment available for students; the existence of financial compensation; the companies' facilities and infrastructure, etc. For the purposes of assessment, on a scale of 1 to 5, 1 was the lowest mark and 5 the highest.

According to the above-mentioned criteria, a large majority of the students (62%) gave their professional practice the highest mark (Figure 4.13). Taking into account that the second biggest group comprised those who rated their practice with a score of 4, it can be concluded that students are generally satisfied with the professional practice in the companies or work-based learning they are involved in. It should be noted, however, that 1% of students assessed their practice with a score of 2.

FIGURE 4.13 OVERALL QUALITY OF STUDENTS' PROFESSIONAL PRACTICE IN COMPANIES (STUDENTS' OPINION) (%)



Assessment of school-based learning as a preparation for work-based learning

Regarding school-based learning (both theoretical and practical) as a preparation for professional practice in companies, students were, generally, satisfied with how it was organised and thought that school-based learning prepared them well for work-based learning.

As expected[4] the dimension assessed with the lowest score was that related to schools' equipment with regard to the implementation of theoretical and practical teaching, while one encouraging result shows that students believed that school-based classes prepared them well for professional practice in a company. Nevertheless, dimensions regarding the work of teachers (e.g. teaching methods) were assessed less favourably.

The majority of students expressed satisfaction regarding their decision to enrol in a particular educational profile (Table 4.3).

[4] Many recent studies have noted that a minority of the schools in Serbia have good conditions in terms of equipment and infrastructure, and that funds for the improvement of conditions are rarely available in practice (e.g. Institute for Evaluation of the Quality of Education, 2017; Government of the Republic of Serbia, 2018).

TABLE 4.3 SCHOOL-BASED LEARNING AS A PREPARATION FOR STUDENTS' PROFESSIONAL PRACTICE IN COMPANIES (%)

	Strongly disagree	Mostly disagree	Neither agree or disagree	Mostly agree	Strongly agree
During the theoretical and practical teaching at the school, I always knew exactly what I was expected to do or learn	5	9	11	43	32
During the theoretical and practical teaching at the school, I had the opportunity to be active and creative	10	11	5	35	39
My school has all the necessary equipment for the implementation of the theoretical and practical teaching for my educational profile	21	19	5	36	19
Teaching methods used by teachers in my school have always enabled active student participation	15	15	5	42	23
During the theoretical teaching at the school, I was well prepared for professional practice in the company	5	5	5	39	46
During the theoretical teaching at the school, I have always received information about where and how I can use theoretical knowledge in practice	15	20	10	25	30
I think that my decision to enrol in this educational profile was right	5	5	5	15	70

Assessment of the implementation of work-based learning

In the part of the questionnaire dedicated to assessing the implementation of students' professional practice in companies in general, as well as focusing on particular aspects of that practice, the majority of students (around 85%) stated that they learnt new skills and new knowledge during their company placement and that they were able to achieve all the required learning outcomes for work-based learning (around 80% of students). Students reported that the company instructors rarely asked them to do something that was not part of what they were taught in school; they seldom felt more like an observer than a someone who is really involved in the work processes; and most of the students always knew when to go to the company and how much time would be spent in work-based learning.

Also, the majority of students (around 60%) agreed that the combination of work-based learning and school-based learning was meaningful and coherent (with regard to content, duration and expected learning outcomes/results).

According to the students, the development (and later implementation) of individual training plans for work-based learning is not common practice in Serbia, and instructors instead implemented all the activities with all the students who were attending professional practice at that moment. A very small percentage of students (2%) reported that they did not have a dedicated person to initiate them into the job, explain what they were supposed to do, answer their additional questions and monitor their work.

Just over half of the responding students stated that they always received feedback from the instructors about the quality of their work and what could be improved, but more than 70% of students did not have the opportunity to express their opinion or propose any practical solutions during work-based learning. Just one student emphasised that during their professional practice in the company students did not have the necessary materials and equipment for the implementation of the planned activities.

At the same time, almost all the students were very much satisfied with the treatment they received in the companies, underlining that all the students who participated in the professional practice were treated equally, that they all had equal opportunities to learn and participate in the planned activities, and that they felt comfortable, accepted, respected and safe. Also, a significant majority of the students thought that health and safety rules related to work processes were clearly explained to them and they were obliged to follow them.

With regard to the financial incentives for the students during the implementation of work-based learning, according to an analysis of the qualitative data provided in the questionnaire, students who were not receiving financial compensation would very much appreciate being remunerated by the companies, and those who were receiving such benefit were very satisfied with this practice. In this part of the questionnaire, some 10 students stated that general conditions (not just those connected to work-based learning, for example toilets and hygiene in changing rooms) should be improved in some of the companies they had attended.

The majority of the students agreed that undertaking professional practice in a company would enable them to find a job quickly after graduation, which is very much correlated with a previously presented finding that students enrolled in educational profiles with strong elements of work-based learning specifically because of the possibility of experiencing professional practice in companies.

However, one of the results that will need more research and elaboration in the future, since it is highly relevant for policy makers (not just for those in the education sector, but for all those involved in developing policies in fields related to employment and youth), is the fact that almost all of the students interviewed saw their employment prospects as lying outside the country, and most of them enrolled in profiles that included work-based learning in the hope of working for foreign companies, either in Serbia or, preferably, abroad[5].

Differences in the quality of work-based learning in different companies

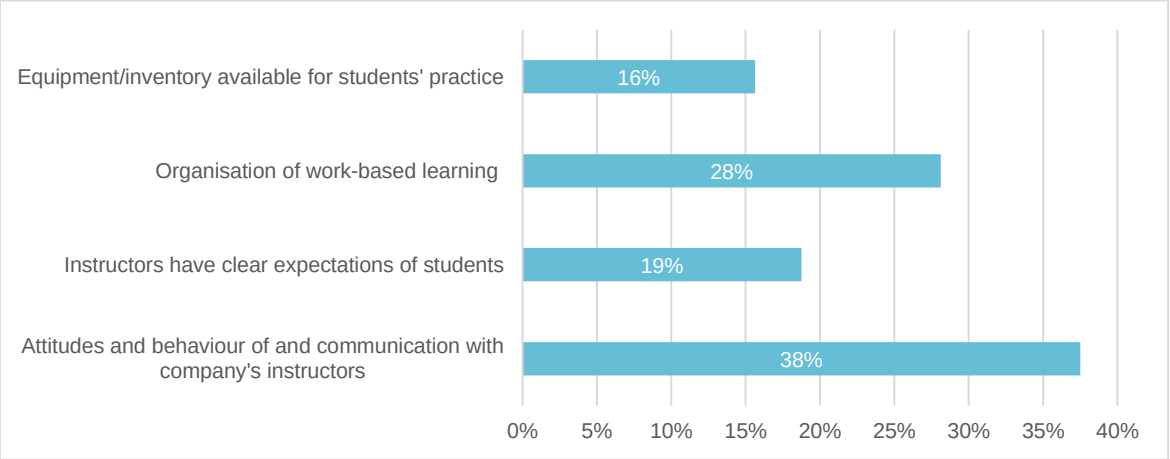
As with the school representatives who concluded that the quality of students' professional practice could vary greatly between companies, students had the same view. In more concrete terms, 56% of students who had experienced professional practice in more than one company clearly emphasised that there were significant differences between companies in many aspects of the organisation and implementation of work-based learning.

When it comes to a classification of the most common differences, the relationship between company instructors and students was mentioned in the highest percentage of the answers, indicating that in some of the companies instructors were very much dedicated to students and treated them with patience and respect, while in other companies instructors showed little enthusiasm for working with students, which, consequently, led to a lack of constructive communication as well as the possible

[5] This was particularly emphasised by students who have already had work-based learning in foreign companies.

maltreatment of students. In addition, a significant number of students underlined the perception that the organisational aspects of work-based learning varied from company to company – ranging from very good (precise schedules, days of practice agreed in advance (not ad hoc), enough time for all planned activities, clear expectations of what students are supposed to do, etc.) to very bad (no clear schedules, students waiting for hours for the instructor to provide them with directions, repetition of the same tasks, etc.). Furthermore, 16% of students highlighted differences between companies in terms of equipment available for work-based learning, and 19% said that there were situations in which the company's instructors were very clear about their expectations of students during work-based learning, while this was not the case in other companies (Figure 4.14).

FIGURE 4.14 MOST COMMON DIFFERENCES IN THE QUALITY OF STUDENTS' PROFESSIONAL PRACTICE (%)



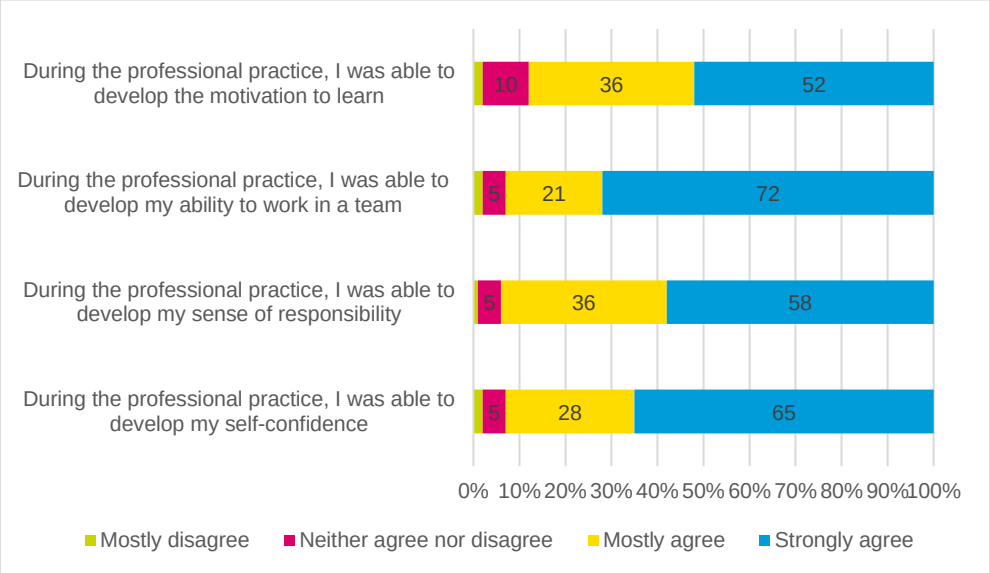
In accordance with the previous findings, students' recommendations for enhancing the quality of work-based learning were mostly connected to improving the attitudes and behaviour of companies' instructors, with, in some cases, increasing the number of days dedicated to work-based learning and decreasing the theoretical school-based learning. The provision of scholarships/payments for students who are involved in work-based learning and the introduction of individualised work plans for the benefit of students and instructors was also mentioned.

Impact of professional practice on the development of students' soft skills and work attitudes

Students were also very positive about the impact professional practice has had on the development of their soft skills and various attitudes.

The majority of them stated that professional practice in companies had supported them in developing self-confidence (65%), the ability to work in a team (72%) and a sense of responsibility (58%), as well as encouraging their motivation to learn (52%) (Figure 4.15).

FIGURE 4.15 EXTENT TO WHICH STUDENTS' PROFESSIONAL PRACTICE IN COMPANIES HAD AN IMPACT ON THEIR ACQUISITION OF DIFFERENT ABILITIES (STUDENTS' OPINION) (%)



Students who filled out the questionnaire shared similar attitudes to those of the interviewed students, regarding the way that professional practice in companies was conducted as generally positive. For example, most students reported that work-based learning helped them clarify their career goals. Students were most satisfied with work-based activities that were customised to their individual needs and those based on one-on-one contact, compared to situations in which they acted as observers while company instructors gave explanations and where they were working in groups. Also, students placed a high value on the skills they acquired in the areas of decision making, problem solving, teamwork, interpersonal and communication skills, the performance of complex tasks, and appropriate job behaviours.

Students drew a sharp distinction between paid and unpaid internships, stressing that payment significantly increased their motivation, self-respect and performance in general. They reported that work-based learning experiences facilitated the acquisition and production of new knowledge, the ability to apply knowledge to real-work situations, and the motivation to take personal responsibility for their own learning and career development. One student stated that he had additionally experienced a huge change in his own attitudes toward life, parents and adults in general, in that now he understands how the real world functions and has a greater appreciation of his parents' jobs.

4.4 Representatives of the national institutions

All the representatives of different national institutions agreed that the implementation of vocational education, which includes mandatory work-based learning, implies that all the involved bodies (MoESTD, CCIS, schools, companies, and representatives of local self-government) must understand the need for this approach and its benefits, as well as being persistent in its implementation, even if this involves facing many different challenges. All agreed, also, that cooperation and coordination between all the relevant national institutions/bodies are essential for the successful implementation of high-quality work-based learning.

With regard to assessing the implementation of work-based learning, some of the interviewed employers frankly admitted that students were not always completely involved in the working practices

of the companies, and it was agreed that work-based learning would produce the expected good results only if students were allowed to be active participants in the companies' work processes. Thus, this area of work-based learning needs to be improved, while the conclusion of the respondents was that high quality and well-organised work-based learning is still to be achieved.

In talking about the main obstacles to achieving a high quality of work-based learning, it was mentioned that, until now, there has been no accredited training for company instructors, and that they have been working with students without any pedagogical-didactic knowledge, which has often led to an uneven quality in student professional practice across different companies, or within the same company but relating to different instructors. By defining the qualifications that the instructor must possess, it is expected that this area will be regulated and consequently improved. In the light of such statements, representatives of the MoESTD underlined that with the introduction of the new legislation related to dual education, among other things, employers should have clearly defined roles in the implementation of work-based learning, and consequently it is expected that the quality of students' professional practice will improve. They also stressed that in the transition period of the entry into force of the Law on Dual Education, clear steps and strategies for assessing the quality of student practices will be defined, as well as the introduction of a number of important bylaws which will support further regulation of the area of work-based learning and the establishment of clear requirements to achieve the desired quality in this area of schooling and learning. A monitoring and evaluation framework for work-based learning will also be developed, which will be very much welcomed by all the stakeholders, since most of the respondents mentioned the need for such a framework.

At the same time, some of the respondents pointed out that there is a significant difference between the implementation of students' professional practice regarding 'traditional' profiles (where such practice is conducted in companies) and the newly developed 'pure' dual profiles and those with strong elements of dual education. In more concrete terms, it was not rare to find that in the case of 'traditional' profiles, cooperation with schools and companies was purely a formality (e.g. students were visiting companies, but companies did not provide them with instructors, thus students were leaving companies immediately after the school coordinator finished their supervision, or companies signed cooperation agreements with schools 'as a favour to the school' but without any real interest in implementing students' professional practice), and that within most of the 'traditional' profiles the number of classes dedicated to work-based learning was not sufficient. The situation is different in the case of profiles which are developed as 'pure' dual profiles or which have strong elements of dual education, since employers are obliged to sign individual contracts with students, implement students' professional practice in accordance with a prescribed curriculum, nominate at least one employee to act as an instructor, and to keep records on all the activities which are related to work-based learning. Everyone agreed that such factors increased the quality of work-based learning in these type of profiles.

Regarding the cooperation between schools and companies, this was assessed as very good, with a significant amount of evidence pointing to situations in which, for example, teachers were actively involved in the monitoring of students during work-based learning, and regular communication and discussions took place in order to harmonise in-company practice with the schools' curricular requirements. School and company representatives agreed that in the implementation of work-based learning one of the important challenges is students' lack of motivation and interest in their professional practice, even when this takes place in companies. At the same time, it was often heard by employers that teachers need to be constantly involved in professional development activities in order to be apprised of new developments in their respective fields of production and technology, and,

consequently, enabled to support students in gaining the theoretical knowledge that will be applied during work-based learning. It should be noted that a representative of one of the interviewed companies underlined the importance of introducing incentive schemes for employers. Some models for implementing this approach could be considered.

The poor image of vocational education in society was mentioned as one of the general challenges for the reform of VET. The promotion of VET in general, and particularly profiles based on work-based learning, should be the responsibility of all the actors involved. However, there also needs to be a tight control over which profiles will receive permission to become 'pure' dual profiles, and in which schools, since there have been cases where some schools have been granted permission to enrol students in such profiles (and attracted students by promoting cooperation with employers), but then the conditions for high-quality work-based learning were not fulfilled in reality since the cooperation agreements struck with companies were merely formal in nature.

It should also be mentioned that, during 2017, as part of an effort to obtain relevant data on the quality of work-based learning, the MoESTD collected some data related to first-generation students who had been educated within the cooperative model established through the GIZ VET project (profiles considered as 'pure' dual profiles). Various data were collected on students who completed the educational profiles of locksmith/welder, electrician and industrial mechanic. These students were enrolled in eight high schools in June 2014, and took their final exams in June 2017.

The collected data indicate that, if the number of enrolled students is compared with the planned number of students in these educational profiles, the enrolment quota was fulfilled to around the 65% level. Upon the completion of their studies, relative success was identical. Namely, 65% of those who enrolled in these profiles succeeded in completing them within the stipulated deadline. Cumulatively, it turns out that only 42% of students who were potentially able to train for these professions graduated within the set timeframe. Bearing in mind that the relevant financial resources were continuously transferred to the schools as all the students who enrolled in such profiles stayed in school until graduation, it can be concluded that investment here fell below the acceptable limit of efficiency, and that the educational system should continue to address both the efficiency as well as the quality of work-based learning in these profiles.

In the case of the first generation of students educated by this model, interesting insights regarding efficiency are also provided by data on students' dropout rates during the final year of education, including whether students passed the final exam in the first term. In more concrete terms, in the profile of the locksmith/welder the final grade dropout rate was 3%, and if we consider the number of failures in the final exam in the first term, in June 2017, the total dropout figure was 10%. Within the electrician profile, the dropout rate in the final grade was even more visible and amounted to over 25%, and if we consider the number of failures of the final exam in the first term, in June 2017, the total dropout rate rose to a huge 55%. As for the industrial mechanic profile (the first two generations of students were enrolled in just one school), there were no dropouts in the final year (over the length of the course two students dropped out, while one student repeated a class), so 13 students successfully completed the final grade and then passed the final exam in the first term. It is also worth noting that 10 first-generation students are already employed by Bosch, where they had been attending work-based learning for two years.

With reference to the profile of the locksmith/welder, over the three years of the duration of the course a total of 18 students dropped out, and 14 new students were enrolled, while 21 students repeated a class. Two schools had a high number of dropouts, while another two schools had very few.

Concerning the electrician profile, the dropout and repeating grades rates were equally present in the two schools that were implementing this profile – six students dropped out during the three years of training, while eight students repeated a grade.

The data also indicate a large fluctuation of pupils in these particular profiles (dropouts and subsequent enrolments of pupils during schooling), as well as the practice of students repeating classes due to a large number of insufficient grades at the end of each school year. This finding is a clear indication of the necessity for further research, since such a situation is closely connected with the quality as well as the integrity of the system.

The above-mentioned findings point to there being room for systematic improvement in reducing the dropout rates of students enrolled in profiles that involve mandatory work-based learning, and thereby enhancing the overall quality of this type of vocational education. In addition, better preparing students for passing final exams (used to assess the motivation and readiness of graduates to become directly involved in the world of work) could help to improve the overall evaluation of the efficiency and quality of work-based learning, to the benefit of the next generation, which will graduate in June 2018.

CONCLUSIONS

After analysing of all the data, it can be concluded that companies are relatively satisfied with all aspects of the organisation and implementation of work-based learning. This finding is supported by the fact that in the case of all the stated obstacles, their importance was scored more highly than their occurrence. This suggests that currently all the challenges are highly important but manageable, and therefore preventing them from becoming more of an issue should be considered a priority. In other words, if not resolved in a timely manner these obstacles could become demotivating factors for new companies, or when work-based learning scales up it will become impossible to solve such problems on a case-by-case basis.

In addition, as the smallest obstacles in the implementation of work-based learning appear to be a lack of interest on the part of the partner schools' leadership and poor communication between companies and schools, this could be interpreted as a very encouraging sign, indicating that strong links have already been established and that in the future they will need to be further maintained and strengthened.

The lack of trained company instructors, mentioned as the most significant of the current challenges, could quickly become a major problem if the process of identifying and training new companies' instructors does not take place as planned, especially bearing in mind that one objective is to increase the number of students enrolled in 'pure' dual profiles and profiles with strong elements of work-based learning. However, the development of legislation and an increased number of different activities related to the introduction of dual education at the strategic level are relatively promising factors.

Taking into consideration that employers would very much like the power to select the best students to receive work-based learning in their companies, but that this would run counter to the basic principles of the Serbian education system (equal access, equity and equality), it will be interesting to follow the process of developing the bylaw that will focus on students' placements[6], and to see how these, somewhat different, interests of the education system and companies will find common ground.

Although school representatives' evaluations of work-based learning quality currently show positive results, it could be concluded that it is of the highest priority (i) to improve human resources for the implementation of work-based learning (i.e. in terms of having a sufficient number of trained instructors to work with students), and (ii) to ensure that health and safety conditions are met and financial compensation secured for students during work-based learning. Bearing in mind that the Law on Dual Education prescribes that all students in dual profiles should receive financial compensation from the school year 2019/20 (currently recommended but not obligatory), financial compensation for students could be perceived as an important precondition for the successful implementation of the Law and for the quality of work-based learning in general.

At the same time, as we know that some employers stated that work-based learning influenced students' employability chances to a small extent, but that none of the school representatives was of the same opinion, it is worth questioning which group has a more realistic insight into the situation. This finding in itself does not mean much, but it would be valuable to further explore whether schools are promoting the profiles with work-based learning as guaranteeing employment after graduation,

[6] Planned to be developed in accordance with the Law on Dual Education.

since, if so, then students could have the wrong impression when deciding to enrol in such profiles, leading to potentially broken promises and supporting a negative image of the profiles in question.

Students are generally satisfied with the theoretical and practical learning in schools, which is perceived as a preparation for their professional practice in companies, as well as with most of the aspects of work-based learning, even though the organisation and implementation of work-based learning vary from company to company. This is something that should be taken into serious consideration since many of the different factors that affect the quality of work-based learning are still not defined or classified by the system. Hence, it is crucial to further develop a relevant legal framework, guidelines, quality assurance mechanisms and a monitoring and evaluation system.

At the same time, since a number of students found the competences of vocational subject teachers unsatisfactory, this should be given serious consideration. However, this problem could be relatively easy to 'fix' if one of the priorities for ensuring the high quality of work-based learning becomes the professional development of teachers in the area of implementing active teaching methods. This kind of training could be designed in collaboration with the international organisations that are supporting the development of work-based learning in Serbia, and could be accredited as a national priority by the Ministry. When prioritised in this way, such training would become obligatory for all teachers in schools that wish to implement profiles that contain work-based learning.

Bearing in mind all of the above analysis, it seems that, so far, on a case-study level, the worlds of labour and education are finding their common ground and creating communication channels. Nevertheless, with an increase in the profiles, schools and companies involved in work-based learning, the need for an effective systemic framework in which it will take place is growing. Therefore, the immediate future of work-based learning implementation must be devoted to improving human capacities, developing quality assurance instruments and procedures, and promoting these quality standards for work-based learning.

ANNEXES

Annex 1: Questionnaire for schools

Basic information

Name of the school _____

City/municipality _____

Educational profile/profiles for which your students conduct professional practice in companies _____

Number of companies the school cooperates with _____

Size of the companies the school cooperates with:

Micro (number) _____ Small (number) _____ Medium (number) _____ Large (number) _____

1. Please rate the importance of the following elements for successful completion of students' professional practice in the company.
   (1 – Not important at all, 2 – Mostly not important, 3 – Neither important nor unimportant, 4 – Mostly important, 5 – Very important)

	1	2	3	4	5
Commitment of the company's management					
Cooperation between school and company in the planning of all aspects of work-based learning					
Existence of materials and technical conditions in the company for the implementation of all elements of professional practice envisaged by the curriculum					
Existence of a sufficient number of professionally and pedagogically trained instructors in the company					
Constant communication between school representatives and instructors in the company					
Approval by the company that the school can have an insight into the implementation of professional practice in the company					
Cooperation between the school and the company in organising/distributing the content, duration and expected outcomes of the company- and school-based learning (so that they form a coherent sequence)					
Compliance of the curriculum with the company's expectations					
Motivation of students for active participation in the professional practice in the company					
Compliance with legal and health and safety conditions for students					
Secured financial compensation for students during professional practice					
Existence of clear learning objectives/outcomes for work-based learning and assessment based on agreed objectives/outcomes					
Existence of a training plan for each student participating in work-based learning					
Cooperation of schools and companies in providing students with feedback on their professional practice					
Something else (please elaborate):					

2. Please rate the overall quality of professional practice students from your school had in the company/employer (bearing in mind the professional and pedagogical skills of company instructors, the working conditions, the possibility of realising all the training contents envisaged by the curriculum, the equipment available for students' practice, facilities, infrastructure, cooperation with your school, etc.)
(1 – Lowest score, 5 – Highest score)

1	2	3	4	5

If you have any suggestions for improving professional practice in companies/employers, please elaborate here:

3. Bearing in mind your general experience with all the companies the school cooperates with, please rate to what degree the following conditions are met in terms of the successful implementation of professional practice in the company.
(1 – Not at all, 2 – Mostly not, 3 – Neither yes nor no, 4 – Mostly yes, 5 – Completely)

	1	2	3	4	5
Commitment of the company's management					
Cooperation between school and company in the planning of all the aspects of work-based learning					
Existence of materials and technical conditions in the company for the implementation of all elements of professional practice envisaged by the curriculum					
Existence of a sufficient number of professionally and pedagogically trained instructors in the company					
Constant communication between school representatives and instructors in the company					
Approval by the company that the school can have an insight into the implementation of professional practice in the company					
Cooperation between the school and the company in organising/distributing the content, duration and expected outcomes of the company- and school-based learning (so that they form a coherent sequence)					
Compliance of the curriculum with the company's expectations					
Motivation of students for active participation in the professional practice in the company					
Compliance with legal and health & safety conditions for students					
Secured financial compensation for students during professional practice					
Existence of clear learning objectives/outcomes for work-based learning and assessment based on agreed objectives/outcomes					
Existence of a training plan for each student participating in work-based learning					
Cooperation between schools and companies in providing students with feedback on their professional practice					
Something else (please elaborate):					

If the school cooperates with more than one company, please elaborate if huge differences in the quality of implementing students' professional practice exist among companies.

4. Please rate the overall quality of cooperation between your school and the following partners in relation to the implementation of professional practice in the company (e.g. transparency, supportiveness and responsiveness in planning cooperation between schools and companies, supportiveness and responsiveness in the implementation of work-based learning, financial contributions, timely implementation of activities regarding work-based learning, availability of staff to support the monitoring and evaluation of work-based learning, participation in final exams).
(1 – Very bad, 2 – Mostly bad, 3 – Neither good nor bad, 4 – Mostly good, 5 – Excellent)

	1	2	3	4	5
Chamber of Commerce and Industry of Serbia					
Local associations of employers					
Individual companies/employers					
Local self-government bodies					
Ministry of Education, Science and Technological Development of the Republic of Serbia/regional school administration					
International organisations that support the implementation of work-based learning/dual education					

5. Please rate the importance of the following models of support which can be offered to schools by the national institutions in order to improve students' professional practice in companies.
(1 – Not at all important, 2 – Mostly not important, 3 – Neither important nor unimportant, 4 – Mostly important, 5 – Very important)

	1	2	3	4	5
Promotion, campaigns and sharing information about available places in companies for the implementation of work-based learning					
Mediation between students, schools and companies when concluding a contract on the implementation of students' professional practice					
Informing students and parents about jobs and employment prospects if students are enrolled in profiles that offer students' professional practice in companies					
Assistance in the professional development of teachers of vocational subjects					
Support in establishing a good and sustainable partnership and cooperation with companies					
Something else (please elaborate):					

6. Please rate to what extent students' professional practice in the companies has/had an impact concerning the following:
(1 – Not at all, 2 – To a small extent, 3 – To a moderate extent, 4 – To a large extent, 5 – To the fullest extent)

	1	2	3	4	5
Students' acquisition of knowledge and skills related to vocation					
Students' acquisition of skills related to working with modern equipment					
Students' acquisition of soft skills (e.g. skills related to working in teams)					
Development of students' sense of responsibility					

Development of students' motivation to learn
Increased employability chances for students who had practical training in the company
Students' acquisition of knowledge about the local labour market
Changing the school culture towards more intensive cooperation with companies
Something else (please elaborate):

7. If your school has cooperated with companies with regard to the implementation of work-based learning for more than five years, how many students who had professional practice in companies found a job within six months after graduation (approximately)?

Over 90%
Between 75% and 89%
Between 50% and 74%
Between 25% and 49%
Between 10% and 24%
Less than 10%
Don't know

8. Please mark the statement you most agree with.

Graduates from the profiles with strong work-based learning/dual education elements have **significantly higher chances** of finding a job than students from 'traditional' profiles.
Graduates from the profiles with strong work-based learning/dual education elements have **higher chances** of finding a job than students from 'traditional' profiles.
Graduates from the profiles with strong work-based learning/dual education elements have the **same chances** of finding a job as students from 'traditional' profiles.
Graduates from the profiles with strong work-based learning/dual education elements have **lower chances** of finding a job than students from 'traditional' profiles.
Graduates from the profiles with strong work-based learning/dual education elements have **significantly lower chances** of finding a job than students from 'traditional' profiles.
Don't know

Annex 2: Questionnaire for companies

Basic information

Name of the company_____

Size of the company: Micro _____ Small _____ Medium _____ Large _____

Company ownership: Private _____ Public _____

City/municipality _____

Name of the school you cooperate with in the implementation of students' professional practice

_____

Educational profile(s) of students who receive professional practice in your company

_____

Number of students who participated in work-based learning in your company in the last 12 months

_____

1. Please rate the degree to which you agree or disagree with each of the following statements. (1– Strongly disagree, 2 – Mostly disagree, 3 – Neither agree nor disagree, 4 – Mostly agree, 5 – Strongly agree)

	1	2	3	4	5
Professional practice in the company allows students to become involved in the work processes of the company immediately upon completion of their studies					
There is a possibility of hiring the best students after graduation					
The duration and organisation of students' professional practice are such that they allow companies to recover their investment (e.g. through apprentices' work/savings).					
The company is willing to continue cooperation with schools in the implementation of the professional practice					

2. Please rate the overall quality of cooperation your company has had with the following partners in relation to the implementation of professional practice in the company (e.g. transparency, supportiveness and responsiveness in planning cooperation between schools and companies, supportiveness and responsiveness in the implementation of work-based learning, financial contributions, timely implementation of activities regarding work-based learning, availability of staff to support the monitoring and evaluation of work-based learning, participation in final exams). (1 – Very bad, 2 – Mostly bad, 3 – Neither good nor bad, 4 – Mostly good, 5 – Excellent)

Chamber of Commerce and Industry of Serbia	1	2	3	4	5
Local associations of employers					
Individual schools					
Local self-government					
Ministry of Education, Science and Technological Development of the Republic of Serbia/regional school administration					
Parents/guardians of students					
International organisations that support the implementation of work-based learning/dual education					

3. Please rate the importance of possible obstacles to the implementation of students' professional practice in your company.
(1 – Not at all important, 2 – Mostly not important, 3 – Neither important nor unimportant, 4 – Mostly important, 5 – Very important)

	1	2	3	4	5
Lack of interest of the partner school leadership					
Lack of communication between representatives of your company and the responsible persons in the school					
Non-motivated students in terms of active participation in the implementation of professional practice in your company					
Inconsistency of the educational profile curriculum with the needs of your company					
Inability of your company to provide anticipated financial compensation for students					
Lack of financial incentives for your company for the implementation of professional practice					
Insufficient number of anticipated hours for students' professional practice					
Inability to align the school's schedule with the schedule of students' professional practice in the company					
The content, duration and expected outcomes of the company- and school-based learning are (not) clearly distributed and (do not) form a coherent sequence.					
Demanding procedures for keeping pedagogical documentation on students					
Lack of trained company instructors					
Lack of resources (financial, time, qualified employees/instructors) to train students					
Something else (please elaborate):					

4. Please rate the importance of the following forms of support that can be provided to companies by the national institutions in order to improve professional practice in companies.
(1 – Not at all important, 2 – Mostly not important, 3 – Neither important nor unimportant, 4 – Mostly important, 5 – Very important)

	1	2	3	4	5
Promotion, campaigns and sharing information about available places in companies for the implementation of work-based learning					
Possibilities for training and licensing company instructors					
Support for administrative tasks related to work-based learning (selection and registration of learners, checking the suitability of the training environment (technically and personnel-wise), logging of internship contracts, etc.)					
Promoting and informing students and parents about jobs and employment prospects if students are enrolled in profiles that offer students' professional practice in companies					
Assistance in the professional development of teachers of vocational subjects					
Support in establishing good and sustainable partnerships and cooperation with the school					
Something else (please elaborate):					

5. Please rate how often the following obstacles are present in the implementation of students' professional practice in your company.
(1 – Not at all, 2 – Mostly not, 3 – Neither yes nor no, 4 – Mostly yes, 5 – Completely)

	1	2	3	4	5
Lack of interest of the partner school leadership					
Lack of communication between representatives of your company and the responsible persons in the school					
Non-motivated students in terms of active participation in the implementation of professional practice in your company					
Inconsistency of the educational profile curriculum with the needs of your company					
Inability of your company to provide anticipated financial compensation for students					
Lack of financial incentives for your company for the implementation of professional practice					
Insufficient number of anticipated hours for students' professional practice					
Inability to align the school schedule with the schedule of students' professional practice in the company					
Demanding procedures for keeping pedagogical documentation on students					
Lack of trained company instructors					
Lack of time which instructors should dedicate to students on practical training					
Lack of time which instructors should spend on training as part of their professional development					
Something else (please elaborate):					

6. Please rate to what extent students' professional practice in the companies has/had an impact concerning the following:
(1 – Not at all, 2 – To a small extent, 3 – To a moderate extent, 4 – To a large extent, 5 – To the fullest extent)

	1	2	3	4	5
Students' acquisition of knowledge and skills related to vocation					
Students' acquisition of skills related to working with modern equipment					
Students' acquisition of soft skills (e.g. skills related to working in teams)					
Development of students' sense of responsibility					
Development of students' motivation to learn					
Increased employability chances for students who had practical training in the company					
Students' acquisition of knowledge about the local labour market					
Changing the school culture towards more intensive cooperation with companies					
Something else (please elaborate):					

7. If your company has cooperated with schools with regard to the implementation of work-based learning for more than five years, how many students who had professional practice in your company found a job within six months after graduation (approximately)?

Over 90%
Between 75% and 89%
Between 50% and 74%
Between 25% and 49%
Between 10% and 24%
Less than 10%
Don’t know

8. Please mark the statement you most agree with.

Graduates from the profiles with strong work-based learning/dual education elements have significantly higher chances of finding a job than students from ‘traditional’ profiles.
Graduates from the profiles with strong work-based learning/dual education elements have higher chances of finding a job than students from ‘traditional’ profiles.
Graduates from the profiles with strong work-based learning/dual education elements have the same chances of finding a job as students from ‘traditional’ profiles.
Graduates from the profiles with strong work-based learning/dual education elements have lower chances of finding a job than students from ‘traditional’ profiles.
Graduates from the profiles with strong work-based learning/dual education elements have significantly lower chances of finding a job than students from ‘traditional’ profiles.
Don’t know

Annex 3: Questionnaire for students

Basic information

Name of the school _____

City/municipality _____

Name of the company in which your professional practice has been implemented

_____

Educational profile within which you have had professional practice in the company

_____

1. Please rate the overall quality of professional practice you had in the company (bearing in mind the professional attitude of company instructors, clearly set expectations for students and clearly defined outcomes of work-based learning, working conditions, equipment available for students' practice, financial compensation, facilities, infrastructure, etc.).
   (1 – Lowest score, 5 – Highest score)

1	2	3	4	5

2. Please rate to what extent you agree with the following statements related to theoretical and practical teaching in school as preparation for your professional practice in the company.
   (1 – Strongly disagree, 2 – Mostly disagree, 3 – Neither agree nor disagree, 4 – Mostly agree, 5 – Strongly agree)

	1	2	3	4	5
During the theoretical and practical teaching at school, I always knew exactly what I was expected to do or learn					
During the theoretical and practical teaching at school, I had the opportunity to be active and creative					
My school has all the necessary equipment for the implementation of the theoretical and practical teaching for my educational profile					
Teaching methods used by teachers in my school have always enabled active student participation					
During the theoretical teaching at school, I was well prepared for professional practice in the company					
During the theoretical teaching at school, I always received information about where and how I can use theoretical knowledge in practice					
I think that my decision to enrol in this educational profile was right					

3. Please rate to what extent you agree with the following statements related to your professional practice in the company had.
(1 – Strongly disagree, 2 – Mostly disagree, 3 – Neither agree nor disagree, 4 – Mostly agree, 5 – Strongly agree)

	1	2	3	4	5
I learnt new skills and/or new knowledge on my placement					
The alternating of work-based learning and school-based learning is/was meaningful and coherent (with regard to content, duration, expected learning outcomes/results)					
The company has never asked me to do something that is not part of the curriculum					
Before the professional practice, I developed/received an (individual) training plan with my instructor					
During professional practice in the company, I always knew when I should come to the company and how much time I would spend there					
During the professional practice in the company, I always had a person in charge of helping me to start the job, who explained what I was supposed to do, answered my additional questions and monitored my work					
During the professional practice in the company, I always had the necessary materials and equipment for the implementation of the planned activities					
During my professional practice in the company, I always received feedback from the instructors about the quality of my work and where I should improve					
During my professional practice in the company, I had the opportunity to express my opinion and propose some practical solutions					
During the professional practice in the company, all students who participated in the professional practice were treated equally					
During the professional practice in the company, all students who participated in the professional practice had equal opportunities to learn and participate in the planned activities					
During the professional practice in the company, I felt more like an observer than someone who is really involved in the work processes					
I was able to acquire all the required learning outcomes (for company-based learning/professional practice), as defined by the curriculum					
During the professional practice, company instructors demonstrated a high level of professionalism and expertise					
During the professional practice in the company, I felt comfortable, accepted by employees, respected and safe					
Health and safety rules related to work processes were clearly explained to me and I was obliged to follow them					
The professional practice in the company will enable me to quickly find a job after leaving school					

4. Please rate to what extent you agree with the following statements related to the impact that professional practice in the company had.
   (1 – Strongly disagree, 2 – Mostly disagree, 3 – Neither agree nor disagree, 4 – Mostly agree, 5 – Strongly agree)

During the professional practice…	1	2	3	4	5
I was able to develop self-confidence					
I was able to develop my sense of responsibility					
I was able to develop the ability to work in a team					
I was able to develop the motivation to learn					

5. During the professional practice in the company, I had a signed contract with the company? Yes No
6. My main reason for enrolling in this educational profile was the fact that I will have professional practice in a company. Yes No
7. If you have undertaken professional practice in different companies, was there any difference in the quality of professional practice in the different companies? Yes No

   If yes, please name the most common differences (for example, the company's equipment, the relationship between the company instructor and the students, the expertise of the company instructor, the time dedicated to you).

8. If you have a suggestion on how to improve students' professional practice in companies, please elaborate here.

LIST OF ACRONYMS

CCIS	Chamber of Commerce and Industry of Serbia
ETF	European Training Foundation
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IVET	Initial vocational education and training
MoESTD	Ministry of Education, Science and Technological Development
VET	Vocational education and training
WBL	Work-based learning

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