Lessons Learned - Implementation Experience

Reform of Vocational Education and Training in Serbia
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Introduction

The youth employment rate in Serbia, which is of 14.5%, is low compared to EU-28 where it is of 32.8%. However, youth inactivity continuously increased since October 2008, passing from 66.2% to 71.2% in October 2011, and even 72.1% in October 2013 (Statistical Office of the Republic of Serbia, SORS, 2014). According to the 2011 census, almost 77% of long-term unemployed people have secondary education (SORS, 2013) and labour market statistics also indicate that most unemployed people are generally graduates of secondary education (SORS, 2014). Yet, the lack of adequately qualified staff is a growing problem for employers. One of the causes of high youth unemployment and of the inability of the industry to find appropriate skilled labour lies in the lack of systematic and continuous cooperation between the industry and the Vocational Education and Training (VET) system (Belgrade Open School, BOS, 2015).

Poor employability of young people is considered a consequence of the insufficient demand and lack of practice orientation of the VET system (Strategy for Education Development in Serbia 2020, SEDS, 2012). Although it is difficult to precisely define the needs of the labour market, there is a strong perception that the current VET system does not meet these requirements. Some of the reasons for this situation might be the current structure of VET (SEDS, 2012, p. 103), a lack of relevance of VET that is reflected in outdated curricula as well as enrolment plans for vocational schools that do not follow labour market needs (SEDS, 2012, p. 99).

At the same time, although in-company training offers the immediate opportunity to put students in contact with employers, current practical teaching and training are often performed in an inadequate way and do not give the expected results in terms of acquisition of skills and competence development (BOS, 2013). The National Employment Strategy for the period of 2011 to 2020 states that VET should increase the employability of the labour force and the harmonisation of supply and demand. Therefore, the VET system should be harmonised with the needs of the labour market and provide better access to lifelong learning, especially for vulnerable groups. In 2015, the Government of the Republic of Serbia adopted the Strategy for Supporting the Development of SMEs, Entrepreneurship and Competitiveness for the next five years, which foresees the adjustment of strategic documents and legal regulations for the development of a professional, capable and skilled workforce that can contribute to the development of a competitive and strong economy. Because of its orientation to the labour market, an important part of VET consists of practical training and professional practice, which is the application of a learned content on specific matters and in specific situations.

Bearing that in mind, the German Government supports, through GIZ, the VET reform in Serbia by implementing the project Reform of Vocational Education and Training (VET) in Serbia. In April 2013 a project phase focusing on three-year secondary vocational education and training programs has started and lasted until March 2016. The objective of this project phase was to provide preconditions for cooperative education in technical profiles with focus on market needs.

The project focused on the introduction of a Serbian cooperative VET model whereby the skill acquisition process was systematically organised in both learning places: VET schools and companies. The project aimed at creating the framework conditions to introduce this model and to test the model in practice. The model introduced within the project did not aim to copy some of the existing cooperative models (e.g. German or Austrian dual VET system), but rather to develop a “homegrown” cooperative VET model that builds on existing practices and institutional capacities.
The new model, promoted by this project, is based on the shared responsibility of VET schools and employers, in achieving the competences defined by the various curricula. It starts with the involvement of employers in the identification and review of occupational standards, in the planning of the training process, in the implementation (in-company training) and in the assessment and testing/certification of VET.

The VET project covered three-year occupational profiles (aiming for subsequent direct labour-market entry) that were selected after wide consultations with all the relevant stakeholders who supported the development of a cooperative VET model for three-year vocational training programs adapted to the Serbian context. The modernised programs for welders, electricians and industrial mechanics have been introduced in 8 schools across Serbia since September 2014.

Acquired experience and knowledge will be used in the following project phase, running from January 2016 until the end of December 2017, in which the main focus will be on creating a conducive legal framework for the cooperative VET model in Serbia.

The following chapters are based on research that could be characterised as an exploratory qualitative study combining desk and field research. Desk research consisted of internal documents analysis, while interviews were the sole instrument in the field data collection. Apart from enabling the project team to approach the object of enquiry from different angles, this method was also seen as a means to triangulate data and crosscheck for possible inconsistencies.

In more precise terms, during December 2015, the project team has collected monitoring data regarding the implementation experiences of the target group and different stakeholders by conducting semi-structured interviews with representatives of 23 companies and 8 schools (teachers and headmasters) involved in the implementation of the cooperative model. In addition to the interviews, companies have filled in questionnaires related to general data on the company itself and regarding noticeable differences between the performances of students from both “new” and “old” profiles. Also, during the project implementation, some data regarding students’ perceptions were collected and are presented in this report.

In addition, analyses of different reports - such as the report on the workshop held with representatives of all project stakeholders concerning the planning of the next project phase - internal analyses and project monitoring reports were also used to create this document.

Bearing in mind that all the collected data are of high value for further activities of the project, activities related to the VET reform and the introduction of the cooperative model, the decision was made to develop a unified document containing summarised data and recommendations in the form of lessons learned.

Like every other study, this one has its own limitations. First, a distinction needs to be made between the data provided from the interviews, on the one hand, and the data obtained from other sources, on the other. The former represent perceptions and opinions of the interviewees and are thus of a subjective nature, while the latter are more objective. Second, the findings are always conditioned by the scope and depth of the study, as well as by the sampling method. Even though the intention was to collect as much reliable data as possible, there is a chance that the attempt made here to explore and map some aspects of reality is not adequately presented. Third, the perceptions and observations of individual informants, either company or school representatives, do not necessarily reflect the opinion of all informants in either of these two groups of interviewees.

Finally, all the observations, interpretations and generalisations made in this report belong to the researchers. Likewise, all mismanagement and mistakes associated with the research are the sole responsibility of the researchers.

1. Lessons Learned from the Project Implementation

1.1. Companies’ Experiences

Important conclusions on the implementation of the students’ practical training are drawn from the interviews conducted with the companies/employers who were involved in the implementation of the cooperative model within the GIZ VET project as well as from the questionnaires filled out by these companies. The employers were questioned and provided answers and opinions on their motivation to be involved in the project (and therefore in the implementation of the students’ practical training) and their cooperation experience with schools and students.

General information on companies. Among the 23 interviewed companies, 4 employ fewer than 50 employees, 5 have between 50 and 100 employees, while 14 count more than 100 employees. As for the occupational profiles they support: 2 support the electrician program, 20 the locksmith-welder and 2 the industrial mechanic program.

Although companies are strongly in favour of gender equality, there are no female students completing the practical training in the interviewed companies. Actually, it has been concluded that the above-mentioned occupations are generally, though not exclusively, more attractive to men. In these male-dominated businesses, women represent 15-20% of employees and are predominantly found in the financial and administrative sectors.

Regarding the conducted practical training approach, one company reported using “block” teaching, while 22 companies reported using a form of training consisting of 2 to 3 days a week in the company, at an average of 6 hours per day. During the in-company training students are mostly involved in the production process and monitored by the company workers.

Furthermore, most companies agree that offering in-company practical training to students meets their needs - 16 agreed, 5 partly agreed, while one company disagreed and another company did not answer.

Even though previous answers draw a relatively optimistic picture, it is interesting to note that 9 companies answered that they are not interested in providing practical training to students for other secondary education profiles, while 14 are willing to do so. These 14 companies suggested practical training profiles related to CNC operators, metal processing and electrical engineering (e.g. different kinds of electricians).

All the companies expect higher employability chances for students that have done extensive practical training during their secondary education.

Regarding their motives for supporting the schools, the companies mainly emphasised their need for young, well qualified skilled-labour (“Training potential employees according to company standards”, “… to find and train students whom we could employ later.”, “The company saw the opportunity to get well qualified young people, who are missing in the Serbian economy”), a wish to support students in acquiring such skills and qualifications (“… it is important to have students with increased hours of practical training should lead to better trained students”) as well as to support the schools. It is interesting to note that social responsibility and long-term assessment of the company’s business interest is also mentioned in one case, and that this model is part of another company’s recruitment strategy.

The companies’ key expectations correspond to the motives for cooperation - they want to get better trained students and more qualified staff who can start working right after they finish their education, because, in the long run, it will save the time usually spent on training new workers on the job (“We expect that we get good and well-trained colleagues, because this is a good model. We save the time for training
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on the job, as we do it with new colleagues, and the kids can start working directly after they finish school.

Although most companies admit that it is difficult to work with teenagers and to keep them motivated, they are satisfied with the students' performance and interest (“It is difficult to work with teenage boys, but so far, they are very interested and no one has problems with the colleagues in the production.”).

As for meeting the expectations, with the exception of very few employers who believe it is still too early to draw any conclusions and one who stated that its expectations are not fully met, the majority of employers point out that their expectations have been fulfilled since most students show their commitment to work and learn (“In general we are happy of how things are developing. Students are committed to working and learning.”). They also agree that further improvements will be made as they continue working with students. Also, even though it does not directly relate to the companies' expectations, it is important to underline that most companies think that having a profile combining locksmith and welding is a good strategy.

As far as the inclusion of students in the production processes is concerned, in most of the companies, in the first few days or the first two to three weeks, students were only observing and assisting (“When students come here, someone guides them through the facility to show them and explain what is what, but they cannot be participants of the work process. In one part of the locksmith workshop, we made a separate space for the training of locksmith-welders. We give them old parts on which they have to practice cutting and welding. In exceptional cases they can participate in smaller repair interventions, but only in buildings where their safety is not compromised and where one employee can supervise them”), especially in workplaces where there is a high risk of injury or where the equipment is very expensive and its use restricted only to authorised staff (“We cannot rely on the student and let him weld […] because every hour of downtime costs a lot.”). Since almost all jobs in the sector are jobs with higher risks (dust, bad microclimate conditions, noise, gas, etc.), students had to comply with safety measures and equipment. In short, interview statements show that the students (in most cases) were not completely involved in the work process of the companies since work operations in the companies require highly skilled workers (e.g. locksmith-welder), who work in high-risk situations in which students, especially under the age of 18, cannot be involved (in accordance with the Law on Safety and Health at Work).

Even though inclusion in production processes was in line with the curricula along with a well-coordinated balance of theory, practice and good mentorship, the students had to work under direct supervision of mentors or more experienced workers (“… students do not participate directly and independently in the production process, but are indirectly involved in the process because they accompany an experienced worker, observing. One of the mentors is doing and partially engage in a task that is assigned to an older colleague. The students [in that company] are included in work processes under the supervision of an older colleague. The challenge is to harmonise the learning plan of students with the law on high risks.”). Also, in some companies, student inclusion was reported in the student logbook - after three months of monitoring and assessment, the mentor gave feedback on what should be improved, which is similar to a midterm evaluation.

When it comes to the company mentors' satisfaction with the training provided by GIZ, all participating mentors were satisfied (7 greatly satisfied, 11 satisfied, 1 partly satisfied), while 2 companies did not take part in the training or did not provide an answer. In general, the mentoring and training was useful in terms of human resources management and development of communication techniques with students and fellow workers. The trainers were good and interesting, training materials and presentations were detailed and useful, so the companies would welcome more of them in the future. The only criticism from the participants was regarding its duration and focus on legal obligations of schools and companies. Some believed that the participants' previous knowledge was not fully taken into account in forming the group (“The topic is the same for everyone, but the knowledge is different. Maybe the working groups could be better mixed.”). One of the constructive comments was: “All subjects were useful and I learned a lot of new things, for example regarding human resources and how to communicate with the students or how to solve problems between students and colleagues. However, the training was too long for the number of taught topics and we feel that it was not complete, but ended in the middle. We were taught how to set up a training plan and got useful guidance on which areas to focus on, but we weren't taught on how to deliver the training. The implementation side was really lacking. More time should have been spent on it.”

Even though it happened only in rare cases, the possibility that a trained mentor is no longer working for the same company (or a trained mentor no longer has the same position for any other reason) should be addressed since it could happen in the future (“The person who was trained by GIZ to become a mentor is no longer working for the company”).
Regarding the question of improvements to the framework of students’ in-company training, most suggestions were related to the improvement of the legal framework and other regulations in the field of practical training for students, particularly for the profiles working under hard conditions and intended for underage students (“We could really include students in the work process if proper laws and regulations were introduced.”, “We need an official document that states clearly what we are allowed to do with the students; primarily because of their safety; if we can take them to field work, etc.”). For example, it would be necessary to establish a system of student insurance and a defined practical training period. A mentorship program needs to be developed that allows both students and company mentors to fulfill all their obligations, including the mentors’ regular work obligations.

Overall, the company mentors were satisfied with the fact that the cooperation between mentors and schools was established on the local level. They also think that mentors should come up with a unique (standardised) pattern or form for monitoring students’ performance, which would help them evaluate students more objectively in all companies on the local level and to avoid misunderstandings and different approaches to students’ practice (e.g. “My problem is that my students come to practical training at 8 and they leave at 10. I don’t have direct communication with the school, I have an intermediary person from the company who is the one to allow students to leave earlier than they should and does not inform me if they are not coming at all. What can they learn in just two hours? And what will happen next year when they are supposed to spend 3 full days here?”). They also think that their involvement in the final examination is necessary, especially in its practical part since, according to them, “...there are some misunderstandings with students, because they would like to weld all the time and that’s not possible, workers have their production tasks to fulfill.” Bearing in mind that the involvement of mentors affects the work process in companies, one important issue still remains unresolved: the status of a mentor. The duties and responsibilities of mentors, that is the exact responsibilities they (will) undertake, should be regulated by the law.

As for the companies’ contribution to improving the VET system (in terms of coordination between practical and theoretical learning processes, involvement in curriculum development and in the final exams), interviewed companies agree that improvement of the VET system shouldn’t be left to the school system alone. They are of the opinion that companies have the capacity and experience to contribute to curriculum development so that profiles correspond better to the needs of the market, particularly in the theoretical part of the curricula can be improved on the basis of suggestions provided by the companies, especially regarding necessary points that are currently insufficiently or not covered by the curricula. They also think theory and practice should be properly balanced - in their view, in addition to the theoretical basis that students receive in school, mentors can also explain to them some things theoretically, while workers can show them how things are done practically. In the mining occupational field, one school teacher made a manual for the practical training of students based on the inputs he received from the company instructors. Also, some companies have classrooms where they internally train workers and are willing to organise theory classes for students given by company instructors. Some companies went one step further by stating that their participation does not have to be limited to practical training.

Some of the companies expressed readiness to organise the whole or part of the final practical examination on their premises if the equipment needed for the tasks is available in the company. Bearing their expertise in mind, the companies should also participate in the development of the final examination. They also think that their involvement in the final examination is necessary, especially in its practical part since, according to them, “...if the students were also evaluated by someone from the company on the final exam, and not just by their teachers, they would take the practical training more seriously.” One company sees providing scholarships based on students’ performance as a good way to make substantial contributions to the improvement of VET.

Students’ performance. Company representatives were also asked to assess different aspects of the students’ in-company performance by comparing students enrolled in the “old profiles” and students of the “new profiles”. Even though some company representatives did not provide their assessment, the following figures (Figure 1 and Figure 2) show that students enrolled in the “new profiles” are assessed as performing better than their counterparts from the “old profiles” in all aspects of the student practice. It is interesting to note that no company assessed practical and theoretical skills as well as social competences as excellent in the group of students from the “old profiles” (only one company representative thinks that the work attitude of those students is excellent), while it is completely the opposite when it comes to the group of students from the “new profiles” - no company representative assessed all aspects as poor.

**Figure 1. Performance assessment of students from “old profiles”**

![Old profiles students](image)

**Figure 2. Performance assessment of students from “new profiles”**

![New profiles students](image)

Additional notes: Local self-governments are in charge of providing insurance for students. All students have a general 24-hour insurance, and insurance policies are delivered to an insurance company that amends this insurance for the period spent at company practice. Insurance is secured through the Public Procurement Law and, after assessing work conditions, schools can introduce additional insurance if needed. Nevertheless, all proposals aiming to improve the student insurance process are more than welcome.

Also, further legal regulation should take into account the different positions of private and state-owned companies when it comes to flexibility in the implementation of students’ practical training and the potential employment of graduates.
1.2. Schools’ Experiences

As mentioned, within the project, semi-structured interviews with the schools were conducted with a focus on how they see the project results and their participation in the project, including their assessment of the cooperation with the companies involved in the implementation of the cooperative model with in this project. Schools were also asked to provide proposals for the areas needing improvement.

General information on schools. 8 schools involved in the project were interviewed - 5 offering the locksmith-welder profile (schools from Kragujevac, Knjílević, Boticka, Mačkovac and Obrenovac), 1 offering the industrial mechanic profile (Pecinci), and 2 offering the electrician profile (Novi Sad and Lazarevac). School sizes vary - from small school (around 400 students in total) to extremely large schools (with around 1800 students). All schools offer three-year profiles (from 3 to 6), although they offer a majority of four-year profiles.

Three schools cooperate with foreign donors in the implementation of different other projects; one school had a donation agreement with a company concerning the introduction of a new educational profile; the remaining 4 schools were participating for the first time to a donor-funded project through the respective GIZ project.

As for the partnership with other schools from Europe, regardless of the profile, experiences are diverse: 2 schools have very developed partnerships with schools from different countries (the number of partner schools is between 5 and 9); one school established a partnership thanks to the GIZ VET project; another school had partnership arrangements that are no longer operational; one more school is in the process of establishing a partnership; 3 schools were not successful in establishing partnerships even though there were attempts to do so with German schools (foreign schools were not responsive).

Reactions on capacity building activities vary. The opinion of the majority of teachers leads to believe that teachers generally appreciate the chance to participate in training dedicated to their professional field (e.g. mechanical or electrical engineering) since the offer of such training is not developed in Serbia. The following statement illustrates well the situation: “This was the first seminar I attended that had relevance for mechanical engineers, not just for school pedagogues and psychologists.” Nevertheless, there were also negative comments on the content of the training (“the lecture, even though interesting, was diffuse and not concentrated enough on the mechanical or electrical engineering field”), as well as feedback undermining certain doubts that the content of the seminar could be applied to the Serbian context.

At the same time, some teachers would have appreciated the chance to be introduced to more general topics, such as methods to motivate students (“My recommendation is to organise training where we would get some advice on how to motivate students and make them more interested in this occupation. In our specific case, we have students that are not really interested in this, not all of them but the majority is here, because they did not have many other options.”).

Teachers are more satisfied with training seminars that are adapted to the local context, the national education system and school practice, as well as with the training seminars focused on the concrete topics.

The only training on the excellence of which all participants agreed was the training organised in the company GOSA, since (as all interviewees emphasised) both theory instructors and masters showing the practical part were really professional, and a lot of relevant samples and materials were used in the training implementation. Regarding this training, one of the participants pointed out that such training provided teachers with an “opportunity to communicate and exchange experiences with colleagues […] (through) lively discussions and active participation, which is not always the case in seminars; trainers were welding experts, practitioners (mechanical engineers trained in welding), with excellent skills on how to transfer knowledge; the theoretical part was also useful, because we have forgotten a lot of what we learned at university.” The success of the training can also be expressed by the following statement: “[the self...

confidence that I gained through this training enables me to make students interested in welding too].”

As for the headmasters’ training, reactions go from satisfaction to dissatisfied comments based on the training’s inadequacy and the fact that its content is not applicable to the Serbian school system even though some of the topics were interesting (“... not all can be applied here, since there are no prescribed standards”).

At the same time, some of the training modules are assessed as useful - among others the one relating to outcome-based curricula - and it was underlined that in the last two years, it had been really important that schools and ministry get to know each other better and familiarize themselves with components and principles of the dual system (“... it helps if everyone learns about the dual system. There wasn’t a clear picture of what a dual system really is. There is a difference between a full dual system and only elements of a dual system. Only a few people understand that our system is a system that contains only elements of a dual system”).

One of the proposals was that training could be organised in the form of webinars and that forums dedicated to sharing experiences should be established or re-established. Also, some headmasters and teachers would like to receive team work and quality management training that is more adapted to the school context and organised in a more timely manner (at an early stage of the project implementation).

Satisfaction with the involvement and support of the companies. In most cases, schools are satisfied of the cooperation with the selected companies.

However, a clear legal framework is strongly needed for the implementation of the cooperative model to appropriately meet the everyday challenges that students, schools and companies are facing. In more concrete terms, challenges are related to the general economic situation of the country (it has happened that a school’s partner company had to close during the training period). Companies are not always able to provide one person to be in charge of students full-time (until now, the persons in charge had to accomplish their regular work-related activities and processes on top of being in charge of students). Also, schools have difficulties coordinating and supervising practical training activities that take place in different locations (“They [the company] don’t have people who take care of our students. If we send students to several places on practical training, we don’t have an insight into what is going on there and so students risk getting hurt.” Schools underlined the utmost importance of this, since student safety is a top priority and teachers assume responsibility for them.), even though teachers generally manage to visit students regularly or occasionally.

In two cases, schools explicitly stated that the companies they cooperated with were not interested in having trained mentors, since they did not want to lose a worker for such a long time. And in one case, the company changed managing directors several times over the training period, which hindered successful cooperation.

In situations where a school cooperates with only one company, the challenge will be to find more companies for the students’ practical training since one company cannot receive all current and future students.

Schools especially appreciate financial incentives for students on the part of companies (“If they [the company] could provide some financial compensation, students would take the practical training more seriously, they would not skip classes”) as well as the company’s willingness to contribute in supplying work-related necessities (e.g. personal protective equipment).

Two schools explicitly expressed their satisfaction with the support of the companies since in every company students were included as assistants in the work processes, they received a monthly pay and regular meetings with the company mentors were held.

There are also cases where the schools see room for improvement in the cooperation (“... despite our best efforts, things do not always go in the direction we hoped [...]. Children do not do what they should, they...
leave training too early, etc.] since some companies are big systems where employees cannot dedicate much of their working time to students, which resulted in a small number of training places available for students."

In the vast majority of cases, in-company practice is organised in accordance with the profile’s curriculum (“We try to follow the prescribed plan and dynamics as much as possible. We communicate what is to be done with mentors and then they communicate it to workers/instructors who work directly with students.”) even though sometimes, schools observe that the curriculum is more extensive than what the working place requires (“The school’s curricula cover a broader spectrum than what we really need.”; “... the companies have a much narrower view than the school.”). It requires regular and continuous cooperation and coordination between teachers and company instructors (“... mentors who organise practical training in the company come to our school for a meeting at the beginning and during the school year and together, we arrange everything. During the practical training in the company, they communicate with the responsible teachers.”). Nevertheless, schools pointed out that a certain level of flexibility is required in the organisation of the practical training, since the agreed days of in-company practice sometimes change, depending on the needs of the companies, and schools then have to adapt their schedule. Another important issue to be addressed is the quality of the in-company training which cannot be reached if the cooperation and communication between schools and companies are not properly established. It would also be important for them to determine together criteria for scholarships.

Three schools expressed the opinion that companies were satisfied with the knowledge and skills of the students as well as with their good attendance rate, even when it came to volunteering to work over their holidays. Some other schools reported that students generally showed interest and were included in the working process by accomplishing simple tasks. Sometimes, more talented students were even allowed to work on more complex tasks.

The schools’ opinion on the type of company most suitable for cooperation vary. Based on their experience, some schools are in favour of small private companies, while other schools think that such small companies do not have enough staff to work with students. Some schools are convinced that only private companies clearly see their interest in participating in the training of students, unlike public companies that do not make decisions on employment. To the contrary, other schools had good experiences with public companies.

Achieving the outcomes defined by the curricula. During the interviews, most of the school representatives could not clearly define ways of reaching the outcomes set in the curricula and expressed mixed opinions on the curricula themselves (e.g. “The curricula are supposed to be changed, but the new ones will also not satisfy 100% of the needs”) and on the assessing companies’ abilities to reach the defined outcomes (e.g. “... we have to be realistic. The four companies we are cooperating with have different needs and expectations. Our expectations cannot fully match.”). Only two schools gave precise answers on how they ensure that the outcomes are reached, explaining that on a monthly basis, teachers send learning plans to mentors in order to familiarize them with the curricula. In addition, teachers in charge of coordinating student practice visit the companies on a daily basis.

In other cases, schools stressed the fact that they cannot influence much what students are doing during practical training since the latter is in accordance with the company’s working/production process (“We, in the school, do what is planned in the curriculum and some things are done in block teaching [60 hours], but from the second year on, it’s up to the company that provides the practical part of training... We cannot order or request something to be changed in the private company’s production process.”); that although they provided most of the companies with the curriculum, they cannot strictly stick to it; that one of the problems related to the commitment of employees is the removal of financial compensation for student mentors; and that there are differences between the schools’ and the companies’ expectations.

As for the outcomes that cannot be reached in the company, all of the schools are convinced that it is not realistic to expect the companies to reach 100% of the defined outcomes, especially bearing in mind that different schools cooperate with different companies. The schools are of the opinion that 60 to 85% of the outcomes can be reached during the in-company training, but that for the remaining part, school-based training would be necessary.

Local government support. In almost all cases, municipalities only provide the contributions explicitly prescribed by the law. In rare cases, municipalities are involved in the organisation and financial support of student competitions; one municipality provides accommodation to students who do not live in the school’s municipality; and another provides free transportation to students (while another one failed to support such transportation). Good practice was seen in the Public Private Partnership between the Bosch company and GIZ. In this specific context, the local government has borne the expenses for the complete renovation of the school workshop.

1.3. Students’ Experiences

Students. A total of 138 students (attending their second year of training in the pilot profiles) were asked about the level of fulfilment of their expectations in relation to different aspects of the pilot profiles they are enrolled in. As presented in the following figure, the expectations of all students were met to a level ranging from 80% to 94%, 94% of them being satisfied with the conditions of the practical training in companies. The only question scoring lower with 65% concerns the equipment available in school workshops. These results are significantly better than the results of the students not involved in the pilot profiles (i.e. control group of students).

Figure 3. Fulfilment of expectations - students
Additional notes. Concerning their participation in the project as well as the project’s results, schools are more than satisfied with the cooperation with the project team, the promotion of the pilot profiles in order to increase their attractiveness, the timeline of the project activities and with the overall piloting process.

Schools will get the chance to present their experiences to the public and emphasise the importance of their involvement in the future activities related to the development/changing of the legal framework in order to regulate cooperative VET more precisely and efficiently.

Two schools are of the opinion that the model used within the project should be expanded to other sectors, e.g. textile.

Also, the schools believe that the enrolment policy should be subject to further discussions and changes. The schools’ reactions regarding the current enrolment policy typically went along the lines of: “We have 14 students in the 1st and 8 students in the 2nd year. Before, we had never managed to enrol welders... We don't know why we did not get the opportunity to enrol them this year.”; “Our biggest objection was that the Ministry did not allow us to form combined classes - 15 welders and 15 car mechanics, for example.”

There were also comments on the lack of pedagogical and psychological knowledge of the companies’ personnel in contact with students, which needs to be improved through the organisation and implementation of training seminars on these topics.

1.4. Experiences of other key stakeholders

A group of stakeholders comprising representatives of the MoESTD, GIZ, the VET Council, the CCIS and the Institute for the Improvement of Education participated in the workshop dedicated to the planning of the next phase of the GIZ project. A presentation of the joint conclusions on the cooperative model’s implementation took place during the workshop. The most important ones are summarised below.

Stakeholders identified main elements of the regulatory framework related to student professional practice that should be further developed, according to the place where the practical training is to be implemented, the person in charge of its implementation, the kind of relation existing between students, school and company, and with regards to the final exam.

Practical training in enterprises, in general, faces several important challenges. First of all, the challenge is that there is no structured, systematically developed and adopted monitoring of the teaching quality in the companies, so there is no quality control system. There are neither defined standards to be met by the company nor selection criteria for instructors in the company or staff licensing, and throughout their practical training, students are monitored by their schoolteacher to whom they hand in their practice logbook.

Bearing that in mind, the stakeholders are convinced that it is necessary to establish accredited working places for students within a company. During the final exam, teachers involved in students’ training should not be present; part of the final exam should be organised and implemented in the companies. However, practical teaching could be implemented within schools and school workshops, but real work conditions must then be provided. In addition to that, emphasis was put on the special attention that should be paid to ensuring safe working conditions to students.

Therefore, taking into account the results achieved during the previous project phase and the main lessons learned, it is necessary to define standards for the practical training location and to accredit companies in order for them to be in charge of the practical training implementation, with special focus on providing safe working conditions for students, thus offering an appropriate environment for learning. Also, mentors - the company employees to be in charge of students - should be licensed. This means that it is necessary to define the competencies and expertise in the related field of work as well as the pedagogical, psychological and andragogical skills a person needs to have to become a mentor.

The company accreditation process should start when a company expresses its interest in cooperation and delivers information on the available working places in general and the training places available for students, on the mentors and the labour force needed as well as the resources available to support students’ practical training.

Also, it is necessary to develop and establish the practice of signing written cooperation agreements between schools and companies, as well as work contracts between students and that should be based on legal regulations and therefore formulated and designed in cooperation with the relevant ministries (e.g. MoESTD, Ministry of Labour).

Furthermore, the final exams and certification process should be conducted through few interrelated parts and must involve employers (i.e. representatives of the industry sector). In accordance to that the next phase of the GIZ VET project could focus on piloting different models of final examinations.

By the end of 2016, a new law on crafts will be adopted that will contain a lot of references to the education sector. This should be kept in mind during the planning of future activities.
2. Conclusions and Recommendations

2.1. Conclusions

In almost all the companies' practical training is conducted in the course of 2 to 3 days a week, generally at a rate of 6 hours a day. The majority of the companies are convinced that the practical training of students in their company meets their needs, but a significant number of companies will still consider if they are going to provide practical training to students in other profiles of secondary education.

All the companies expect higher employability chances for students that have completed an in-company training.

Companies encourage the implementation of the cooperative model since they need young skilled workers who can start working right after graduating.

In general, companies are satisfied with the students' performance and interest; they are committed to working and learning.

On the other hand, while training in the company, students mostly assist to the company's work process and, when working themselves, they are under supervision of an experienced employee. According to some of the companies, the reason for this is that they could not be sure that students could perform all tasks in accordance with their standards and the set deadlines, and they did not want to risk being in a situation that would incur additional costs for the company. At the same time, the organisational structure in the companies was usually not developed in a way that allowed them to have employees who could be fully dedicated to the students for a significant part of their working hours. This constitutes an aspect of the in-company training of students that needs to be reconsidered and improved in the future.

Overall, the company mentors are satisfied with the cooperation with schools, but they emphasise the fact that the legal framework and other regulations in the field of student practical training should be improved so that the duties and responsibilities of mentors - in the sense of the exact responsibilities they undertake - are regulated by the law.

The cooperation with schools is assessed as very good. There are examples of companies in which detailed practice plans are developed and regular communication with schools (regarding curricular topics and the harmonisation of in-company practice with curricular requirements) is established. Such good practice is highly recommended and should be maintained (extended).

Companies see it as part of their role to help build up students' social competences and believe that a symbolic financial compensation contributes to motivating students. They see good mentorship as a precondition for effective in-company training, but at the same time, they expressed the need for better theoretical knowledge from students.

The companies emphasised that support from the state in providing advanced technology and modern equipment as well as other financial incentives would enable them to dedicate more seriously to the training of students.

When it comes to the satisfaction of the company mentors with the training provided by GIZ, all the mentors who participated in the survey were satisfied, asking for further and longer training seminars that focus on the schools' and the companies' legal obligations as well as for better group formation. Also, possible changes in the trained company staff should be taken into consideration in the planning of future training.
Companies are of the opinion that they have the capacity and the experience to contribute to curriculum development. Some companies are willing to organise theory classes for students given by company instructors while other companies expressed readiness to organise the whole or part of the practical final exam on their premises.

As for the students, company representatives are of the opinion that students of the new profiles perform better than students from the old profiles.

Schools are mostly satisfied with the cooperation with selected companies, but there is a strong need for a clear legal framework for the implementation of the cooperative model that should contain the companies’ obligations regarding the nomination of the person in charge of the students; issues of students’ safety; financial incentives for students, etc.

In the vast majority of cases, in-company training is organised in accordance with the profile curriculum and requires regular and continuous cooperation and coordination between the teachers and company instructors who work directly with students. However, the students’ practical training phase (also) requires a certain level of flexibility since each company has its own needs and schedule.

The establishment of a quality assurance system for the in-company training is very much needed.

As for the capacity-building activities, teachers are partly satisfied with the implemented training seminars and stress the value of training related to their professional fields (e.g. mechanical or electrical engineering), while also recommending that future training seminars be more adapted to the local context, national education system and school practice.

Schools are willing to present their experiences to the public and highlight the importance of their involvement in future activities related to the development/changing of the legal framework in order to regulate cooperative VET more precisely and efficiently. Also, schools believe that the enrolment policy should be subject to further discussions and changes.

An extremely high percentage of students see the pilot profiles as fulfilling their expectations. The highest satisfaction rate relates to the conditions for the performance of the practical lessons in companies while the lowest rate concerns the schools’ equipment.

The group of stakeholders that participated in the workshop dedicated to planning the next phase of the GIZ project concluded that further regulation of the students’ professional training was needed in the following areas: the development of a quality assurance system; the development of standards for in-company training and of criteria for the selection of company instructors; the establishment of licensing for such instructors; the accreditation of students’ workplace within a company; the further adaptation of the final exam; the assurance of safe working conditions for students; cooperation agreements between schools and companies and work contracts between students and companies.

Based on the experience of the VET project team (as stated in the Monitoring Report of the GIZ VET project), cooperation and coordination with relevant national institutions/bodies is essential to a successful project implementation. In more concrete terms, a close cooperation with the Ministry of Education, Science and Technological Development (MoESTD), the VET Council, the association of VET schools, the IIE and employers’ associations is established at different stages of the project implementation.

One of the lessons learned by the VET project team is that there are different points of view on the roles of actors in the implementation of cooperative training in companies. For instance, there are diverse opinions on the role of education inspectors in the monitoring of the in-company training part. While companies believe that this is their responsibility, other stakeholders (e.g. representatives of the Institute for Improvement of Education [IIE]) are of the opinion that the state should exercise close control. Therefore, institutional arrangements are still to be discussed among main stakeholders.

2.2. Recommendations

Since almost all of the interviewed stakeholders agreed that the three-year profiles still have a bad image, there should be continuous, long-term promotion of the three-year educational profiles through the constant supply of information to parents and a close collaboration with primary schools. The national level associations (e.g. association of VET schools) and national level councils are suitable platforms for awareness building. Also, the career guidance and counselling system should be used to develop positive attitudes towards profiles that offer traineeships in companies, highlighting the positive impact of such practical training on future employment chances.

Schools emphasised that a re-conceptualization of the enrolment policy is very much needed, and it should include further flexibilisation and active involvement of local actors in the identification of the required educational profiles, and the planning of the enrolment in accordance with the obtained information.

The company representatives are of the opinion that they have the competence (and therefore are ready) to support the curriculum development process.

A recently conducted feasibility study (Dual Vocational Education and Training in Serbia, GIZ, 2015) suggested that the CCIS could be put in charge of the accreditation of instructors/mentors within companies, of the costs related to the paid absence of the companies’ employees who participate in the final exam, of securing the participation of the final exam commission members who need to be experts/practitioners (e.g. welders). The CCIS could also be responsible for the standards and quality assurance of the companies that are providing traineeships to students. In this context, internal GIZ analyses point out that capacity building of the CCIS should be considered. Since there is evidence of the companies’ readiness to organise the whole or part of the practical final exam on their premises, this offer should be taken into consideration.

Schools and companies recommended that incentives for companies and employers should be thought through, as well as scholarships/financial contribution schemes for students.

As schools experienced changes in students’ practical training schedule due to changes in the companies’ readiness, as well as scholarships/financial contribution schemes for students.

Since the group of stakeholders participating in the workshop dedicated to planning the next phase of the GIZ project mentioned the need for further additions to the qualification standards, the qualification standards should be amended so that they address questions of standards for teachers (instructors) and practical training space. This is necessary since there is currently no information on the equipment needed to achieve the required outcomes. Furthermore, a maximum number of students to be followed by one instructor must be set (usually 7 apprentices for 1 instructor). All these elements, including the identification of minimum standards related to the practical training in the companies, should be the foundation for a quality assurance system that is very much needed, according to all stakeholders.

Since the experiences of schools showed that the achievement of the outcomes defined in the curriculum and the success of the cooperation with companies depend on communication and coordination arrangements, it is recommended that (e.g. in the annual work plans) schools plan periodic consultative workshops or meetings with company representatives or employers’ associations, local government representatives and other relevant stakeholders. These meetings should be used for coordination
purposes, but also for the collection of the necessary data on industry needs to create an adequate school enrolment plan, for the designation of employer representatives for the examination commissions and for the implementation of the practical training phase.

Concerning the curricula, since students of the cooperative model are exposed to a wide range of situations and tasks, and bearing in mind that the companies’ assessment showed that students involved in in-company training have better developed their soft skills, each particular curriculum should define a sufficiently broad range of knowledge, skills and competences, including a series of key competences to be achieved.

Since schools pointed out the importance of the training seminars related to the concept(s) of dual education and the importance of a familiarisation with other educational institution representatives, it is recommended that all key institutions should have to be involved in capacity development/building activities.

The training program for mentors dedicated to improving pedagogical, psychological, methodical and didactic skills and knowledge should be developed by the Institute for Improvement of Education and Upbringing, while the Chamber of Commerce could organise the related final exam. At the same time, general recommendations concerning training seminars (based on the gathered experience of school and company representatives) is that such seminars must be well balanced in length and topics/content and adapted to the national context.

Results of the interviews with schools and companies showed the need for better harmonisation of both schools and companies in achieving the outcomes defined in the curricula, which implies that two directions must be considered in future capacity building: the training of mentors for in-company training and the systematic and comprehensive training of VET schoolteachers in the use and implementation of the curricula in close cooperation with partner companies.

Although some schools remarked that the cooperative model promoted by the GIZ VET project could be spread to other sectors (e.g. textile), internal GIZ analyses showed that in the development of any future project, a sound analysis of the overall socio-economic context as well as of the situation and developments in the VET system should be included. Also, since there is no permanent and systemic mechanism for the anticipation of skills on the national level, an insight into the labour market statistics and the establishment of an ad hoc working group(s) charged with selecting profiles to be included in the projects seems to be a feasible option. This means that a further expansion of the model into more diverse, poorer socio-economic contexts, with even less resources available from municipalities and a smaller number of relevant companies will likely face challenges. Nevertheless, all the experiences gained through the project implementation could represent a solid base for a systemic solution and an expansion to industry sectors that showed interest and capacity in implementing cooperative VET models. It also is of relevance that schools are more than willing to share their experiences.

Better regulation of the cooperative model could be achieved through the development and adoption of a unified by-law that would be dedicated to the regulation of all aspects of student practical training (including the in-company training phase), or through changes in different other laws and by-laws, including those outside the education sector (e.g. labour, economy, finance, etc.).

All stakeholders interviewed recommended further development of the regulatory framework in order to have a fully functional cooperative model. This could be done in different ways and should be subject to further discussions, but specific areas to be better regulated are: 1) the accreditation of companies eligible to provide the cooperative model (including necessary training and licensing of company employees dealing with students) as proposed by representatives of both the industry and the education sectors; 2) the position offered to students within the company for their practical training (as mentioned by stakeholders participating in the workshop); 3) the duties and responsibilities of company mentors (particularly emphasised by companies) and 4) safety and remuneration arrangements for companies as well as for students (as evoked by schools and companies).