SELFIE WBL PILOT COUNTRY REPORT: MONTENEGRO

ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY

The pilot of SELFIE for work-based learning (SELFIE WBL) in Montenegro is part of a multi-country initiative.

SELFIE WBL is a self-reflection tool for schools seeking to improve their digital capacity. It has been developed by the European Commission's Joint Research Centre (JRC). The JRC has organised the overall pan-European pilot of SELFIE WBL, while the European Forum for Technical and Vocational Education and Training (EfVET) has coordinated the pilot in France, Germany, Hungary and Poland. In addition, Romania has taken part with direct management by the JRC, while the European Training Foundation (ETF) has coordinated the pilot in four partner countries: Georgia, Montenegro, Serbia and Turkey.

The SELFIE WBL pilot sought to explore opportunities for additional and more specific support to bolster vocational education and training, and to determine how the tool could be used purposefully in VET and WBL (apprenticeship and dual VET). To this end, the tool was expanded and further developed to take into consideration the schools' cooperation with employers in work-based learning environments.

The task was to pilot the SELFIE WBL tool in Montenegro in close cooperation with national stakeholders – the Ministry of Education, Science, Culture and Sports (MoESCS), the Chamber of Economy (here after referred as Chamber of Commerce) and the Montenegrin Employers' Federation– while taking into account the specific features of Montenegro and respecting the current foundations of its strategic development of education, especially VET education, in order to produce a significant upgrade of the existing SELFIE tool within the European framework for promoting digital-age learning in educational organisations.

The pilot results and related analysis have provided evidence of the usefulness of the initiative and opened up the possibility of further improving digital competences and embedding digital technologies in teaching, learning and assessment both in schools and in companies involved in WBL.

Montenegro has expressed genuine interest in the SELFIE tool and recognised its potential and practical value since 2019 when a first SELFIE pilot was conducted. All activities in the area are coordinated by the MoESCS. Montenegro has opted for comprehensive application of the SELFIE tool in both general and vocational education. During the first quarter of 2020, all primary and secondary schools in the country conducted SELFIE testing, making Montenegro the only country to use SELFIE in all schools. While Montenegro has only a small number of schools in comparison with larger countries, it is currently the international leader in SELFIE implementation. Consequently, all schools now have the practical experience and means needed to conduct SELFIE successfully, and this fact has significantly influenced the definition of sampling criteria for SELFIE WBL. The SELFIE WBL pilot was conducted from July to November 2020 under the very specific, challenging conditions brought about by the COVID-19 crisis. Therefore, it was necessary to approach the process with additional care, planning and flexibility.

The pilot study, which was successfully completed in November 2020, enlisted the participation of 12 schools and 20 companies, including 21 school leaders, 213 teachers, 1 161 student and 20 in-company trainers. The pilot outcomes are not representative of national education and training

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systems in Montenegro and should not be interpreted as such by any means. However, as the sample contained 34% of the stratum, the outcomes do provide evidence that SELFIE WBL can foster an effective use of information and communication technologies for teaching, learning and assessment in the VET schools and companies that took part. The aggregate data used for analysis were previously anonymised and made available exclusively to the national coordinators for the purpose of conducting the pilot.

Comprehensive quantitative and qualitative analysis revealed that the SELFIE WBL tool is undeniably accepted as a valuable tool for schools' and companies' self-reflection on educational technologies and that it can help them to ground their development strategy on systematic, evidence-based planning. It is particularly important to emphasise that all the key actors, especially in-company trainers, recognised the high potential and value of SELFIE WBL for self-reflection. The collected data also provided valuable information not only for further improvement of SELFIE WBL, but also for additional system support to scale up and integrate SELFIE into the education and training system.

1. SELFIE TEAM IN MONTENEGRO

- Dragutin Šćekić, national expert
- Jelena Konatar, national coordinator, Ministry of Education, Science, Culture and Sports
- Marina Matijević, Ministry of Education, Science, Culture and Sports
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2. DIGITAL EDUCATION AND WBL POLICIES IN MONTENEGRO

As one of the main objectives of its education reform, Montenegro has undertaken a wide-ranging alignment of vocational education to the needs of the labour market. In the Strategy for the Development of Vocational Education in Montenegro (2015–2020), the introduction of practical training with employers has been defined as one of the key measures to boost the efficiency and effectiveness of vocational education (Ministry of Education, 2014). In addition, the latest Strategy for the Development of Vocational Education in Montenegro (2020–2024) has emphasised work-based learning, particularly the dual model of education, setting out precisely defined measures and tasks that need to be implemented in this particular area of VET education (Ministry of Education, 2019).

Nearly 70% of all secondary school students are enrolled in VET (with 23% of them enrolled in dual VET in 2019/2020). The remaining 30% attend general secondary schools (European Training Foundation and International Labour Organisation, 2020).

Vocational education in Montenegro is implemented as two-year lower vocational education, three-year or four-year secondary vocational education, and two-year upper vocational education.

Vocational education is carried out in vocational schools, combined secondary schools (which implement both vocational and general secondary education curricula) and educational centres (ISCED level 1–3).

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VET education can be carried out entirely by schools or through cooperation between employers and schools in accordance with established curricula. A school can carry out the entire vocational education (including school-based practical training in school workshops, laboratories, etc.) or it can carry out the theoretical part on school premises with all or part of the practical education (training) taking place on the premises of employers. As a result, practical training through work-based learning can be delivered partly by schools and partly by companies (regulated by a contract on practical training between school and employer, with the assessment of students' achievements conducted only by the school) or it can be delivered entirely by employers in the form of dual education.

Montenegro introduced the dual model of education for three-year secondary VET in 2017/2018. Under the dual model, practical education is carried out entirely by employers, who enter into individual agreements on practical education with students and parents/guardians under conditions set by the VET Centre. Students are also entitled to a monthly salary, which varies by years of education.

In practical training based on dual education, the employer is responsible for training students and assessing their achievements at the end of the school year in collaboration with the school. The employer is also responsible for the organisation, content and delivery of the practical training.

In dual education, the number of days dedicated to practical training increases from year to year, starting with one day a week in the first year and rising to two days in the second year and three days in the third year.

Further improvement of dual VET is a strategic priority for the Montenegrin government in the upcoming development period (2020–2024), with special emphasis being placed on the increased involvement of business associations in the practical training.

Digital competences are recognised as one of the pillars of smart development in all relevant strategic documents. The Smart Specialisation Strategy of Montenegro 2019–2024 (Ministry of Science, 2019) identifies ICT as one of the country's key priority areas.

The Strategy for the Information Society Development in Montenegro (Ministry for Information Society and Telecommunications, 2016) envisages significant interventions in the field of digital education, with the IT department of the MoESCS taking responsibility for implementation in education and training.

At present, VET students acquire digital skills through a compulsory ICT subject (in four-year VET programs students study ICT for two years with a fund of two hours per week, and in three-year VET programs for one year, also with a fund of two hours per week two hours a week over three years for three-year VET students) and through other compulsory and elective subjects that are cross-curricular in nature.

The Strategy for the Development of Vocational Education in Montenegro (2020–2024) recognises digital literacy as one of the key factors for labour market competitiveness and employability. Bearing in mind the Riga conclusions, the strategy identifies the need to pay special attention to the development of key competences and therefore recommends further improvement of VET education by using digital technologies in all spheres of the teaching and learning process so that students acquire digital competences. This recommendation is further elaborated in the strategy, which outlines concrete measures for improvement.

The action plan for the implementation of the Strategy for the Development of Vocational Education in Montenegro (2020–2024) envisages implementation of the SELFIE survey in VET schools under measure 2.3 Ensuring and improving the quality assurance system in vocational education at the national and school level, in accordance with European Quality Assurance in Vocational Education and Training (EQAVET).

During the 2019/2020 school year, all schools with VET educational programmes in Montenegro used SELFIE successfully. Consequently, every VET school, mixed education school and educational centre in the country has operational SELFIE school teams and experience in using SELFIE.

3. SETTING UP THE PILOT

3.1 Methodology for selecting the pilot schools and companies in Montenegro

In light of the structure and specific characteristics of the Montenegrin economy (in 2018, the services sector accounted for 59.17% of GDP (Plecher, Montenegro - share of economic sectors in gross domestic product 2008–2018, 2020) and employed 73.08% of workers (Plecher, Montenegro - employment by economic sector 2020, 2020), as well as the strategic orientation for future development of VET education, the ETF suggested that Montenegro run its SELFIE WBL pilot in the tourism and hospitality sector, with a minimum sample size of five schools and related companies providing WBL.

Based on a comprehensive analysis of the current situation in Montenegro and an analysis of the pilot's aims and structure of activities, it was agreed with representatives of the MoESCS that the pilot should include a larger number of schools in order to ensure successful implementation amid the uncertainty caused by the COVID-19 crisis. Including a larger number of eligible schools was also intended to enable much wider possibilities for the analysis of pilot outcomes at the national level.

At first, the MoESCS advocated strongly for every school that had implemented WBL to take part in the SELFIE WBL pilot, given that all VET schools in Montenegro had already used SELFIE and therefore were registered, had functional SELFIE teams (consisting of a school leader, a CPD coordinator and an ICT coordinator), had received training to use the SELFIE platform, and had all conducted their first annual SELFIE evaluation in the previous school year. The MoESCSC therefore considered that increasing the sample would not result in substantial changes to the methodology of the pilot.

Subsequently, the MoESCS decided that the start of the new school year should be postponed until 1 October because of the COVID-19 pandemic. The delay implied that the pilot process would have to be carried out at a very delicate time for all schools, that is, at the very beginning of the school year, amid uncertainty over the modality of teaching and learning. In addition, the situation of the COVID-19 pandemic was very complex in Montenegro in September and required an additional dose of caution when planning activities in schools.

In the 2019/2020 school year, there were 41 schools with vocational education programmes. After excluding art schools and smaller educational centres that did not have students in WBL in the school year, 35 institutions were eligible for the SELFIE WBL pilot.

The selection of pilot schools involved a complex process of analysing the previous school year's reports on the implementation of WBL in vocational schools, the number of students covered by WBL, the educational profiles for which WBL was organised, and the number of affiliated companies involved.

The selection process also included an analysis of the size and location of schools and a plan for the territorial representativeness of schools by region.

Since it was agreed that SELFIE WBL should be piloted in the tourism and hospitality sector, an additional analysis was undertaken to identify all the schools that provide WBL in the sector. This resulted in only a slight reduction in the number, since most VET schools focus on the sector to some extent.

It was also important to determine whether potential pilot schools had WBL contracts with companies eligible for the pilot in order to ensure the inclusion of micro, small, medium-sized and large companies.

The minimum participation rate in each pilot school was set as follows: one school leader, 40% of full-time teaching staff and 40% of learners in a given school year. From the company/employer providing WBL, at least two in-company trainers were to be included for each school.

The pilot candidate schools were clustered by region, size (small, medium and large) and location (urban and rural). The criteria for the size and location of pilot schools were agreed among the nine pilot countries[1]. In Montenegro, there were three regions: northern, central and southern (coastal). It should be noted that the Regional Development Law divides the country into three regions for statistical and analytical purposes, but the regions are not in any sense administrative divisions.

Finally, the specific criteria for the selection of schools were agreed as follows:

■ the school must have some form of WBL planned for the school year (apprenticeships or dual VET)
■ the school must have a relationship with at least one company/employer with at least two in-company trainers in the tourism and hospitality sector
■ the school must have already participated in SELFIE and have a SELFIE team

The criterion for the selection of the companies was:

■ the company/employer must have at least two in-company trainers

SELFIE school teams were informed of the criterion for the selection of companies and asked to identify eligible candidates. Each school team, together with the school's organisers of practical education, analysed connected companies, made initial contact with in-company trainers, and provided a list of the in-company trainers to the national coordinator of SELFIE WBL. The national coordinator communicated the list of companies proposed by the schools to the stakeholders at the national level and finalised the list.

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[1] School size: S stands for small schools with up to 500 learners; M stands for medium-sized schools with between 500 and 1 000 learners; and L stands for large schools serving over 1 000 learners.
Location: U stands for urban, meaning over 300 inhabitants per km² and a population of 5 000 and over, whereas R stands for rural, meaning up to 299 inhabitants per km² and a maximum population of 4 999.

The selection and engagement of companies was primarily undertaken through the pilot schools in coordination with the MoESCS, the Chamber of Commerce and the Montenegrin Employers' Federation.

In total, 12 schools and 30 in-company trainers were proposed for the pilot (See Table 1). All pilot schools had WBL organised in the tourism and hospitality sector. The geographical distribution of the schools represented all three regions equally. All schools and related companies were located in urban areas, since there were no eligible schools in rural areas. Lastly, the sample included schools of different sizes.

TABLE 1: SUMMARY OF VET SCHOOLS INVOLVED IN THE PILOT

Schools	Regions	Size			Location		Region		
		Small	Medium	Large	Urban	Rural	Northern	Central	Southern
12	3	3	8	2	13	0	5	4	4
		23.1%	61.5%	15.4%	100.0%	0.0%	38.5%	30.8%	30.8%

TABLE 2: SUMMARY OF COMPANIES INVOLVED IN THE PILOT

Companies	Size				Location	
	Micro	Small	Medium	Large	Urban	Rural
30	5	14	8	3	30	0
	16.7%	46.7%	26.7%	10.0%	100.0%	0.0%

The sample of schools that participated in the SELFIE WBL pilot represents 29.3% of schools with vocational education programmes (VET schools, mixed schools and educational centres) in Montenegro, and 34.3% of schools eligible for the SELFIE WBL pilot, e.g. VET schools with WBL.

3.2   Methodology for translating and adapting the SELFIE materials

The linguistic translation and adaptation of all documentation provided by the JRC (i.e. questionnaires and supporting materials) took place after the JRC made all the necessary tools and materials available.

The new, WBL-specific parts of SELFIE were translated by a national expert in coordination with the national coordinator and the IT department of the MoESCS, which provided support and carried out an additional check of the translated materials.

In addition to basic translation, a strong emphasis was placed on the consistency of the translation with generally accepted terminology in Montenegrin education. For example, the language and terminology were double-checked to ensure that they were understandable to all involved parties, and that any terms were common to all stakeholders and fit the national context.

3.3　Preparing for the pilot implementation

The first step in preparing for the pilot was to communicate within the SELFIE national team at the MoESCS in order to consider the requirements of the pilot framework and agree on the course of action in the preparation phase. The main activities included a detailed analysis of WBL implementation at the system level over the previous two school years, an analysis of any available data obtained from the schools for the current school year, consideration of the initial idea to include schools and companies providing WBL in the tourism sector, and agreement on the size of the sample.

Implementation was coordinated on a regular basis with the ETF, JRC, EfVET and EU experts using email, a Basecamp community, a OneDrive shared folder and other Office 365 tools for online collaboration. The project team also held regular online meetings.

Owing to the COVID-19 crisis, communication at all levels was primarily organised through online communication and collaboration tools and services and through phone conversations. Only in rare cases were there in-person meetings. Communication with the MoESCS and other national stakeholders was conducted through email, online meetings and direct phone calls in order to ensure regular updates on progress and seek assistance when needed.

Communication with participating schools and companies

On 9 September, an initial meeting with candidate schools was held online (Microsoft Teams meeting) in coordination with the MoESCS. The purpose of the meeting was to determine the readiness of the schools to participate and to ask them to propose related companies based on the agreed criterion. Schools were asked to engage their SELFIE teams and their organisers of practical education to analyse companies that provide WBL and make selections according to the criterion. For the purpose of collecting data, a form was created and disseminated to the candidates to gather basic data about the school (contact information, information about the SELFIE school coordinator, and relevant information about the school and related companies).

Within the set deadline, 12 schools sent the requested data and confirmed their participation.

The initial selection and engagement of companies was carried out by the pilot schools and confirmed in coordination with the stakeholders at the national level. Schools suggested 30 in-company trainers for the pilot and provided information about the companies.

A list of contact people in the schools (the SELFIE coordinators) and a list of contact people in the related companies (including their email addresses) were gathered before the kick-off meeting.

In order to ensure quality communication, a team was set up in Microsoft Teams for communication with the SELFIE school teams.

In case of any need for direct communication with companies/employers, contact information was collected on the in-company trainers (email addresses). During the preparation phase, emails and phone conversations were the main ways of communicating with the participating schools.

Kick-off meeting

A kick-off meeting was planned in order to inform all stakeholders at the national level, in schools and in companies about the SELFIE WBL pilot plan, its aims and objectives, and its phases, tasks and

responsibilities, and to agree on effective, timely implementation. In order to provide direct support to pilot institutions, the second part of the meeting served as a practical workshop for school coordinators and in-company trainers.

The kick-off meeting and training took place on 15 October as a webinar because of the COVID-19 crisis. The event was adapted for the online context to ensure a high level of interaction and participation. A total of 63 people participated in the meeting, including representatives of the 12 pilot schools, in-company trainers, and representatives of the JRC, ETF, MoESCS, Chamber of Commerce and Montenegrin Employers' Federation.

4. IMPLEMENTATION

Launch and pilot of SELFIE WBL

The pilot of the SELFIE WBL tool in pilot schools and related companies was launched within the stipulated timeframe. Pilot schools were provided with clear instructions on the implementation of the process, which was to be led by the SELFIE school coordinator and supported by the school leader. The main task for the school teams was to ensure that all participants filled in the questionnaire and met the timeframe.

The SELFIE WBL pilot started in Montenegro on 20 October and the last school finished its session on 15 November.

Because of the COVID-19 crisis, it was not clear when the school year would start or how the schools would operate.

In addition, a sharp increase in infections occurred in October across most parts of the country and led to the closure of schools and the closure of most businesses in the tourism and hospitality sector owing to the general lockdown in the affected regions.

However, communication was established with the schools, which managed to find substitutes for absent coordinators. In some cases, the process was supported directly by the SELFIE national coordinator.

The line of communication with SELFIE school coordinators was established through Microsoft Teams, which enabled fast and effective facilitation of the process, quality communication, peer support and supervision of the engagement with each pilot institution. In parallel, communication with schools took place through emails and phone calls. The national expert sent two group emails to all pilot schools to remind them to carry out the procedure in accordance with the agreed tasks.

During the pilot, no school reported any problems related to in-company trainers' completion of the questionnaire. After the pilot, some pilot schools did report problems related to a lack of motivation among companies to participate because of the closure of their business, or related to an inability to communicate with in-company trainers.

Eventually, seven pilot schools managed to carry out the SELFIE WBL pilot with in-company trainers included. This number is 140% of the minimal sample specified by the ETF for Montenegro (five

schools). An additional five schools conducted SELFIE WBL without the participation of in-company trainers.

The SELFIE WBL questionnaire was filled out by 21 school leaders, 213 teachers, 1 161 student and 20 in-company trainers, representing a valid sample for analysis. These numbers do not include schools that failed to include employers/companies.

5.   FOLLOW-UP: QUANTITATIVE AND QUALITATIVE ANALYSES

5.1   Methodology

All data provided to the JRC for analysis were previously anonymised and made available exclusively to the national coordinators for the purpose of conducting the pilot.

The overall purpose of the data analysis can be summarised in the following points:

■   identify which processes, criteria and indicators are relevant for WBL in Montenegro
■   determine whether SELFIE WBL applies to all WBL processes, criteria and indicators
■   identify what digital tools are used for WBL by students, VET schools and companies
■   identify any possible deviations in specific processes, criteria and/or indicators
■   identify whether/how SELFIE WBL needs to change to increase its usefulness to VET schools and companies (further adaptations of the tool, the questionnaires, etc.)

For the purpose of comprehensive, in-depth analysis of the SELFIE WBL pilot, both quantitative and qualitative methods have been used and combined. First, the numerical data on the pilot outcomes have been analysed to ascertain the extent to which a phenomenon arises and to select a segment of the population. Subsequently, a qualitative analysis has been applied to the open-ended questions on the survey, and a case study has been conducted on the chosen sample (one pilot school), whose results have been compared with the numerical data for the general population.

The SELFIE questionnaire covered eight areas: infrastructure and equipment; leadership; collaboration and networking; continuing professional development; pedagogy: supports and resources; pedagogy: implementation in the classroom; assessment practices; and student digital competence. Items in the areas were rated by four groups of key actors on a five-point Likert scale. School leaders, teachers and in-company trainers responded to items in all eight areas, while students did so only in six areas, since the areas of leadership and continuing professional development were not relevant to them.

Quantitative analysis

The data were aggregated by the Joint Research Centre of the European Commission in a CSV file containing questionnaires for the four key groups, namely school leaders, teachers, students and in-company trainers, and they were then provided as anonymised statistics.

The JRC also contributed to the analysis by providing valuable sources of information in the form of PDF documents with graphically represented data on participation indicators, participant satisfaction, results by area, and additional information that may be useful for analysis. This information was based

on an analysis of the data obtained from all pilot institutions, regardless of their inclusion of in-company trainers in the pilot.

TABLE 3: SAMPLE PROVIDED BY THE JRC (BY CATEGORIES)

Pilot schools that took part in the SELFIE WBL pilot					Pilot schools that included companies in the survey				
Schools	Leaders	Teachers	Students	Trainers	Schools	Leaders	Teachers	Students	Trainers
12	35	302	1 688	20	7	21	213	1 161	20

The quantitative analysis was done using SPSS statistical software. The questionnaires were analysed primarily through a descriptive analysis of the main variables provided by the four groups of respondents, which were then used to summarise the data and find patterns by showing simple averages by variable for the country and for each user group.

Qualitative analysis

In order to obtain additional information about the SELFIE WBL process, the case study method was also used.

One VET school was chosen as the most successful example of the pilot process (e.g. motivation for the process, participation rate, diversity of the related companies).

Because the aggregated data were fully anonymised, it was not possible to choose the most suitable school for the case study based on additional criteria, such as the highest rate of completion, the highest score on the SELFIE WBL report, or the existence of higher degrees of innovation in VET schools related to the different technology-enhanced learning initiatives already in place (which might serve as an indicator of innovation).

The case study consists of a clear, well-structured, objective narrative of the experience of the selected institution in the pilot phase, with an emphasis on engaging learners, teachers and companies in the process, together with any related feedback on the usefulness of the SELFIE WBL tool and on the need for innovation.

Semi-structured interviews were conducted with the SELFIE school coordinators (two people were directly involved in coordination) and three school leaders to gather information on their direct experience of the pilot. Because of the partial lockdown and safety considerations, the interviews were partly conducted through online video calls and partly through a list of questions sent to the participants by email.

The qualitative data analysis focused on the preparation phase of the pilot, communication between participants at the school level, motivation, communication with companies, the ease of use and usefulness of SELFIE WBL, and any potential recommendations to improve the tool.

All of the data gathered from the open-ended questions in the questionnaires, from the case study and from the interviews were analysed and checked against the quantitative data to ensure their reliability. It is indicative that the response rate on questions of this type was very low.

5.2 Quantitative results

Satisfaction with SELFIE WBL was rated on a 10-point scale. The average satisfaction of respondents with SELFIE WBL was 6.84.

The data analysis showed that school leaders and in-company trainers rated SELFIE higher than teachers and students. Students had the least positive attitude toward SELFIE testing, but still gave the highest rating to SELFIE WBL most frequently.

TABLE 4: SATISFACTION LEVEL

	School leader	Teacher	Student	Trainer
n	21	210	1 137	19
Mean	7.62	7.21	6.75	7.74
SD	1.75	2.18	2.56	1.82

Likelihood to recommend SELFIE WBL to colleagues was rated on a five-point Likert scale. Students did not participate. The mean score was 3.67 (n=254).

TABLE 5: LIKELIHOOD TO RECOMMEND SELFIE WBL TO A COLLEAGUE

	School leader	Teacher	Trainer
n	21	210	19
Mean	3.95	3.63	3.80
SD	0.10	0.04	0.79

After clustering the data into four groups, a detailed analysis (involving only schools that included at least one in-company trainer, n=1 415) reveals that teachers and students gave their highest rating in the area of 'Pedagogy: Supports and Resources', while school leaders gave their highest rating in the area of 'Continuing Professional Development' and in-company trainers gave their highest rating in the area of 'Infrastructure and Equipment'. Teachers rated the area of 'Collaboration and Networking' lowest, while students and school leaders rated the area of 'Assessment Practices' lowest and trainers rated the area of 'Leadership' lowest.

TABLE 6: AVERAGE SCORES BY AREA AND USER PROFILE (SCHOOLS THAT INCLUDED IN-COMPANY TRAINERS)

Area	School leaders			Teachers			Students			Trainers		
	n	M	SD	n	M	SD	n	M	SD	n	M	SD
Infrastructure and Equipment	19	3.47	0.87	213	3.44	0.86	1 047	3.47	1.09	20	4.19	0.65
Leadership	19	3.50	0.86	198	3.53	0.95				20	3.45	1.10
Collaboration and Networking	19	3.62	0.74	198	3.60	1.00	1 102	3.62	1.33	20	3.95	1.00
Continuing Professional Development	19	4.21	0.60	198	3.99	0.83				20	3.98	0.85
Pedagogy: Supports and Resources	21	3.92	0.72	213	4.06	0.76	1 161	4.00	1.18	20	3.70	0.97
Pedagogy: Implementation in the Classroom	21	3.55	0.75	213	3.83	0.83	1 047	3.58	1.04	20	4.15	0.87
Assessment Practices	19	3.31	0.98	198	3.70	1.02	1 024	3.44	1.12	20	3.85	1.04
Student Digital Competence	21	3.92	0.66	213	3.94	0.86	988	3.66	1.08	20	3.93	0.93

As noted above, the overall average score for satisfaction with SELFIE was 6.84, whereas the average satisfaction score across the four user groups was 7.33. The analysis showed that school leaders and in-company trainers rated SELFIE higher than teachers and students. Students had the least positive attitude toward SELFIE testing, but even so students more frequently gave the highest rating to SELFIE WBL.

FIGURE 1: SATISFACTION LEVEL OF KEY ACTORS, BY USER GROUP

■ In-company trainer ■ School leader ■ Teacher ■ Student
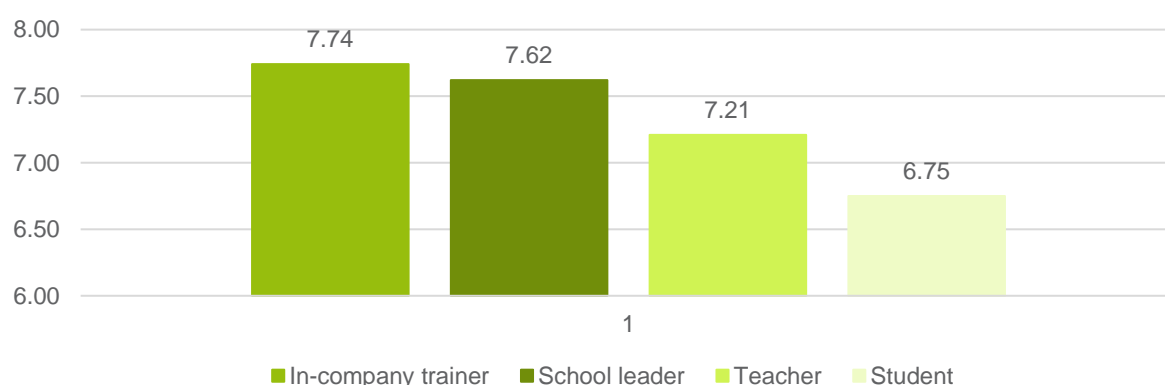
The highest percentage of positive responses were given in the area of 'Pedagogy: Supports and Resources' (71.0), while the percentage of positive responses was only 46.6 in the area of 'Assessment Practices'.

FIGURE 2: PERCENTAGE OF POSITIVE RESPONSES BY AREA (BASED ON ALL PARTICIPATING SCHOOLS)

Area	Percentage
Assessment Practices	46.6%
Leadership	46.8%
Infrastructure and Equipment	48.2%
Collaboration and Networking	52.4%
Pedagogy: implementation in the classroom	53.8%
Student Digital Competence	56.2%
Contining Professsional Develpment	59.1%
Pedagogy: Support and Resources	71.0%
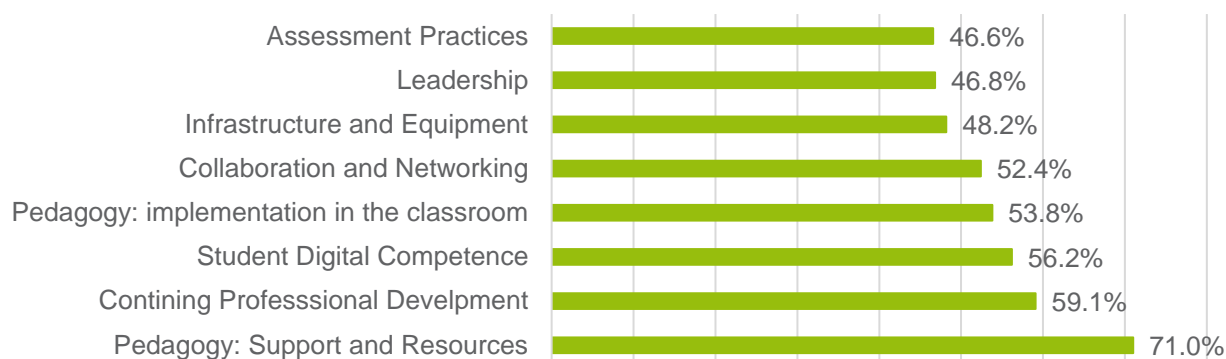
The three highest rated items were in the areas of 'Pedagogy', while the three lowest rated items were in the area of 'Infrastructure and Equipment'.

FIGURE 3: HIGHEST AND LOWEST RATED ITEMS (% OF POSITIVE ANSWERS, BASED ON ALL PARTICIPATING SCHOOLS)
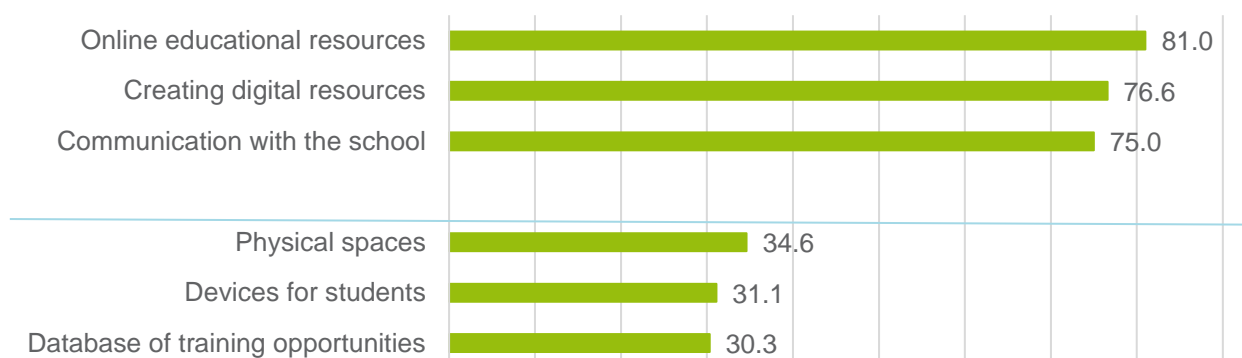
Item	Value
Online educational resources	81.0
Creating digital resources	76.6
Communication with the school	75.0
Physical spaces	34.6
Devices for students	31.1
Database of training opportunities	30.3

The pilot outcomes are not representative of the national education and training systems in Montenegro and should not in any way be interpreted as such. All the data provided to the JRC for analysis were previously anonymised and then made available exclusively to the national coordinators for the purpose of conducting the pilot.

5.3   Qualitative results

The qualitative analysis showed that the preparation process was influenced predominantly by the COVID-19 crisis, which the schools considered to be the main negative factor for the pilot. Nevertheless, there was a high level of satisfaction with various aspects of the organisational activities at the school level.

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Owing to a high level of confidence in accessing and using online communication tools, the participants did not note any significant communication issues. Communication at all levels was efficient and effective and did not have a negative influence on the SELFIE WBL pilot. Some of the participants stated that communication was in fact easier and more structured than it was when conducted in the traditional way.

The qualitative analysis of the SELFIE WBL questionnaire showed that most of the key actors regarded SELFIE as already very well structured. Some comments mentioned the fact that SELFIE did not give students an opportunity to comment on specific school problems regarding ICT and WBL and that they would like to be able to suggest solutions or provide additional explanations for their ratings. This indicates that they were not aware that the SELFIE tool provides an opportunity for schools to create and add up to 10 custom open-ended questions. It is indicative that no pilot school took advantage of the opportunity.

The dissemination of links and filling out of questionnaires proved to be the easiest activities to conduct from a technical standpoint. A 'bring your own device' policy and the direct sharing of links with the key actors minimised any potential issues with the IT infrastructure in schools. On the other hand, some participants pointed to a lack of motivation to take part in the survey. Their reasons varied by participant profile. In-company trainers were highly frustrated by the economic crisis and the potential, or in some cases actual, closure of businesses in the tourism and hospitality sector. School professionals stated that they found it harder to concentrate on strategic development while they were struggling to keep their schools open. Most of the students were motivated to complete the survey owing to their focus on new technologies, which was further enhanced by the crisis.

The qualitative analysis proved the usefulness of SELFIE WBL for the pilot schools and companies. Recommendations focused mainly on the need for additional support in the follow-up phase, especially to prepare and implement an action plan.

The case study provided a clear, well-structured, objective narrative of the experience of the selected institution during the pilot phase. Major emphasis was put on the process followed to engage students, teachers and companies and on feedback regarding the usefulness of the SELFIE WBL tool and the need for innovation.

In addition, the online event on 4 December, which focused on the presentation of preliminary findings from the pilot of SELFIE for work-based learning in Georgia, Montenegro, the Republic of Serbia and Turkey, provided an opportunity for the national expert to obtain additional feedback from the representatives of the pilot schools as well as initial feedback from national stakeholders during the country focus group discussion. The most important message agreed on by all participants was that schools need to be further empowered to conduct self-evaluation, action planning and strategic development in order to take full advantage of the SELFIE WBL tool.

5.4 Overall findings

This section discusses the main findings from the quantitative and qualitative analyses and the reflections of participants.

Topics	Reflections and main findings
Registration, inputting the school and company data, customising the surveys and generating links	Since all the pilot schools had direct experience using the SELFIE tool in the previous school year, they had already formed SELFIE teams and appointed school coordinators. Every pilot school was already registered for SELFIE, so the school coordinators involved in the SEFLIE WBL pilot needed only to input the school and company data, customise the surveys and generate the links. The process went well in most schools, but some still had problems because of forgotten registration data. In two schools, coordinators did not enter the right category (upper-secondary VET), so they were unable to enter their company data. These problems were solved through communication between the schools and the SELFIE national coordinator, with help from the JRC to identify some of the omissions.
Reaching out to and motivating participants and monitoring participation	In the pilot preparation and especially during the kick-off training, school coordinators received clear instructions on the implementation of self-reflection and the monitoring of participation. All school coordinators who were asked to comment on the topic stated that they did not have any issues with the motivation of students, teachers and school leaders to fill out the questionnaire. Despite extensive communication with the pilot institutions, a considerable number of in-company trainers did not complete the questionnaire. As a result, it was imperative to find out the reasons. The issue was not raised by schools during the SELFIE sessions, but two main reasons were eventually identified. First, some coordinators had not been able to communicate directly with in-company trainers, and consequently they had relied on the assumption that trainers would fill out the questionnaire before the deadline. Second, the trainers were not ready to fill out the questionnaire in some cases, because their businesses were closed owing to the lockdown. In both situations, school coordinators did not notify the national coordinator in time to make a correction. The representatives of the school selected for the case study stated that their communication with trainers was positive, open and productive.
SELFIE WBL report	The SELFIE WBL report, which is accessible only to schools and no other institution, is well structured, informative and usable. School leaders and SELFIE coordinators did not raise any issues regarding its usability. The case study results revealed that the SELFIE WBL report is regarded as a very useful tool for self-reflection and for planning sustainable improvements in the area of schools' digital capacity. In addition, the results of SELFIE WBL were compared by the school leader and ICT coordinator with the results of previous testing (2nd session, February 2020). Schools did not report carrying out a detailed analysis of the report after the pilot or undertaking any activities regarding the creation of an action plan for improvement. This was predominately caused by the COVID-19 crisis, which forced schools to redirect their activities from strategic planning to maintaining a regular daily work process.
Recognition for taking part	Participants in general did not emphasise official recognition for their participation in SELFIE as something of great importance to their professional engagement. School leaders stressed the importance of SELFIE for the recognition of their school as a strategic thinking institution. SELFIE is officially recommended as a tool for improving the quality assurance system in the action plan for the

	implementation of the Strategy for the Development of Vocational Education in Montenegro (2020–2024). As a result, participation and recognition were additional motivators for school leaders.
	Participants generally did not think that the certificate for completing the SELFIE questionnaire would contribute to their professional career. Teachers and students did not stress the importance of the certificate of participation as recognition for taking part in the survey. For teachers and students, the certificate did not represent a significant motivation for learning because they did not recognise its practical value.
	Schools did not take the opportunity to highlight and praise teachers and students who completed SELFIE. This probably contributed to some extent to the relative lack of interest in the certificate among teachers and students.
	School coordinators showed significant interest in the certificate, since it can be used as a way to recognise their work in the school.
	The school that took part in the case study did not show any interest in receiving a SELFIE badge. Nor was the topic raised in any form by any other school during the pilot. This implies a lack of information about the badge or possibly a lack of interest in getting one in the first place. The procedure for getting the badge was described in detail, but the information was available solely to the SELFIE coordinator, not necessarily to the school leaders, who would probably be more interested in getting one for their institutions.
	It is worth noting that the SELFIE team has been working on an easier, more user-friendly, more automatic system to generate badges for schools, which will go live around mid-2021.
Usefulness of SELFIE WBL	The qualitative and quantitative analyses, as well as the analysis of the case study, showed that the satisfaction level of participants with SELFIE WBL was high. There were no substantial suggestions about the structure of SELFIE, its usability or its content.
	In their responses about possible improvements to the tool, students mostly mentioned that they would like to have more tailored questions that are closely related to the reality of their schools. At the same time, the pilot schools did not include any additional open-ended questions in the questionnaire. It is notable that schools did not take the opportunity to design custom questions, since the SELFIE tool allows schools to add up to 10 custom open-ended questions.
	School leaders viewed SELFIE WBL as a valuable addition to the compulsory annual self-evaluation of schools.
	As expected, teachers predominately saw SELFIE WBL as a tool for reflection on their own classroom practice.
	There was not enough qualitative information gathered from in-company trainers to support and describe the high satisfaction score expressed in the questionnaire.
SELFIE WBL ecosystem	The support system built around SELFIE is comprehensive and all stages in the application of the tool are well documented.
	All the components of SELFIE (website, questionnaires, reports, guides) are completely localised and translated into the Montenegrin language.
	The resources provided on the website are very useful.
	The SELFIE webpage is highly informative and user-friendly.
	Quality support was provided to school coordinators in the form of detailed instructions for the preparation and implementation of SELFIE testing, as well as for the analysis of results.
	Pilot data analysis has not showed any awareness among participants of the need to improve the existing SELFIE ecosystem significantly. However, based on the monitoring of the pilot implementation in all phases, there are indications that improvement is possible.

	The fact that most of the pilot schools have not yet analysed the reports (which can be justified partly by the COVID-19 crisis) points to a risk of formalisation and neglect of the follow-up phase.
	Therefore, the SELFIE ecosystem probably lacks more highly prioritised, visible support for the quality use of reports in the planning of improvement by all stakeholders, the SELFIE team and the national authorities.
	An ecosystem specifically adapted to SELFIE WBL has yet to be developed and needs to take into consideration the active participation of companies, which should recognise their personal gain from participation in the initiative.

6. LESSONS LEARNT AND SUGGESTIONS FOR FUTURE DEVELOPMENT

This section presents the main lessons learnt and suggestions for the future development of the tool.

Topics	Reflections and main findings
Process	The SELFIE WBL pilot was carried out in truly complex conditions arising from the COVID-19 pandemic, which inevitably affected the entire process. Schools agreed to participate, but a lower level of enthusiasm and an inability to pay the necessary attention to SELFIE testing were noticeable. Nevertheless, the SELFIE WBL pilot process was implemented successfully in Montenegro.
	It was also noticeable that most of the school coordinators did not check the participation rate regularly. As a consequence, they did not encourage and remind respondents to participate. This was especially evident in the case of in-company trainers, whose response rate was 66.7%.
	Creating periodic automated reminders for school coordinators (emails) with information on participation rates could help to keep the people responsible for SELFIE testing focused on the process.
SELFIE WBL tool	SELFIE WBL is undoubtedly accepted in Montenegro as a valuable tool for school self-reflection in the area of educational technologies.
	Every primary and secondary school had already used SELFIE at least once. SELFIE WBL was recognised as a valuable addition to regular SELFIE, and the new set of questions related to distance learning were perceived by the pilot schools as very useful.
	The data analysis showed that, with the exception of students, all other groups in the pilot schools typically ignored the open-ended questions, which formed the basis for the qualitative analysis and could be a valuable source of information for schools.
	Open-ended questions should be better highlighted in the questionnaires, and their importance emphasised. It is worth considering making them obligatory for participants. They can also be positioned at the beginning of the section, so that they look more like an integral part of the questionnaire, and not an afterthought.
Content	SELFIE content is carefully structured, comprehensive, and segmented into logically coherent areas.
	Questions related to distance learning are a valuable addition to the tool and increase its relevance for users. Responses could be valuable for the assessment of school performance under the conditions of the COVID-19 pandemic.
	During the pilot, questions of content were raised by some students, who basically shared two suggestions for improvement:

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	give more options to reflect on the everyday problems and real-life challenges of students in school
	provide an opportunity to add personalised comments in response to a closed-ended survey question and offer suggestions for solutions
	Since there is already an option for school coordinators to customise the questionnaire by adding up to 10 additional questions, it is indicative that students were not aware of it. Including student representatives on the SELFIE team would enable them to influence the content of the questionnaire.
SELFIE WBL report	The SELFIE report is well structured, informative, user-friendly and functional for the end user.
	The generated PDF version of the report (which is a brief summary of the online SELFIE WBL report) loses some of its use value because the graphically represented data are accompanied not by a detailed explanation, but only by a short statement that is not complete. The reason for this approach is completely understandable, but it can result in confusion or misinterpretation of the results by less competent stakeholders.
	Therefore, for a more comprehensive, widespread opportunity to analyse the report, all stakeholders in the school need to be given access to the online version of the data found in the SELFIE tool, which are currently accessible only to the school coordinator. This would make the information fully available to all key actors in the school.
	In addition, providing the complete questions with the graphical representation of results for every item in the PDF version of the SELFIE WBL report would help school stakeholders to fully understand and, consequently, more accurately analyse the results.
	Responses to open-ended questions do not currently appear in the report, so they are not of any use to the school. Text mining methods could be used to provide an overview without compromising the privacy of individuals or rules on data protection.
Features of SELFIE WBL (badge and certificate, possible suggestions for other features)	The badge and certificate of participation are primarily of interest to school leaders and SELFIE coordinators, but the other user groups showed no specific interest in them.
	Additional promotion of the badges and certificates on the SELFIE website would be useful for schools. For example, the website could display a specimen of the badge.
	Creating additional promotional material in the form of a media kit for school websites and social network sites, which could be added to existing resources already available on school websites, would enable schools to promote their participation in SELFIE and further disseminate information about the tool. This could include social media tailored graphics for banners, stories, backgrounds, animations and video clips that would be easy for schools and companies to use to promote activities related to SELFIE and SELFIE WBL.
Data	Further emphasising the ability to compare data from different SELFIE sessions through the generation of reports based on a comparative analysis of two or more SELFIE reports (e.g. actual and last year's reports) would substantially increase the value of the tool for schools.
	Providing schools with raw aggregate data from the SELFIE questionnaire would allow users to produce complex, customised analysis of the results.
Future SELFIE WBL ecosystem and possibilities of integrating SELFIE WBL in education and training policies	The MoESCS has already recognised the value of SELFIE and facilitated its integration in the country's national strategic documents for VET. After its official launch, therefore, SELFIE WBL will also be supported by policymakers and national stakeholders.
	At the national level, additional coordination by the MoESCS or VET Centre would be helpful to schools. These efforts could include reminders, promotional activities, the showcasing of successful examples and more.

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SELFIE is designed and created to enable quality self-reflection by schools, regardless of respondents' level of digital competences. As a result, it enables respondents to concentrate fully on the content of the questionnaire, and SELFIE school teams to concentrate fully on the analysis of the results.

The SELFIE ecosystem is genuinely user-friendly in all its segments.

Some possible improvements would address the following issues:

- the website is not fully localised in the Montenegrin (or Serbo- Croatian) language, which makes it less accessible to some users (Resources, Why SELFIE, web page footer)
- the procedure for issuing the digital badge, while very straightforward, can be discouraging to some coordinators
- the library of resources for schools could be updated with additional visual elements suitable for school websites or social media pages (logos, banners, etc.)
- in addition to the graphical representation of data and short accompanying statements, the SELFIE WBL school report could also contain the full questions to which the represented data relate.

As part of the quality assurance system, every school in Montenegro is required to conduct an annual self-evaluation. The SELFIE WBL tool can also be included in this process as an important source of information and evidence to plan interventions aimed at sustainable strategic development.

The IT department of the MoESCS should provide continued coordination and support to schools for the effective use of SELFIE WBL tools, using existing communication channels.

7. IMPLICATIONS OF COVID-19

The COVID-19 crisis has had a significant influence on Montenegro in all spheres of economic and social life. The second wave of the pandemic hit the country in the second half of September, followed by a sharp increase in the number of active cases in October.

Owing to the COVID-19 crisis, the beginning of the new school year was postponed for a month. It did not begin until 1 October. Since then, a hybrid approach has been adopted for the teaching/learning process in higher secondary education:

- first-year students in secondary schools have their lessons in school
- second, third and fourth-year students have online classes
- practical education in VET schools is organised in schools or in companies, depending on the type of WBL

Since the SELFIE tool is completely online-based, the modality of classes did not affect participation in the pilot process. All communication with participating schools and related companies was planned to be conducted online.

There were no exact data on the success of the WBL implementation in schools and related companies at the start of the school year.

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Bearing the above points in mind, the SELFIE WBL pilot was conducted in very specific, delicate conditions, which called for careful planning, anticipation of potential problems, and flexibility in dealing with any issues that arose.

At the beginning of the crisis, it was clear that the tourism and hospitality sector was the most vulnerable category in the Montenegrin economy. This fact contributed to a high degree of uncertainty about the willingness and availability of companies to participate in the SELFIE WBL pilot. It also explains why a larger number of companies were engaged in the pilot, so that the eventual absence of any of them would not affect the pilot's success.

From the very beginning of the pilot process, it was apparent that the pilot might be strongly influenced by several factors:

- the pilot was conducted at the very start of the school year, while schools were still in the process of adapting to uncertainty and changes in the teaching/learning process
- some school leaders and SELFIE coordinators were absent because of coronavirus infection or self-quarantining
- the economic crisis in the tourism and hospitality sector affected many companies involved in WBL
- the established system of 'traffic lights' to identify alert levels by geographic area depending on the incidence of COVID-19 envisages the closure of schools in the municipalities most severely affected by infection

It is clear now that all of the above factors had implications for the pilot process.

The need for schools to deal with a specific health threat by changing their way of working influenced the possibility of some school teams to devote themselves sufficiently to the pilot implementation. Nevertheless, most schools managed to allocate the time and human resources needed to complete the process as planned.

During the pilot, several schools reported changing their SELFIE school coordinators because of the absence of their former ones, and some school leaders were absent because of self-quarantining or infection. In some cases, it was necessary to provide additional support to the SELFIE school teams in order to continue the process.

The most challenging situation arose with the closure of most schools in the very middle of the pilot as a result of a sharp increase in the number of COVID-19 cases in the municipalities where the schools were located. In addition, all of these municipalities saw the closure of all service activities in the tourism and hospitality sector, which in some cases resulted in the withdrawal of representatives of certain companies from the pilot.

After the pilot, the results clearly showed that despite all the COVID-19 related challenges, a sufficient number of schools and companies took part in the pilot and successfully completed it.

It is now evident that the COVID-19 crisis indirectly contributed to significantly better efficiency in the implementation of SELFIE WBL in schools and companies. No school raised the issue of dissemination and completion of the questionnaires. Nor were there any technical shortcomings that could jeopardise the possibility of conducting testing. The sudden breakthrough in the use of IT in schools over the past few months seems to have greatly affected the ability of all participants in all four user groups to complete the questionnaire.

The SELFIE ecosystem proved resistant to the current global crisis in education because its conception promotes online technologies. In addition to researching digital technologies, it also promotes their use in a very effective way. This resulted in schools further recognising not only the value and relevance of the SELFIE tool, but also the importance of digital education.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

Conclusions	The SELFIE WBL pilot was carried out in Montenegro in October and November 2020. The pilot was conducted in truly complex and challenging conditions, which inevitably influenced the entire process to some extent. Nevertheless, the pilot process was implemented successfully in Montenegro, achieving a 140% participation rate in relation to the minimum projected number of pilot schools.
	Comprehensive analysis showed that the SELFIE WBL tool was undeniably accepted by schools as a valuable tool for self-reflection in the area of educational technologies. It is indicative that in-company trainers recognised the potential and value of the tool.
	SELFIE WBL content is carefully structured, comprehensive, and segmented into eight logically coherent areas. In addition, SELFIE WBL is designed and created to enable quality self-reflection by schools regardless of respondents' level of digital competences. This enables them to concentrate fully on the content of the questionnaire (respondents) and on the analysis of the results (SELFIE school team).
	The SELFIE report is well structured, informative, user-friendly and functional for the end user.
	SELFIE WBL provides schools and related companies with valuable information about digital technologies for innovative, effective learning and the digitalisation of teaching and learning. The COVID-19 crisis has caused a system-wide shift towards digital learning, which is reflected in VET and WBL. Organising and maintaining work-based learning in companies amid the current crisis requires an intensification of the communication between schools and companies. SELFIE helps to ground any communication or planned intervention in WBL in the digital domain on exact indicators and valid information.
	Since the SELFIE tool has already been used by every primary and secondary school in Montenegro and every school has formed a SELFIE team, there is a clear need for national stakeholders to intensify activities aimed at supporting schools and related companies to efficiently recognise room for improvement in their digital capacity.
Recommendations	Although SELFIE has proven to be a functional, efficient tool with a carefully designed ecosystem, the pilot has also raised a number of important points and opportunities for improvement in particular areas.
	Successful implementation of SELFIE depends significantly on the choice of an appropriate time frame to conduct the assessment and on the ability to allocate human resources to conduct the process, analyse the results and plan for improvement. The WBL component adds the need to provide functional communication between the schools and the in-company trainers and employers overall. Therefore, it would be useful to add a section to the SELFIE guide with instructions for schools on how to carefully plan implementation, how to use available human resources efficiently to prepare for SELFIE, and how to analyse the results and plan for improvements in the domain of digital technology.
	Students and in-company trainers should be given more influence in the content of the questionnaire by enabling them to suggest additional open-ended questions. This could be added to the guide as a recommendation, with instructions for communication with in-company trainers and students on the matter.
	Although the SELFIE WBL report is very detailed and informative, it also requires analysis of both the PDF report and any more detailed information that can be accessed on the website to be fully understandable. As companies do not have direct access to the SELFIE WBL tool, they could potentially fail to receive all the information needed for extensive analysis.

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	Currently, the unified report is generated after the SELFIE WBL session. While the report is carefully tailored to schools, it is worth considering whether it is equally understandable and usable by companies. For example, the PDF version of the report does not contain the full questions, which can be accessed only by school coordinators in the online SELFIE tool. A version of the report that contains additional clarification along with the survey questions and statements would help in-company trainers to recognise the value and full potential of SELFIE and analyse the data more confidently.
	Creating periodic automated reminders for school coordinators (emails) with information on participation rates could help to keep the people responsible for SELFIE testing focused on the process.
	Open-ended questions should be better highlighted in the questionnaires, and their importance emphasised. It is worth considering making them obligatory for participants. They can also be positioned at the beginning of the section, so that they look more like an integral part of the questionnaire, and not an afterthought.
	Responses to open-ended questions do not currently appear in the report, so they are not of any use to the schools. If they were listed in the tool in a form that was convenient for copying and analysing, it would help school coordinators to gather more information for analysis.
	Providing schools with raw aggregate data from the SELFIE questionnaire would enable users to conduct complex, customised analysis of the results.
	Although SELFIE is already recognised as a valuable self-reflection tool in Montenegro, appears as such in VET policy documents and enjoys widespread use in schools, there is more room for further integration of the SELFIE WBL tool in the existing quality assurance framework.

8.2   Recommendations for upscaling

Key recommendations and policy advice on further implementation of SELFIE WBL were identified by using the eight-step methodology for scaling up and integrating SELFIE into education and training systems[2].

The focus group method was used with national stakeholders, while interviews were conducted with school representatives.

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[2] Bocconi, S., & Lightfoot, M. with Brolpito, A., Giannoutsou, N., Hippe, R., & Kampylis, P. (2021). *Scaling up and integrating the SELFIE tool for schools' digital capacity in education and training systems*. Brussels: Publications Office of the European Union.

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FIGURE 4: EIGHT-STEP METHODOLOGY FOR INTEGRATING SELFIE INTO THE EDUCATION SYSTEM
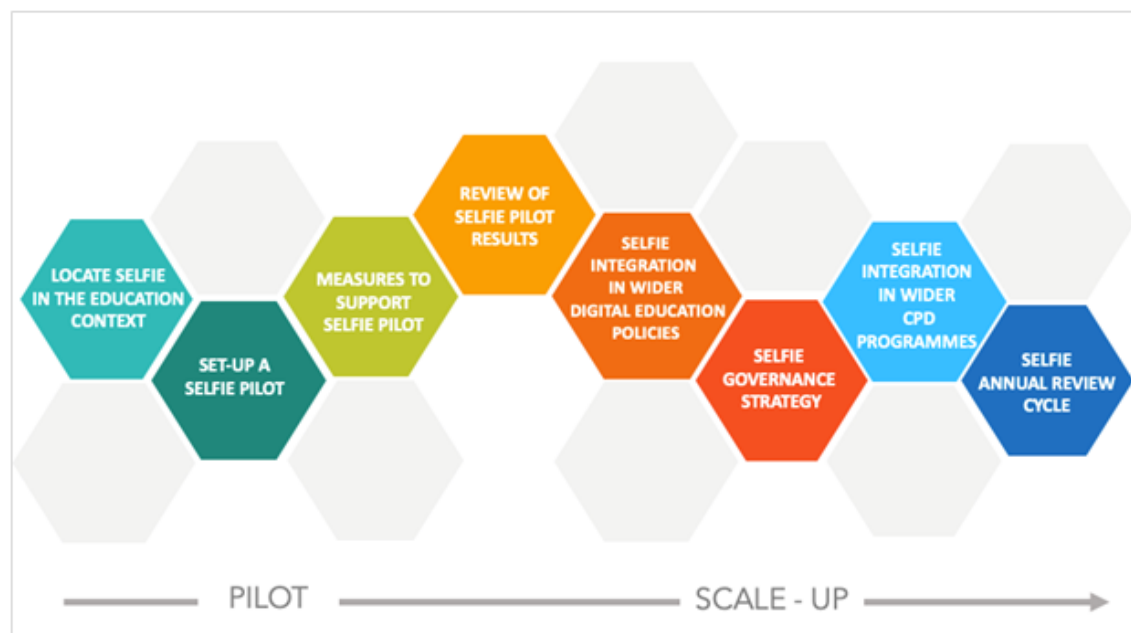
The proposed methodology provides a framework for governments and educational authorities to plan and develop context-relevant policy actions for implementing, upscaling and integrating SELFIE in education and training systems.

Table 7 features key recommendations and policy advice based on the findings of the eight-step methodology for integrating SELFIE into the education system.

TABLE 7: FRAMEWORK ANALYSIS BASED ON THE UPSCALING METHODOLOGY FOR THE SELFIE TOOL

STEPS	Key recommendations and policy advice
STEP 1: Locate SELFIE WBL in the national, regional and local context	In 2020, the SELFIE tool was already widely used in all Montenegrin schools, under the coordination of the IT department of the MoESCS. Building on the positive experience and driven by the need to provide additional support for quality assurance in VET, the MoESCS showed genuine interest in piloting SELFIE WBL on a large scale and involving all eligible schools in the country. At the national level, the pilot was coordinated by the IT department of the MoESCS. The action plan for the implementation of the Strategy for the Development of Vocational Education in Montenegro for 2020–2024 (Ministry of Education, 2019) envisages the implementation of the SELFIE survey in VET schools. SELFIE WBL would scale up the process by including companies in the process of self-reflection on the capacity of WBL providers to use digital technologies for teaching, learning and assessment.
STEP 2: Set up the SELFIE WBL pilot	By choosing to conduct the pilot at the national level, the MoESCS enabled use of a broader set of criteria for sampling. The sampling process is explained in section 3, sub-section 3.1 of the current document. The careful planning and preparation of the SELFIE WBL pilot is set out in section 3.

STEP 3: Define measures to support the SELFIE WBL pilot	The supporting measures to inform and motivate pilot institutions about SELFIE WBL and provide them with guidelines and resources have been described in section 3, sub-section 3.3 of the current document.
STEP 4: Review SELFIE WBL pilot results	The SELFIE WBL pilot results are reviewed and presented in the current document, particularly in sections 5 and 6 and in Annex V.
STEP 5: Plan the upscaling and integration of SELFIE WBL in national, regional, and local policies	SELFIE is already included in the Strategy for the Development of Vocational Education in Montenegro for 2020–2024 (Ministry of Education, 2019). The associated action plan needs to be updated to include SELFIE WBL and recognise it as a tool for the improvement of WBL in schools and companies.
	An annual internal evaluation is obligatory for all schools in Montenegro. The body that monitors the process for VET is the Centre for Vocational Education and Training (VET Centre). The VET Centre could adapt the methodology of school self-evaluation to include SELFIE WBL, which is already largely compatible with the existing methodology. This approach would also link SELFIE WBL to the quality assurance system.
	At present, Montenegro is actively preparing to develop a national digital education strategy. As part of the process, SELFIE will be formally integrated into the strategy as a clearly recognised contribution to the education system.
STEP 6: Establish the SELFIE WBL governance strategy	The best way to organise SELFIE WBL governance and coordination in Montenegro is centralised, following a top-down approach with coordination at the national level. This should ensure effective support, improvement and evaluation of the process. Since the MoESCS already supports schools in using the SELFIE tool, the main emphasis should focus on implementation of the tool and empowering WBL providers to carry out analysis, plan improvements and enhance the usage of digital technology in schools and connected companies.
	The existing SELFIE national governance strategy has proved to be successful and proactive. The current SELFIE national coordinator, who is based in the IT department of the MoESCS, should also coordinate the scaling up of SELFIE WBL. The existing network of school coordinators should be further supported and they should be put in charge of SELFIE WBL at the level of educational institutions.
	SELFIE WBL could be coordinated and monitored by the existing VET WBL coordinating committee, which is made up of representatives of the MoESCS, the VET Centre and the Chamber of Commerce. The committee could also include the SELFIE national coordinator and preferably representatives of the Montenegrin Employers' Federation so as to enable various national stakeholders to provide their expertise and insights.
	Finally, adopting an effective, proactive communication strategy is an essential step for implementing SELFIE WBL at the system level. Information campaigns, kick-off meetings, information days at schools and various promotional events on social media should be organised to ensure that different stakeholders are informed accurately about any planned activities for the implementation of SELFIE WBL.
STEP 7: Incorporate SELFIE WBL in the CPD programme	The MoESCS already has a training programme for the SELFIE tool, and the programme should be further adapted to incorporate WBL elements.
	Self-paced online training for SELFIE WBL should be developed as part of the MoESCS and UNICEF's Learning Passport initiative[3], which will become operational at the beginning of the next school year. This would give school professionals constant access to the training.
	Special attention should be paid to the development of specialised training for action planning tailored to SELFIE WBL. The training should focus on the design, implementation and monitoring of SELFIE-based action plans. The training should target the wider school community, so that all school stakeholders can play an active role in the process. Owing to the specific concept of school-based

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[3] https://www.learningpassport.org/

	continuing professional development (CPD) in Montenegro, there should also be training for CPD school coordinators in order to enhance their knowledge of SELFIE WBL and their ability to plan activities in the area and help teachers to identify their professional needs.
	In addition, a peer-learning community for communication, collaboration and knowledge sharing, which would be limited to school coordinators, should be established and administered by the national coordinator. For this purpose, the Microsoft Teams service could provide the most effective solution, since the IT department of the MoESCS already uses it to communicate with all schools.
	Existing CPD training for school leaders, especially a mandatory set of induction training courses for newly appointed school heads, could be updated with SELFIE WBL, especially in the areas of school self-evaluation and strategic and action planning. Additional CPD activities for school leaders could be developed to strengthen their ability to use the results of SELFIE WBL proactively.
STEP 8: Set up a SELFIE WBL annual review cycle to inform policies	The existing quality assurance system based on the external and internal evaluation of schools should be adapted to recognise the impact of SELFIE WBL at the school level by using the SELFIE WBL data to analyse the design and implementation of the development plan. The external evaluation of VET schools falls under the authority of the VET Centre's Department for Quality and CPD, which should coordinate this review cycle to inform policies. School self-evaluation, which is repeated on an annual basis, should also provide insight into the effectiveness of using SELFIE WBL.
	Focus groups or other adequate research methods should be used on an annual basis to assess the impact of SELFIE WBL at the national and school level. Such methods could also provide an excellent monitoring mechanism for scaling the activity up.
	The aggregated and anonymised data provided by the JRC at the national level should be analysed annually by the national coordination body to identify priority action areas.
	Any relevant outcomes of SELFIE WBL, as well as the resulting action plan, should be integrated into annual school plans and school strategic development plans, and used for the improvement of schools' digital capacity in teaching, learning and assessment.

Key recommendations and policy advice, highlighting enablers and challenges

The use of digital technologies is becoming increasingly relevant in vocational education and training, particularly in light of the COVID-19 crisis, which has revealed many gaps and shortcomings in the area. Montenegro has welcomed SELFIE WBL as a tool for self-reflection on the use of digital technology at the school, company and national level.

Below is a list of the key recommendations and policy advice:

- Regardless of previous functional implementation of the SELFIE tool in all primary and secondary schools, SELFIE WBL could be more fully integrated into the Montenegrin education system by strengthening coordination and providing additional procedures and support to schools and related companies. The SELFIE national governance strategy proved to be successful. The MoESCS should continue to play the coordinating role through its IT department. The SELFIE national coordinator should coordinate the scaling up of SELFIE WBL.
- The existing network of school coordinators should be maintained and further supported through training and consultation, and they should be put in charge of SELFIE WBL at the level of educational institutions.

- The VET WBL coordination committee should coordinate and monitor SELFIE WBL. The SELFIE national coordinator should be involved in the work of the committee, as should the Montenegrin Employers' Federation, which plays a significant role in the cooperation between schools and employers. Alternatively, the formation of a new body at the national level should be considered, involving all stakeholders, in order to oversee the implementation of SELFIE WBL.
- An effective, proactive communication strategy should be developed by the coordination body to promote SELFIE and ensure its widespread implementation. The strategy should include various promotional activities and events at the national level, in schools and online.
- SELFIE is already included in the Strategy for the Development of Vocational Education in Montenegro for 2020–2024. The associated action plan needs to be upscaled to include SELFIE WBL and recognise it as a tool for the improvement of WBL in schools and companies.
- SELFIE WBL should be formally recognised by the MoESCS as a school/company self-evaluation tool. Both the methodology for school self-evaluation and the methodology for the external evaluation of schools should recognise SELFIE WBL as a tool for quality assurance in the education technology domain.
- The SELFIE national coordinator or/and coordination body should coordinate the findings annually with the key national stakeholders.
- Aggregated and anonymised data provided by the JRC at the national level should be analysed annually by the national coordination body to identify priority action areas and communicate information to national stakeholders.
- In addition to improving existing training programmes and materials for SELFIE school coordinators by integrating new WBL-specific elements, additional training programmes need to be developed as follows:
  - the development and implementation of a SELFIE WBL training programme for in-company trainers should be prioritised, building on the progress that has already been made with the country's SELFIE ecosystem, including CPD
  - there is a need for specialised training on action planning for school teams that is tailored to SELFIE WBL and focuses on the design, implementation and monitoring of SELFIE-based action plans
  - self-paced online training on SELFIE WBL should be developed for teachers, students and in-company trainers as part of the MoESCS and UNICEF's Learning Passport initiative, which will become operational at the beginning of the next school year
  - training for CPD school coordinators is needed to enhance their knowledge of SELFIE WBL and their capacity to plan peer-learning activities in the area and support teachers

Challenges and enablers:

Challenge 1: the economy of Montenegro has been severely hit by the COVID-19 pandemic, which also had a negative impact on WBL. Some companies are closed, while others are operating with difficulty and in some cases lack motivation to engage in self-reflection in the digital technology domain.

Enabler: national stakeholders should persistently communicate the importance of SELFIE WBL as a tool that can provide valuable information to plan innovative, effective learning with the support of digital technology.

Challenge 2: schools do not sufficiently use their results for detailed analysis and evaluation of their use of digital technology in teaching and learning, or for planning improvements in the area.

Enabler: to address this issue, schools should be strengthened to conduct internal evaluation and strategic planning. This is particularly important for school leaders, who should initiate, lead and coordinate activities directed toward the proper use of the SELFIE WBL results. A tool to support schools in their development of a digital strategy based on their SELFIE WBL outcomes is now in development[4].

Challenge 3: not all stakeholders are enthusiastic about SELFIE, possibly because of the length of the questionnaires, a lack of information about the results, or an absence of visible improvement in the domain of digital technology.

Enabler: the situation would improve considerably with the provision of timely, appropriate information about SELFIE WBL to all stakeholders, the inclusion of representatives of all stakeholders in the analysis and planning, and the running of communication campaigns in schools and companies.

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[4] https://sherpa4selfie.eu/

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LIST OF ABBREVIATIONS

CPD	Continuing professional development
ETF	European Training Foundation
EfVET	European Forum for Technical and Vocational Education and Training
GDP	Gross domestic product
JRC	Joint Research Centre
MoESCS	Ministry of Education, Science, Culture and Sports
VET	Vocational education and training
VET Centre	Centre for Vocational Education and Training
WBL	Work-based learning

ANNEXES

Annex I – Key info on the WBL system

Montenegro has implemented vocational education and training in the form of two-year lower vocational education, three-year or four-year secondary vocational education, and two-year upper vocational education. To this end, the country has three types of schools: vocational education and training schools, combined secondary schools (which implement both vocational and general secondary education curricula) and educational centres (ISCED level 1–3).

In the 2020/2021 school year, there are 51 secondary schools (state-owned and private) in Montenegro, with 26 815 students. Of these, 8 281 students (30.88%) attend general education programmes (gymnasium), while the remaining 18 534 students (69.22%) attend vocational education programmes (MEIS, 2020). In total, there are 41 institutions that provide some type of secondary vocational education and training, while 35 of them also provide WBL. Of the total VET student population, 4 233 (22.84%) are engaged in some form of WBL.

The Strategy for the Development of Vocational Education in Montenegro (2020–2024) explicitly emphasises work-based learning, particularly the dual model of education, establishing precisely defined measures and tasks that need to be implemented in the area of VET education.

In Montenegro, VET education can be carried out entirely by schools or through cooperation between employers and schools in accordance with established curricula. A school can carry out the entire vocational education (including school-based practical training in school workshops, laboratories, etc.) or it can carry out the theoretical part on school premises with all or part of the practical education (training) taking place on the premises of employers. Accordingly, practical training through work-based learning can be delivered partly by schools and partly by companies (regulated by a contract on practical training between school and employer, with the assessment of students' achievements conducted only by the school) or entirely by employers in the form of dual education.

The dual model of education was introduced in the 2017/2018 school year. Practical education is carried out entirely by the employer, who reaches an individual agreement on practical education with the student or parent under conditions set by the VET Centre. Each student is entitled to a monthly salary. First-year and second-year students are entitled to the equivalent of at least 10% of the average net salary in Montenegro in the first year and at least 15% in the second year. Monthly allowances are paid out of the budget of the MoESCS for the 1st and 2nd year students. In addition, each employer is obliged to pay a monthly allowance to third-year students that is equivalent to at least 20% of the average net salary of employees in Montenegro.

For the 2019/2020 school year, 27 educational institutions in 19 municipalities offered dual education programmes and 277 companies were involved in WBL. Compared to the previous school year, 120 new employers joined the dual education system. A total of 834 students took part in dual education (Documentation of the Ministry of Education, 2020).

TABLE 8: NUMBER OF STUDENTS IN DUAL EDUCATION 2019/2020

First year	Second year	Third year	Total
309	386	139	834

Further improvement of dual VET is a strategic priority for the Montenegrin government in the upcoming development period (2020–2024), with special emphasis being given to increasing the involvement of business associations in the practical training.

Annex II – References to SELFIE in policy documents

The Strategy for the Development of Vocational Education in Montenegro (2020–2024) and associated action plan (2020–2022)[5] were adopted by the government in a session held on 17 January 2020. The strategic goal is to develop a quality, inclusive system of vocational education that will form a basis for lifelong learning, economic and social integration, and the personal and professional development of the individual, all supported by an effective system of management and financing.

The action plan for the implementation of the above strategy envisages implementation of the SELFIE survey in VET schools under measure 2.3 Ensuring and improving the quality assurance system in vocational education at the national and school level, in accordance with EQAVET.

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[5]http://www.mpin.gov.me/ResourceManager/FileDownload.aspx?rid=395479&rType=2&file=Strategija%20razvoja%20strucnog%20obrazovanja%20u%20Crnoj%20Gori%20.docx

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Annex III – Country fiche

SELFIE WBL pilot implementation in Montenegro

December 2020

SELFIE team

Dragutin Scekic, national expert
Jelena Konatar, national SELFIE coordinator, Ministry of Education, Science, Culture and Sports (MoESCS)
Marina Matijevic, MoESCS
Zora Bogicevic, MoESCS

Participating actors and case studies

- (i) 12 schools and 20 companies from Tourism and Hospitality sector
- (i) One case study, semi-structured interviews of school leaders and SELFIE school coordinators

Key info on WBL system

- (i) 35 schools are providing WBL during school year 2020/2021
- (i) 23 schools are providing WBL in the area of Tourism and Hospitality
- (i) Share of WBL in VET is 23%
- (i) Share of VET in the upper secondary education is 69%

Preparation

Methodology of selection

(i) **Criteria for the selection of schools**
1. Educational programs that include WBL in the area of Tourism and hospitality
2. Some form of WBL planned for the school year
3. At least one Company/Employer with at least two or more in-company trainers
4. Already participated in a SELFIE and have SELFIE team

(i) **Criteria for the selection of the companies**
1.Has WBL in the area of Tourism and hospitality
2.Company/employer has at least two in-company trainers

Methodology of translation

(i) Emphasis on the consistency of the translation with generally accepted terminology in Montenegrin education. Language and terminology is understandable for all key actors, and terms used are adjusted to the national context, reflecting the specific educational terminology.

Preparation of the pilot implementation

- (i) Communication and cooperation with the SELFIE national team and MoESCS
- (i) Selection of pilot institutions; initial communication with the schools
- (i) Kick – off meeting: Establishing communication with pilot schools and providing support and training

Motivation and support measures

- (i) Coordination of the process supported by SELFIE national coordinator from MoESCS
- (i) Guidance, training during the kick-off meeting and online support provided
- (i) Microsoft Teams team created, phone and e-mail suport provided to SELFIE school coordinators during the piloting.

Implementation

Process

- 👍 Communication with MoESCS and pilot schools
- 👎 Lack of cooperation with some in-company trainers
- 💡 Better communication between schools and companies in the preparatory phase
- (i) 7 pilot schools have completed the excersise with at least one in company trainer participating

Content

- 👍 SELFIE content is carefully structured, comprehensive, and segmented into logically rounded areas.
- 👍 Distance-learning related questions are valuable addition for the tool that adds to its relevance for the users.
- 👎 Schools haven't added any customized open – text questions
- 👎 Students are not aware that up to 10 additional questions can be added to the questionnaire
- 💡 Students are expecting more options to reflect on everyday problems and real-life challenges in school
- 💡 Students wants possibility to add personalised comment to a closed-ended survey question and offer their suggestions for the solutions

Platform

- 👍 SELFIE WBL tool was proved to be informative, easy to use and with uder-friendly interface
- 👍 Support system built around SELFIE WBL is comprehensive and all stages in the application of the tool are well documented.
- 👎 Observation of the dynamics of filling in the questionnaire is available only to the coordinator. Some coordinators have not done regular checks.
- 👍 The SELFIE WBL report is well structured, informative, user friendly and functional to the end user.
- 👎 Only SELFIE coordinator has access to the detailed report, available inside the tool.

https://ec.europa.eu/education/schools-go-digital

Ecosystem measures

Montenegro has welcomed SELFIE WBL as a tool for self-reflection of digital technology usage at the school, companies, and at national level, and it has great potential for upscaling and deeper integration into the quality assurance system.

- SELFIE WBL should be further integrated into the Montenegrin education system by strengthening coordination and providing additional procedures and support to the schools and related companies.
- MoESCS should keep the coordinating role through its IT department. SELFIE national coordinator should also coordinate SELFIE WBL scale-up.
- Existing network of school coordinators should be maintained and further supported
- VET WBL Coordination committee should coordinate and monitoring SELFIE WBL. The SELFIE national coordinator should be involved in the work of this committee, as well as the Employers Association, which plays a significant role in the cooperation of schools with employers.
- Effective and proactive communication strategy should be developed by the coordination body to promote SELFIE and ensure its wide implementation. This should include various promotional activities and events at national level, in schools and online.
- SELFIE is already included in the Strategy of development of VET education in Montenegro for 2020-2024. Action plan for the implementation of the strategy needs to be upscaled to include SELFIE WBL
- SELFIE (WBL) should be formally recognised by MoESCS as a school self-evaluation tool and integrated into methodology.
- SELFIE national coordinator or/and coordination body should annually and coordinate the findings with the key national stakeholders
- should be analysed annually by the national coordination body to identify priority areas for interventions and communicate information with the national stakeholders.
- In addition to improving existing training programs and materials, additional training programs need to be developed, prioritizing in-company trainers.

Other

Montenegro has opted for the comprehensive application of SELFIE tool in general and vocational education.
During the SELFIE piloting conducted in May 2019 and in the second phase January 2020, SELFIE tool was introduced in all the primary and secondary schools in the country. Every school in Montenegro have SELFIE school coordinator appointed and trained by the MoESCS, and already have been used SELFIE tool at least once.

Overall evaluation and future directions

SELFIE is designed and created to enable quality self-reflection of schools regardless of the level of digital competences of respondents, thus allowing respondents to fully concentrate on the content of the questionnaire, and SELFIE school teams on the analysis of the results.
SELFIE ecosystem is truly user-friendly in all its segments.

Successful implementation of a SELFIE significantly depends on the choice of the appropriate timeframe to conduct the assessment, as well as the ability to allocate human resources to conduct the process, analyze the results, and plan for improvement. The WBL component adds to this the need to provide a functional communication between the school and the companies. Therefore, it would be useful to add a section into the selfie guide where schools would be instructed to carefully plan the time for implementation, as well as how to plan efficient utilization of available human resources for preparing the school for the SELFIE, as well as for the analysis of the results and planning of improvements in domain of digital technology.

Pilot outcomes are not representative of national education and training syytems in Montenegro. Participation of all pilot schools and companies were anonymous and on a voluntary basis.

Implications of COVID-19

Since SELFIE tool is completely online based, the modality of the school's work haven't affected participation in the piloting process. All the communication with schools and related companies were planned to be realized online.

Sudden personal changes in schools, due to absence of school coordinators or school leaders.

Closure of most schools in the very middle of piloting, due to the sharp increase in the number of covid-19 cases in the municipalities where the schools are located.

The Covid crisis has influenced the possibility of some school teams to devote themselves sufficiently to the realization of piloting. Nevertheless, most of the schools managed to allocate time and human resources needed to finish process as planned.

The covid-19 crisis has indirectly contributed to significantly better efficiency in the implementation of SELFIE WBL in schools and companies due to sudden breakthrough in the use of IT technology in schools.

Annex IV – Overview of SELFIE WBL results in Montenegro

The outcomes of the pilot are not representative of the national education and training systems. They do, however, provide useful insights for schools and companies participating in the pilot and, overall, for schools and companies providing similar WBL programmes and belonging to the specific economic sectors covered by the pilot.

1. Participation
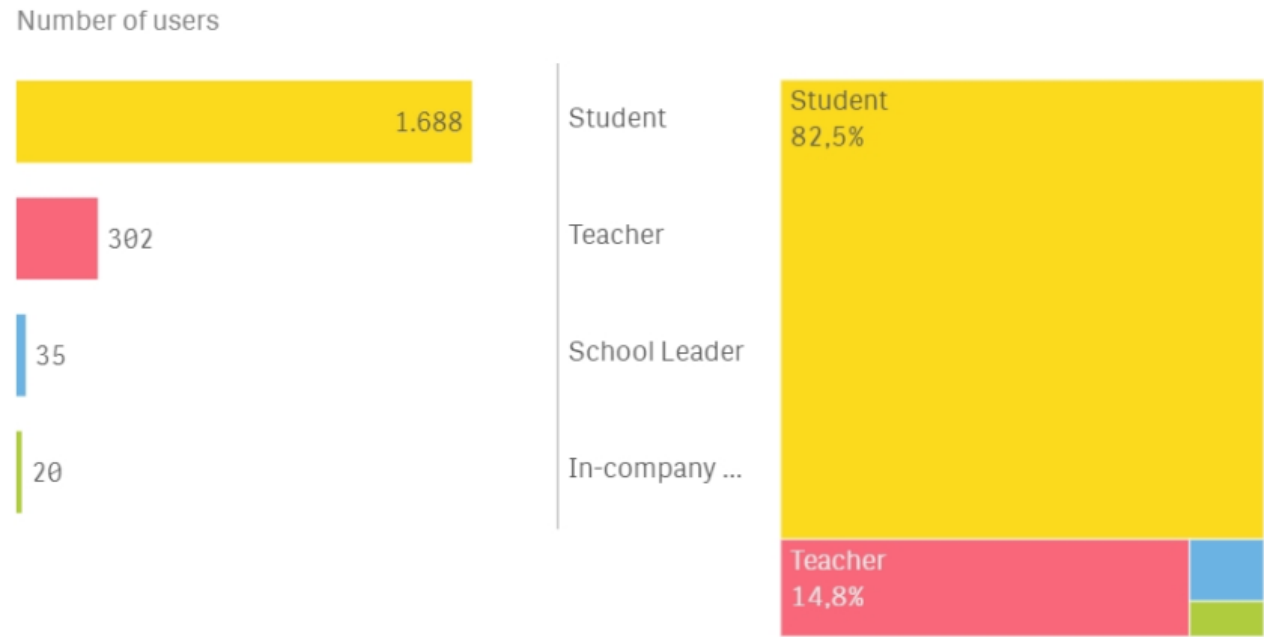
Number of users

By schools (distribution by categories):

Participation by school management
Number of users
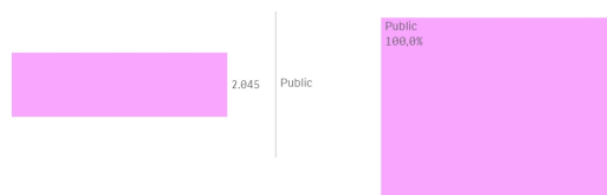
Participation by type of funding
Number of users
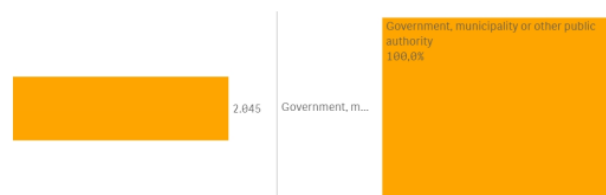
Participation by ICT coordinator
Number of users
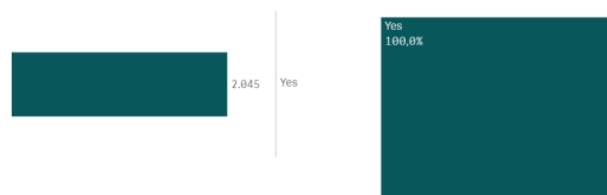
Participation by location
Number of users

Participation by disadvantaged homes
Number of users
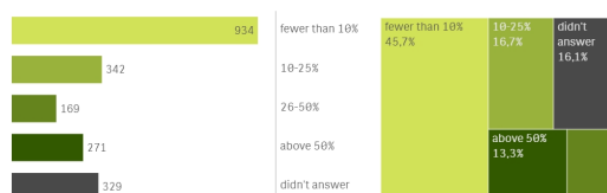
Participation by different language
Number of users
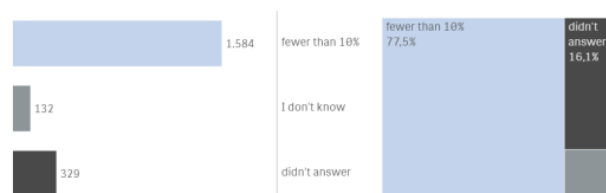
2. Main areas

Please note that the 'percentage of positive responses by area' refers to the share of responses giving a rating of 4 or 5 (on a scale of 1 to 5).

Overview by area

Percentage of positive responses by area and user profile

Pedagogy: Supports a...
- School Leader: 67,4%
- Teacher: 72,5%
- Student: 70,4%
- In-company Trainer: 66,1%

Continuing Profession...
- School Leader: 70,7%
- Teacher: 57,6%
- In-company Trainer: 63,2%

Student Digital Compe...
- School Leader: 66,2%
- Teacher: 65,1%
- Student: 55,2%
- In-company Trainer: 58,9%

Pedagogy: Implement...
- School Leader: 58,7%
- Teacher: 63,3%
- Student: 52,4%
- In-company Trainer: 75,5%

Collaboration and Net...
- School Leader: 48,3%
- Teacher: 45,4%
- Student: 58,2%
- In-company Trainer: 80,0%

Infrastructure and Equ...
- School Leader: 52,2%
- Teacher: 45,4%
- Student: 48,4%
- In-company Trainer: 70,6%

Leadership
- School Leader: 51,1%
- Teacher: 46,1%
- In-company Trainer: 60,0%

Assessment Practices
- School Leader: 47,6%
- Teacher: 51,1%
- Student: 46,0%
- In-company Trainer: 56,3%

0,0%   50,0%   100,0%

Overview by area

Average by area and user profile

Area	Profile	Value
Pedagogy: Supports and...	School Leader	3,9
	Teacher	4,02
	Student	4,02
	In-company Trainer	3,56
Continuing Professional ...	School Leader	3,94
	Teacher	3,66
	In-company Trainer	3,87
Student Digital Compete...	School Leader	3,68
	Teacher	3,82
	Student	3,56
	In-company Trainer	3,7
Pedagogy: Implementati...	School Leader	3,58
	Teacher	3,77
	Student	3,49
	In-company Trainer	3,91
Collaboration and Netw...	School Leader	3,45
	Teacher	3,39
	Student	3,64
	In-company Trainer	3,95
Infrastructure and Equip...	School Leader	3,37
	Teacher	3,34
	Student	3,33
	In-company Trainer	4,07
Assessment Practices	School Leader	3,36
	Teacher	3,47
	Student	3,32
	In-company Trainer	3,58
Leadership	School Leader	3,32
	Teacher	3,39
	In-company Trainer	3,45

3. Additional areas

What do your teachers think about the usefulness of the CPD activities in which they participated in the last year?

Participation

302

Percentage of positive responses

Activity	
Learning through collaboration	66,8%
Other in-house training	66,7%
Online professional learning	66,0%
Face-to-face professional lear...	64,0%
Accredited programmes	58,8%
Learning through professiona...	57,9%
In-house mentoring/coaching	50,9%
Study visits	45,1%

Percentage of each response option

- Not at all useful
- Not useful
- A little bit useful
- Useful
- Very useful

Learning through collaboration
Other in-house training
Online professional learning
Face-to-face professional learning
Accredited programmes
Learning through professional net...
In-house mentoring/coaching
Study visits

For what percentage of teaching time have your teachers used digital technologies in class in the past 3 months?

Participation

302

Percentage of positive responses
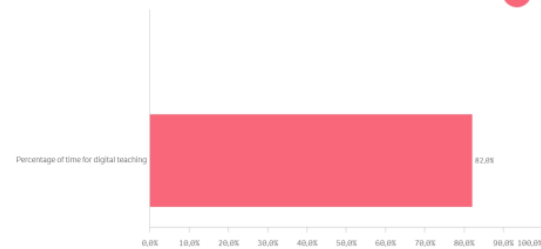
Teachers

Percentage of each response option

- 0-10%
- 11-25%
- 26-50%
- 51-75%
- 76-100%

Percentage of time for digital teaching	82,0%

Percentage of time for digital teaching
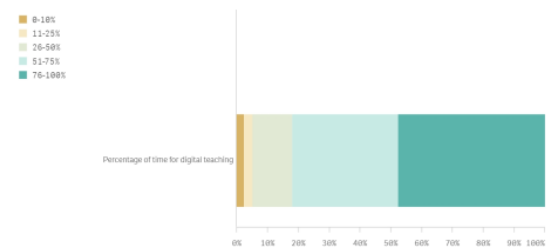
How confident do your teachers feel in using technology for the following tasks?

Participation

20
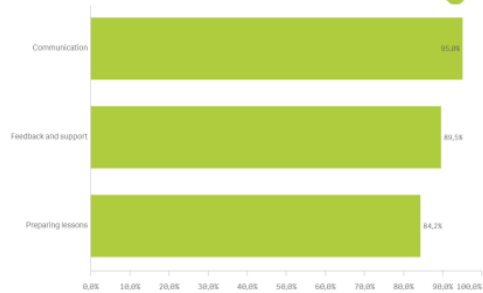
Percentage of positive responses

In-company trainers

Communication	95,0%
Feedback and support	89,5%
Preparing lessons	84,2%

Percentage of each response option

Legend:
- Not confident
- Confident
- Very confident
- A little bit confident

For what percentage of teaching time have your teachers used digital technologies in class in the past 3 months?

Participation

20

Percentage of positive responses

Percentage of time for digital teaching	45,0%

Percentage of each response option

Legend:
- 0-10%
- 11-25%
- 26-50%
- 51-75%
- 76-100%
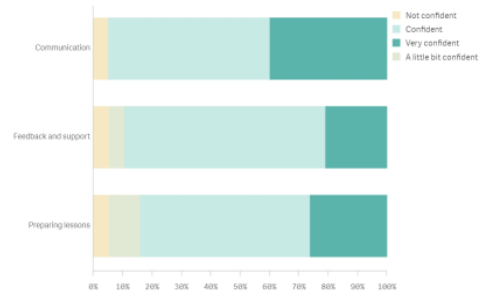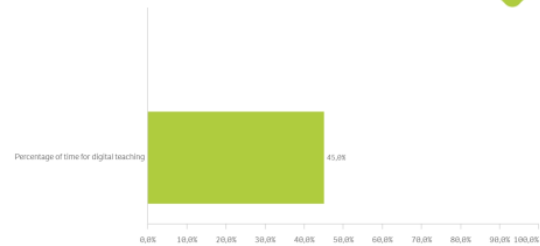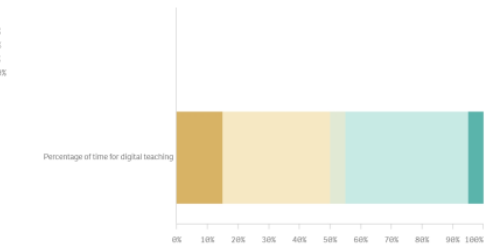
Which best describes the approach to using digital technologies for teaching and learning by your school leaders and teachers?

Participation

35

Percentage of positive responses

School leaders

Adoption of technology	54,5%

Percentage of each response option

Legend:
- I tend to use digital technologies after...
- I tend to use digital technologies at th...
- I tend to be an early adopter where I s...
- I am usually among the innovators wh...

Participation

302

Percentage of positive responses

Teachers

Adoption of technology	51,2%

Percentage of each response option

Legend:
- I tend to use digital technologies after...
- I tend to use digital technologies at th...
- I tend to be an early adopter where I s...
- I am usually among the innovators wh...

Participation

20

Percentage of positive responses

In-company trainers

Adoption of technology	70,6%

Percentage of each response option

Legend:
- I tend to use digital technologies after...
- I tend to use digital technologies at th...
- I tend to be an early adopter where I s...

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Is teaching and learning with digital technologies in your school negatively affected by the following factors?
Percentage of each response option by user profile

School leaders
Participation

35

Teachers
Participation

302

Factor		Percentage
Lack of funding	School Leader	25,8%
	Teacher	21,0%
Insufficient digital equipment	School Leader	27,0%
	Teacher	20,8%
Unreliable or slow internet connection	School Leader	10,1%
	Teacher	14,1%
School space restrictions	School Leader	10,1%
	Teacher	11,0%
Lack of time for teachers	School Leader	3,4%
	Teacher	8,6%
Low digital competence of teachers	School Leader	9,0%
	Teacher	7,9%
Low digital competence of students	School Leader	5,6%
	Teacher	8,1%
Limited or no technical support	School Leader	6,7%
	Teacher	6,4%
Other	School Leader	2,2%
	Teacher	2,0%

0,0% 1,0% 2,0% 3,0% 4,0% 5,0% 6,0% 7,0% 8,0% 9,0% 10,0% 11,0% 12,0% 13,0% 14,0% 15,0% 16,0% 17,0% 18,0% 19,0% 20,0% 21,0% 22,0% 23,0% 24,0% 25,0% 27,0%

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Is teaching and learning with digital technologies in your school negatively affected by the following factors?

Percentage of each response option

Factor	Percentage
Lack of funding	21,5%
Insufficient digital equipment	21,4%
Unreliable or slow internet con...	13,8%
School space restrictions	10,9%
Lack of time for teachers	8,7%
Low digital competence of tea...	8,8%
Low digital competence of stu...	7,9%
Limited or no technical support	6,4%
Other	2,1%

Percentage of each response option by user profile

School leaders — Participation **35**

Factor	Percentage
Insufficient digital equipment	27,0%
Lack of funding	25,8%
School space restrictions	10,1%
Unreliable or slow internet connection	10,1%
Low digital competence of teachers	9,0%
Limited or no technical support	6,7%
Low digital competence of students	5,6%
Lack of time for teachers	1,4%
Other	2,2%

Teachers — Participation **302**

Factor	Percentage
Lack of funding	21,0%
Insufficient digital equipment	20,8%
Unreliable or slow internet connection	14,1%
School space restrictions	11,0%
Lack of time for teachers	8,6%
Low digital competence of students	8,1%
Low digital competence of teachers	7,9%
Limited or no technical support	6,4%
Other	2,0%

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Is remote training with digital technologies negatively affected by the following factors?
Percentage of each response option by user profile

Limited student access to digital devices	29,4%
Other	17,6%
Difficulties in supporting families in helping students with remote learning	11,8%
Low digital competence of families	11,8%
Trainers lacking time to develop material for remote training	8,8%
Trainers lacking time to provide feedback to students	8,8%
Difficulties in engaging students	5,9%
Limited student access to reliable internet connection	5,9%

0,0% 1,0% 2,0% 3,0% 4,0% 5,0% 6,0% 7,0% 8,0% 9,0% 10,0% 11,0% 12,0% 13,0% 14,0% 15,0% 16,0% 17,0% 18,0% 19,0% 20,0% 21,0% 22,0% 23,0% 24,0% 25,0% 26,0% 27,0% 28,0% 29,0% 30,0%

Is remote teaching and learning with digital technologies, negatively affected by the following factors?
Percentage of each response option by user profile

Factor	Profile	Value
Limited student access to digital devices	School Leader	22,5%
	Teacher	24,1%
Limited student access to reliable internet connection	School Leader	18,8%
	Teacher	21,2%
Low digital competence of families	School Leader	27,5%
	Teacher	16,3%
Difficulties in engaging students	School Leader	8,8%
	Teacher	11,0%
Teachers lacking time to develop material for remote teaching	School Leader	7,5%
	Teacher	10,0%
Difficulties in supporting families /and or guardians in helping students wit...	School Leader	7,5%
	Teacher	8,6%
Teachers lacking time to provide feedback to students	School Leader	6,3%
	Teacher	5,2%
Other	School Leader	1,3%
	Teacher	3,6%

Participation

35

Teachers
Participation

302

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Is remote teaching and learning with digital technologies, negatively affected by the following factors?

Percentage of each response option

Limited student access to digit...	24,8%
Limited student access to relia...	20,9%
Low digital competence of fam...	17,3%
Difficulties in engaging students	10,8%
Teachers lacking time to devel...	9,8%
Difficulties in supporting famili...	8,5%
Teachers lacking time to provid...	5,3%
Other	3,4%

School leaders Participation

35

Low digital competence of families	27,5%
Limited student access to digital devices	22,5%
Limited student access to reliable intern...	18,8%
Difficulties in engaging students	8,8%
Difficulties in supporting families /and o...	7,5%
Teachers lacking time to develop materi...	7,5%
Teachers lacking time to provide feedba...	6,3%
Other	1,3%

Teachers Participation

302

Limited student access to digital devices	24,1%
Limited student access to reliable intern...	21,2%
Low digital competence of families	16,3%
Difficulties in engaging students	11,0%
Teachers lacking time to develop materi...	10,0%
Difficulties in supporting families /and o...	8,6%
Teachers lacking time to provide feedba...	5,2%
Other	3,6%

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Is remote training with digital technologies negatively affected by the following factors?
Percentage of each response option by user profile

In-company trainers

Participation

20

Factor	Percentage
Limited student access to digital devices	29,4%
Other	17,6%
Difficulties in supporting families in helping students with remote learning	11,8%
Low digital competence of families	11,8%
Trainers lacking time to develop material for remote training	8,8%
Trainers lacking time to provide feedback to students	8,8%
Difficulties in engaging students	5,9%
Limited student access to reliable internet connection	5,9%

Is remote teaching and learning with digital technologies, positively affected by the following factors?
Percentage of each response option by user profile

School leaders
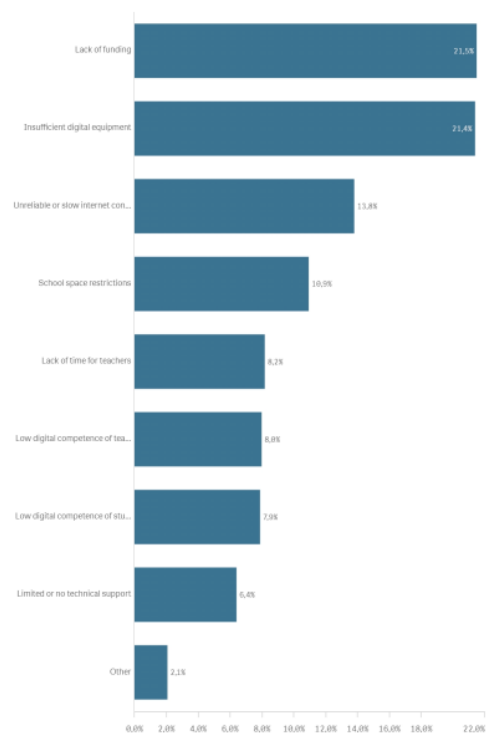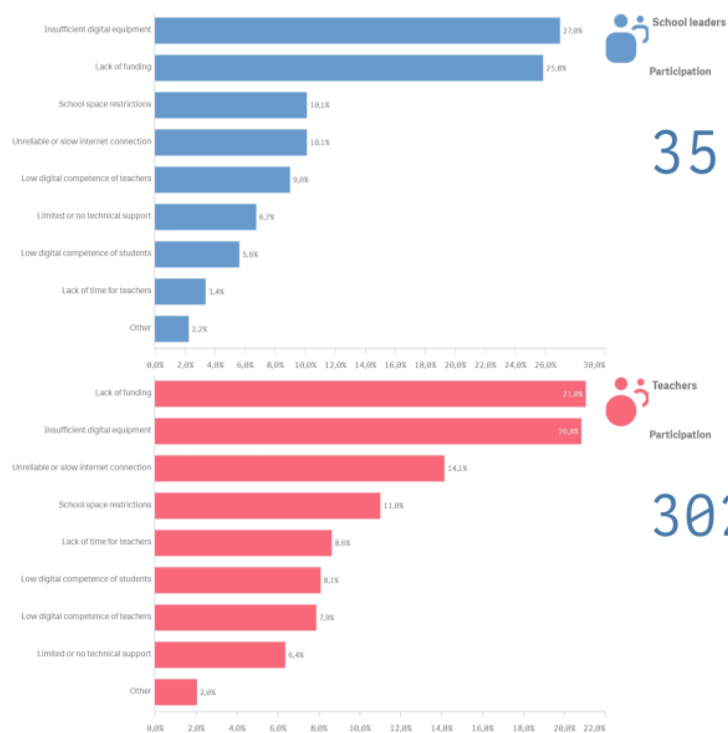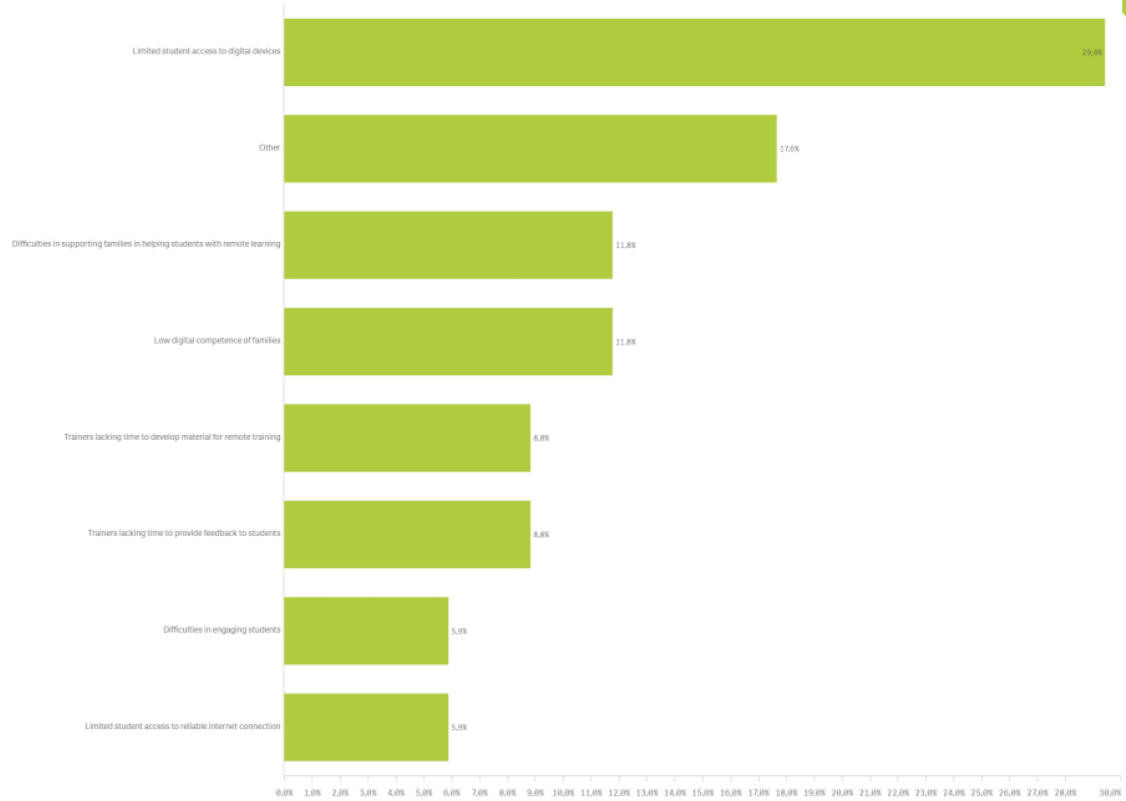
Participation

35

Teachers

Participation

302

Factor	School Leader	Teacher
Teachers participation in professional development programs	16,4%	19,2%
Teachers collaborate within the school on digital technology use and creati...	18,9%	18,8%
The school has experience in the use of Virtual Learning Environments	13,1%	12,9%
The school has a well-organised, regular communication with families and/...	12,1%	11,2%
The school has access to well organised online digital resources	8,2%	10,1%
The school collaborates with other schools and organisations	9,8%	7,4%
Teachers participation in professional networks	6,6%	7,5%
The school has a digital strategy	5,7%	5,2%
The school has "Bring Your Own Device" policy	3,3%	4,5%
Other	5,7%	3,1%

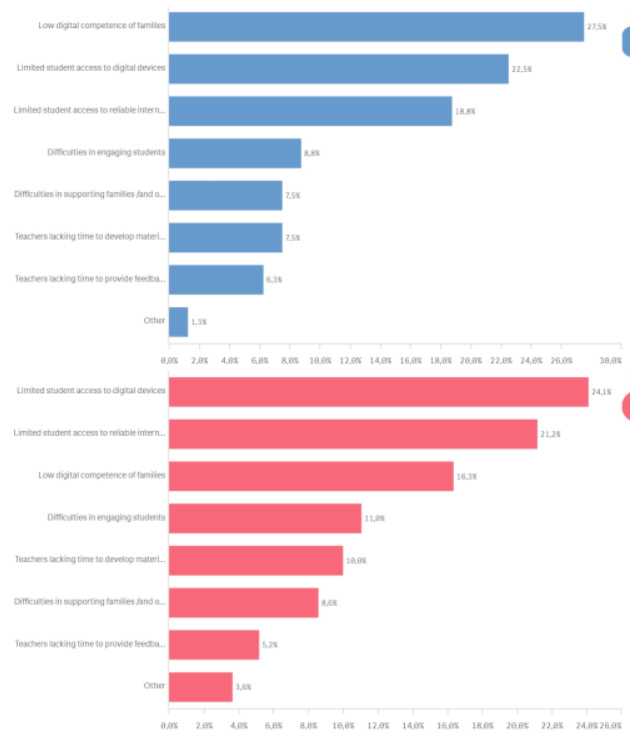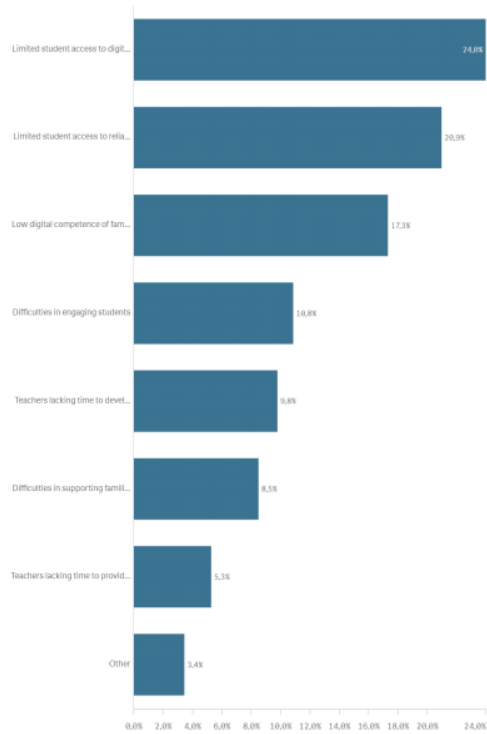**ETF** Working together Learning for life

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Is remote teaching and learning with digital technologies, positively affected by the following factors?

Percentage of each response option

Response option	%
Teachers participation in profe...	18,9%
Teachers collaborate within th...	18,8%
The school has experience in t...	12,9%
The school has a well-organise...	11,3%
The school has access to well ...	10,1%
The school collaborates with o...	7,0%
Teachers participation in profe...	7,4%
The school has a digital strategy	5,3%
The school has "Bring Your Ow...	4,3%
Other	3,4%

Percentage of each response option by user profile

School leaders
Participation
35

Response option	%
Teachers collaborate within the school ...	18,9%
Teachers participation in professional d...	16,4%
The school has experience in the use of ...	13,1%
The school has a well-organised, regular...	12,3%
The school collaborates with other scho...	9,8%
The school has access to well organised...	8,2%
Teachers participation in professional n...	6,6%
Other	5,7%
The school has a digital strategy	5,7%
The school has "Bring Your Own Device"...	3,3%

Teachers
Participation
302

Response option	%
Teachers participation in professional d...	19,2%
Teachers collaborate within the school ...	18,8%
The school has experience in the use of ...	12,9%
The school has a well-organised, regular...	11,2%
The school has access to well organised...	10,3%
Teachers participation in professional n...	7,5%
The school collaborates with other scho...	7,4%
The school has a digital strategy	5,2%
The school has "Bring Your Own Device"...	4,5%
Other	3,1%

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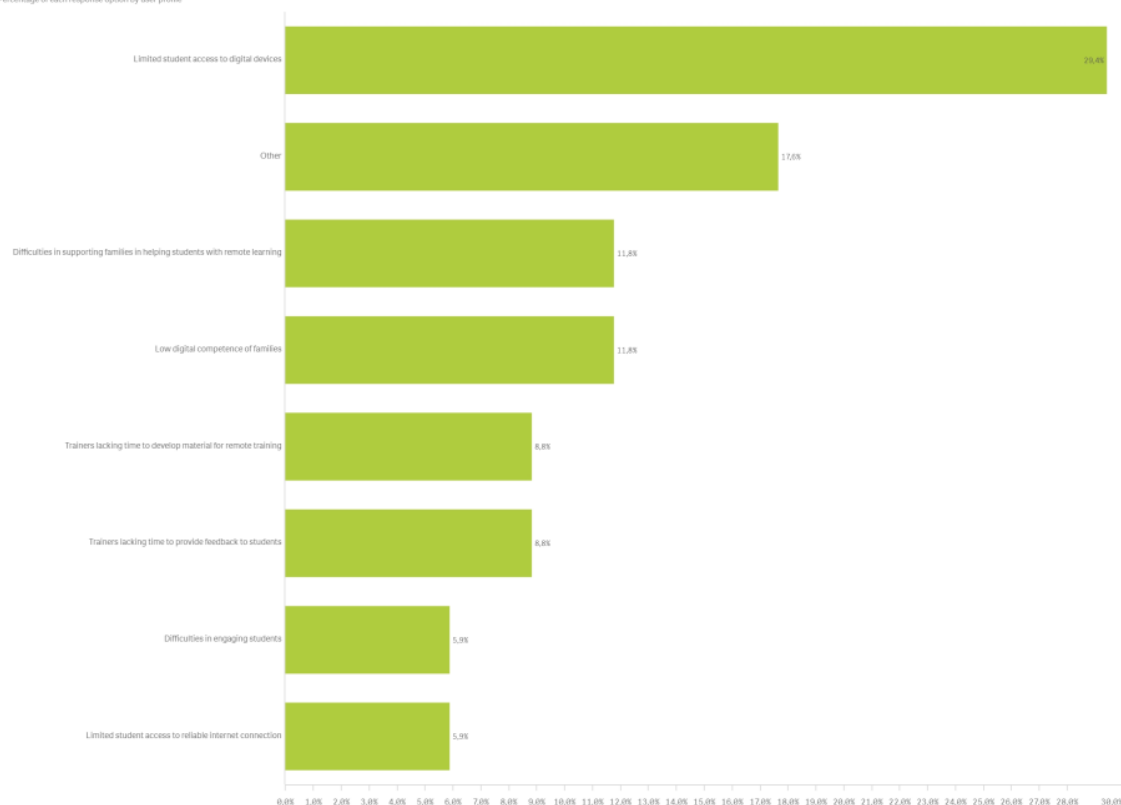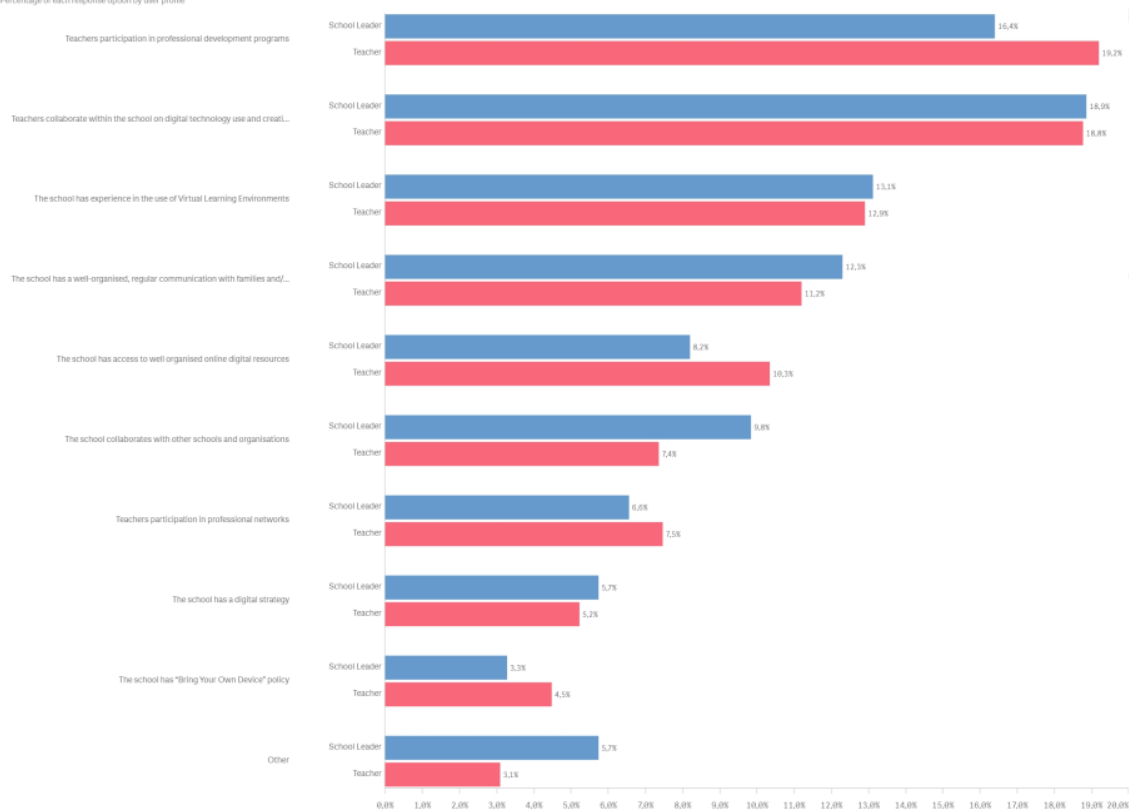
Is remote training with digital technologies positively affected by the following factors?
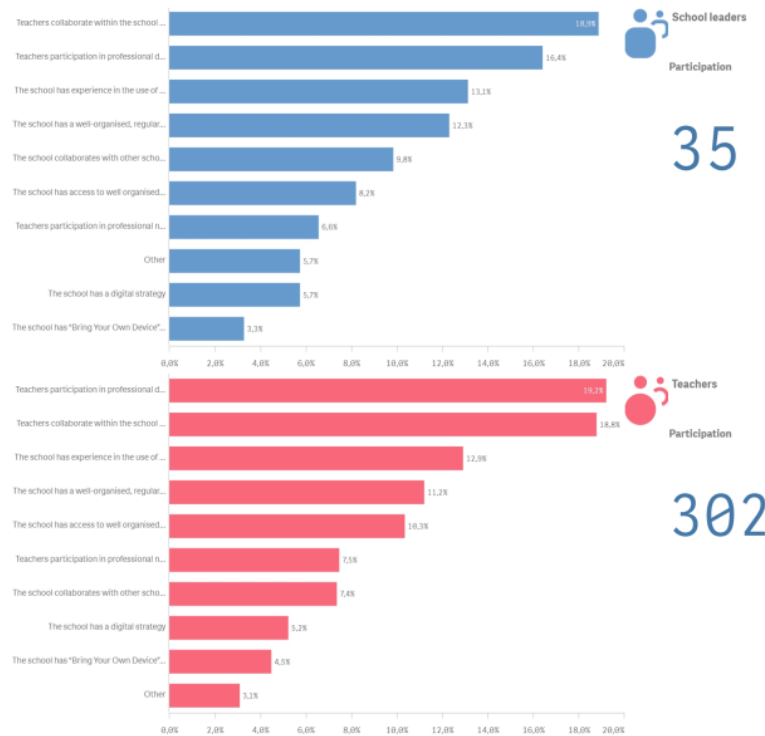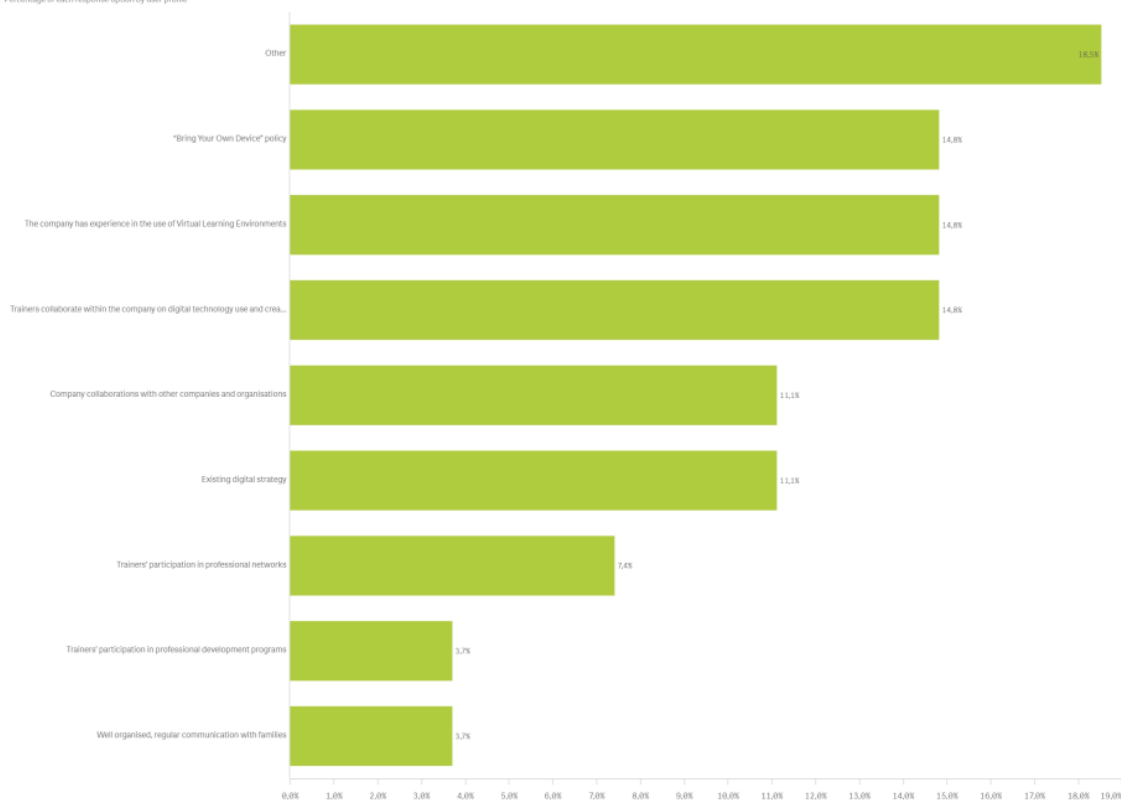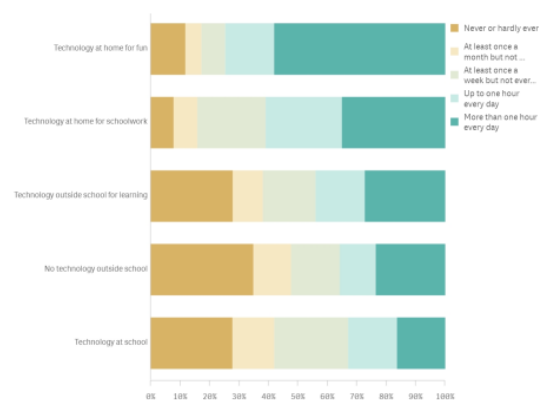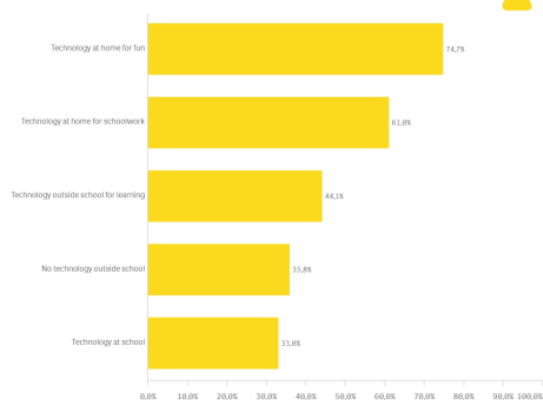Percentage of each response option by user profile

In-company trainers

Participation

20

Other	18,5%
"Bring Your Own Device" policy	14,8%
The company has experience in the use of Virtual Learning Environments	14,8%
Trainers collaborate within the company on digital technology use and crea...	14,8%
Company collaborations with other companies and organisations	11,1%
Existing digital strategy	11,1%
Trainers' participation in professional networks	7,4%
Trainers' participation in professional development programs	3,7%
Well organised, regular communication with families	3,7%

0,0% 1,0% 2,0% 3,0% 4,0% 5,0% 6,0% 7,0% 8,0% 9,0% 10,0% 11,0% 12,0% 13,0% 14,0% 15,0% 16,0% 17,0% 18,0% 19,0%

Participation

Percentage of positive responses

Students

Percentage of each response option

1.688

Technology at home for fun	74,7%
Technology at home for schoolwork	61,0%
Technology outside school for learning	44,1%
No technology outside school	35,8%
Technology at school	33,8%

0,0% 10,0% 20,0% 30,0% 40,0% 50,0% 60,0% 70,0% 80,0% 90,0% 100,0%

Technology at home for fun
Technology at home for schoolwork
Technology outside school for learning
No technology outside school
Technology at school

Never or hardly ever
At least once a month but not ...
At least once a week but not ever...
Up to one hour every day
More than one hour every day

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

ETF
★ ★ ★
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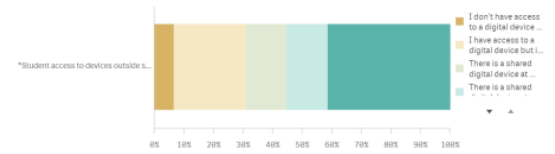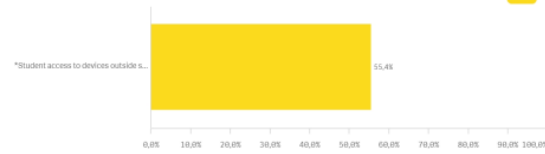Are you able to access digital devices (computer, laptop, tablet, mobile phone) at home?
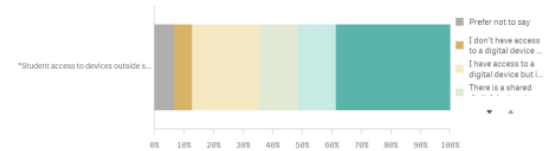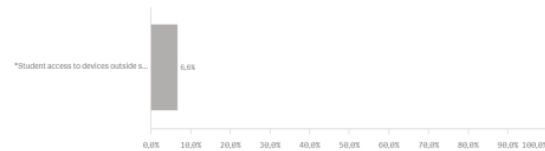
Participation

1.688

Percentage of positive responses

Students

*Student access to devices outside s... — 55,4%

0,0% 10,0% 20,0% 30,0% 40,0% 50,0% 60,0% 70,0% 80,0% 90,0% 100,0%

Percentage of each response option

*Student access to devices outside s...

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

- I don't have access to a digital device ...
- I have access to a digital device but i...
- There is a shared digital device at ...
- There is a shared

Percentage of "Prefer not to say" responses
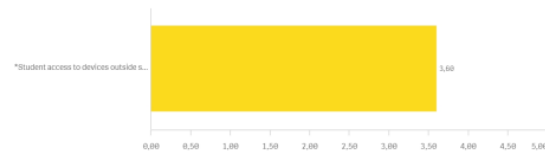
*Student access to devices outside s... — 6,6%

0,0% 10,0% 20,0% 30,0% 40,0% 50,0% 60,0% 70,0% 80,0% 90,0% 100,0%

*Student access to devices outside s...

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

- Prefer not to say
- I don't have access to a digital device ...
- I have access to a digital device but i...
- There is a shared

Average

*Student access to devices outside s... — 3,60
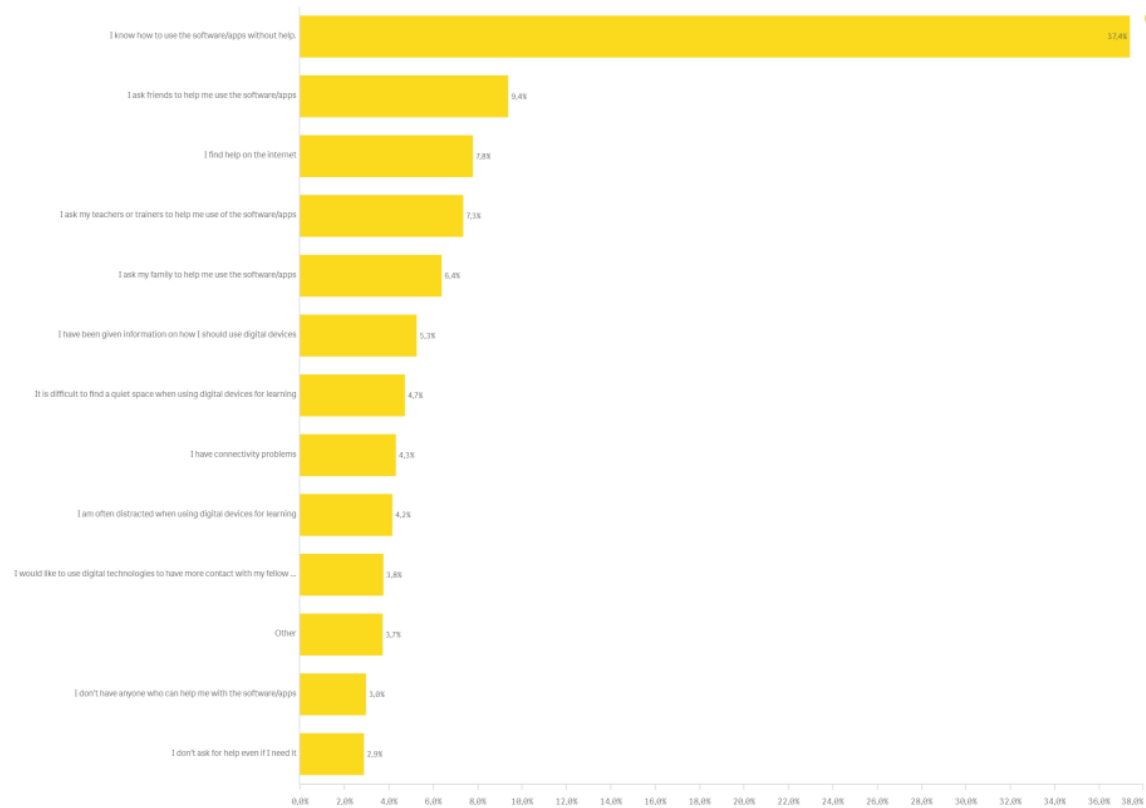
0,00 0,50 1,00 1,50 2,00 2,50 3,00 3,50 4,00 4,50 5,00

Is remote training with digital technologies positively affected by the following factors?
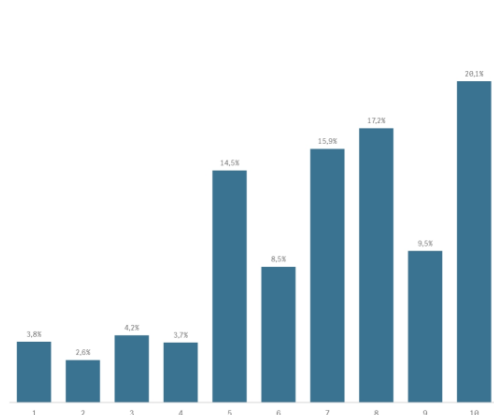Percentage of each response option by user profile

Students

Participation

1.688

Factor	Percentage
I know how to use the software/apps without help.	37,4%
I ask friends to help me use the software/apps	9,4%
I find help on the internet	7,8%
I ask my teachers or trainers to help me use of the software/apps	7,1%
I ask my family to help me use the software/apps	6,4%
I have been given information on how I should use digital devices	5,3%
It is difficult to find a quiet space when using digital devices for learning	4,7%
I have connectivity problems	4,3%
I am often distracted when using digital devices for learning	4,2%
I would like to use digital technologies to have more contact with my fellow ...	3,8%
Other	3,7%
I don't have anyone who can help me with the software/apps	3,0%
I don't ask for help even if I need it	2,9%

0,0% 2,0% 4,0% 6,0% 8,0% 10,0% 12,0% 14,0% 16,0% 18,0% 20,0% 22,0% 24,0% 26,0% 28,0% 30,0% 32,0% 34,0% 36,0% 38,0%

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5. Satisfaction

Percentage frequency distribution
Percentage of each score over the total

Participation
Number of users

2.004
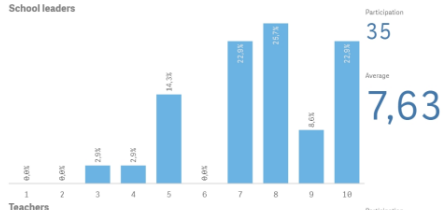
Average
Average score

6,95

Number of countries

1

Number of schools and education levels

12

Percentage frequency distribution by user profile
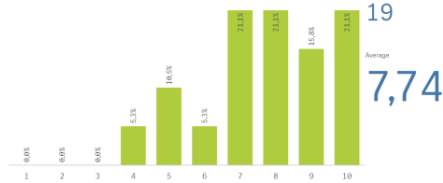
School leaders

Participation
35

Average
7,63

Teachers

Participation
297

Average
7,15

Students

Participation
1.653

Average
6,89

In-company trainers

Participation
19

Average
7,74
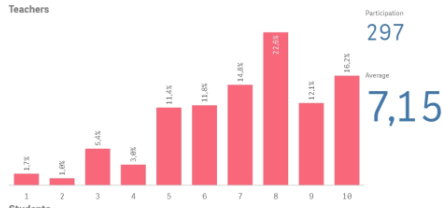
Percentage frequency distribution by education level

ISCED 1 - PE

Participation
0

Average
—

ISCED 2 - LSGE

Participation
0

Average
—

ISCED 3 - USGE

Participation
0

Average
—

ISCED 3 - US - VET

Participation
2.004

Average
6,95

ISCED 4 - PSNTE

Participation
0

Average
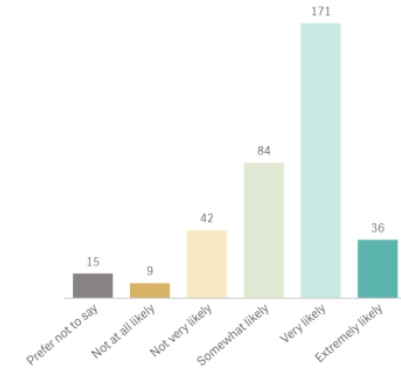**—**

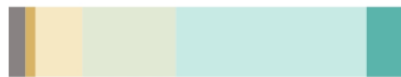ETF Working together Learning for life
European Training Foundation
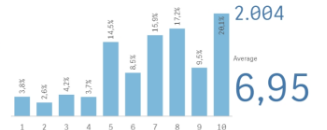
Frequency distribution
Frequency distribution

Percentage frequency distribution
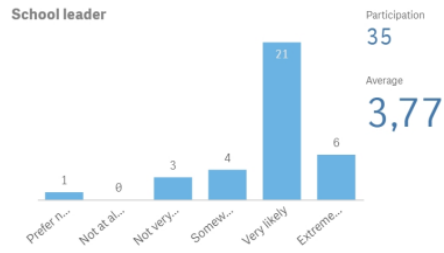

Participation
Number of users

357

Average
Average score

3,39

Number of countries

1

Number of schools and educ…

12

School leader

Participation
35

Average
3,77

Teacher
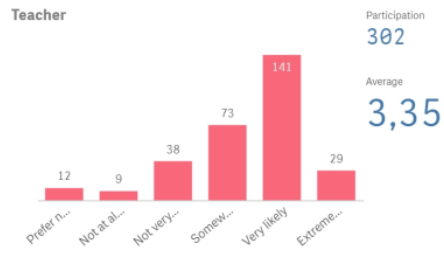
Participation
302

Average
3,35

In-company trainers

Participation
20

Average
3,20

ISCED 1 - PE

Participation
0

Average
–

0

ISCED 2 - LSGE

Participation
0

Average
–

0

ISCED 3 - USGE

Participation
0

Average
–

0

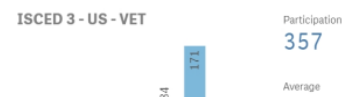**ISCED 3 - US - VET**

Participation
357

Average
3,39

ISCED 4 - PSNTE

Participation
0

Average
–

0