



**virtual Work-Based Learning**  
to simulate real experience  
in VET digital training

A decorative graphic consisting of three parallel diagonal lines. The top line is white, the middle line is red, and the bottom line is white. They are set against a red background and extend from the left edge towards the right.

## **Guide for VET teachers to virtual WBL**



**virtual Work-Based Learning**  
to simulate real experience  
in VET digital training



Guide for VET teachers to virtual WBL

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Co-funded by the  
Erasmus+ Programme  
of the European Union



2020-1-PT01-KA202-078845



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# Introduction

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The European Council's recommendation of 24 November 2020 on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience that high quality and innovative vocational education and training systems provide people with skills for work, personal development and citizenship, which help them to adapt to and deliver on the twin digital and green transitions, to cope with emergency situations and economic shocks, while also supporting economic growth and social cohesion. Thereby providing them with skills that help them get or create jobs in demand on the labour market.

The team implementing the European project 2020-1-PT01-KA202-078845 vWBL Virtual Work-Based Learning to simulate genuine experience in VET digital training, as part of the Erasmus+ program, has conducted an extended survey to identify new needs and issues in VET digital training, involving 90 VET teachers and experts selected in Portugal, Estonia, Italy, Bulgaria, Cyprus, and Poland. The aim of the survey was to investigate the potential changes of the economic and social priorities and the related needs and expectations in the vocational education and training in the post-pandemic situation.

On the basis of the project team experience and on the results of the survey, this Guide for VET teachers for virtual work-based learning (vWBL) was produced under the coordination of Kuressaare Regional Training Centre (EE) and in cooperation of all partner organisations.

The Guide presents **statements, standards and criteria, defining aspects that will support VET teachers/trainers in the design of virtual Work-Based Learning and use of the proposed training**, such as:

- planning the logistics aspects of the vWBL,
- defining objectives, content, learning strategies and evaluation system,
- creating the learning contents that will jointly contribute to simulating practice,
- planning and management tasks and assessments, consider availability, accessibility and usability of learning management system,
- understanding and adopting motivational strategies to encourage the VET learners to practice the virtual WBL.

The quantitative/qualitative questionnaire was answered by highly experienced professional vocational teachers and trainers who apply modern teaching competences.

**Each statement, standard and recommendation proposed in this Guide is based on this consultation of experienced VET professionals in the European project countries Portugal, Estonia, Italy, Bulgaria, Cyprus, and Poland.**

# 1. Survey of VET teachers/ trainers/experts 2021

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## STATEMENT. Relevance of the consultation of experts

The team implementing the European project 2020-1-PT01-KA202-078845 vWBL / Virtual Work-Based Learning to simulate genuine experience in VET digital training, as part of the Erasmus+ program, conducted an extended survey at the start of the activities to identify new needs and issues in VET digital training, involving VET teachers and experts in Portugal, Estonia, Italy, Bulgaria, Cyprus, and Poland.

15 VET experts were selected from each country to complete the on-line survey. The questionnaire (Annex 2) was provided in the same format for every respondent in English in Google Forms via project' partners to ensure reliability and validity of the survey, with responses collected over two months from January to March 2021, from all project countries.

### **The objectives of the survey:**

- A. to collect the VET teachers' needs and expectations considered in the project's further activities
- B. to investigate the potential changes of the economic and social priorities and the related needs/expectations in VET training in the post-pandemic situation
- C. to collect data for Output 1: Guide for VET teachers to virtual WBL
- D. to define how the vWBL professional course on virtual Work-Based Learning should keep VET teachers/trainers' needs in consideration
- E. to define statements, standards and recommendations based on the updated inputs from the consulted experts

### **The questionnaire had six main topics:**

- 1. Personal/professional information
- 2. General information about virtual work-based learning (WBL) during the pandemic 2020/21
- 3. Learning/teaching activities and tasks in virtual work-based learning during the pandemic 2020/21
- 4. General information about technology usage for teaching during the pandemic 2020/21
- 5. Management and teachers' collaboration during the pandemic
- 6. Experience and results of teaching and learning in virtual work-based learning (WBL) during the pandemic 2020/21

All partners contributed to collecting the best practices of virtual WBL presented in Annex of the Guide. Best practice is useful, suitable and relevant to the target group of VET teachers, with special regard to the production techniques and the pedagogic aspect of virtual WBL.

The questionnaire opened for all partners on 29.01.2021. The questionnaire in English needed additional translations into native languages to collect more relevant opinions of the VET teachers/trainers.

The questionnaire was closed 26.03.2021 with responses from all six partner countries.

The data collecting period in the beginning of 2021 was not post pandemic as expected during the design of the project at proposal stage, but it was still in the middle of coronavirus wave and worldwide pandemic. However, the **experts' feedback was of most relevance on the achieved greater awareness on digital learning acquired by the VET teachers during the online learning forced/being forced by the pandemic.**

## 1.1 VET teachers/trainers/experts in survey

Valid answers from respondents from six countries collected to the survey in February and March 2021. Respondents include representatives from many fields: technical disciplines, tourism and catering, information and communication technologies, business administration and marketing, beauty service, graphic design, youth workers, adult educators, vocational education providers, etc.

According to the European Qualification Framework (EQF), the highest number (34) of respondents is teaching on EQF level 4, which is also the most common level in vocational education and training. Among the respondents to the survey there were teachers of all other levels also: level 2, level 3, level 5, level 6, level 7 and level 8. Some respondents had not indicated the level they were teaching, while some other are teaching on several levels.

Data from the teaching experience (see Table 1 and Figure 1) show that these are experienced vocational training professionals, most of whom have worked in vocational education for more than 6 years.

### *How long have you been teaching/training in VET?*

|          | Less than a year | 1 – 5 years | 6 – 10 years | More than 10 years |
|----------|------------------|-------------|--------------|--------------------|
| Bulgaria | 14,3%            | 50,0%       | 14,3%        | 21,4%              |
| Cyprus   | 8,3%             | 41,7%       | 16,7%        | 33,3%              |
| Estonia  | 0,0%             | 20,0%       | 6,7%         | 73,3%              |
| Italy    | 0,0%             | 46,7%       | 26,7%        | 26,7%              |
| Poland   | 6,3%             | 31,3%       | 6,3%         | 56,3%              |
| Portugal | 0,0%             | 25,0%       | 6,3%         | 68,8%              |

Table 1. Experience of respondents in teaching/training in VET



### How long have you been teaching/training in VET?

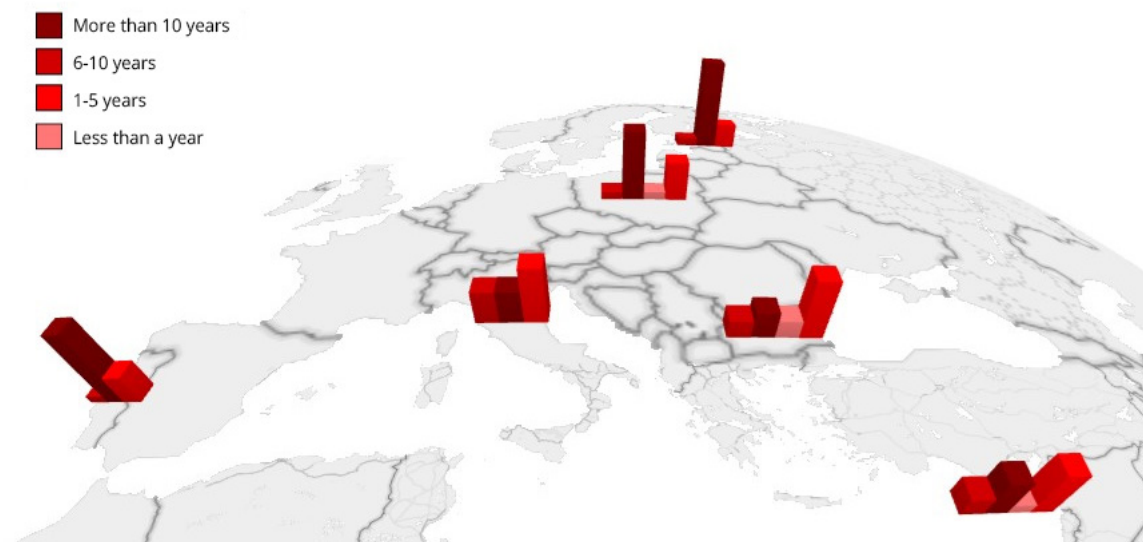


Figure 1. Experience of respondents in VET teaching/training

Respondents' professional qualification ("What kind of professional qualification do you have?") is a master's degree, which has been acquired by 64.8% of respondents, 12.5% of respondents have a bachelor's degree and the remaining respondents have a doctoral degree or other education, including vocational education. Of the forms of work-based learning that respondents practice, the most are on the job training, but also apprenticeship, further study trips, student companies, job shadowing. In addition, practical vocational training in school and project-based learning were noted. The experience of survey respondents in distance learning is predominantly up to a year (45.5%) or between 1 and 5 years (45.5%). Only a few respondents (7) have a longer experience in distance learning, four of whom have more than 10 years. Thus, it can be concluded that the pandemic brought distance learning for almost all teachers as it was teaching and work-based learning. 91% of respondents did not have previous experience in distance learning. Differences between the first (up to one year) and the second (1-5 years) categories (see Table 2) can be seen in the comparison of countries.

### How long experience do you have in distance teaching and learning?

|          | Less than a year | 1 – 5 years | 6 – 10 years | More than 10 years |
|----------|------------------|-------------|--------------|--------------------|
| Bulgaria | 42,9%            | 57,1%       | 0,0%         | 0,0%               |
| Cyprus   | 8,3%             | 83,3%       | 8,3%         | 0,0%               |
| Estonia  | 40,0%            | 53,3%       | 0,0%         | 6,7%               |
| Italy    | 46,7%            | 40,0%       | 13,3%        | 0,0%               |
| Poland   | 46,7%            | 33,3%       | 0,0%         | 20,0%              |
| Portugal | 81,3%            | 18,8%       | 0,0%         | 0,0%               |

Table 2. Experience in distance teaching/training in the project countries

Portugal has the highest level of beginners in distance learning (81.3% up to 1 year) and Cyprus with the least (8.3% up to 1 year) among the vocational teachers who responded. A fifth (20.0%) of Polish vocational teachers have been using distance learning for more than 10 years.

## 1.2 Teachers/trainers' professional competences

### STATEMENT. Teachers prefer individual work, teamwork and lecturing

Teachers were asked about their preferences in using teaching methods, knowledge and skills in the use of digital tools and self-evaluation in a pedagogical capacity.

Preferences in using learning methods was assessed on a scale regularly, occasionally, rarely and never.

*Which of the following social forms do you use during your teaching?*

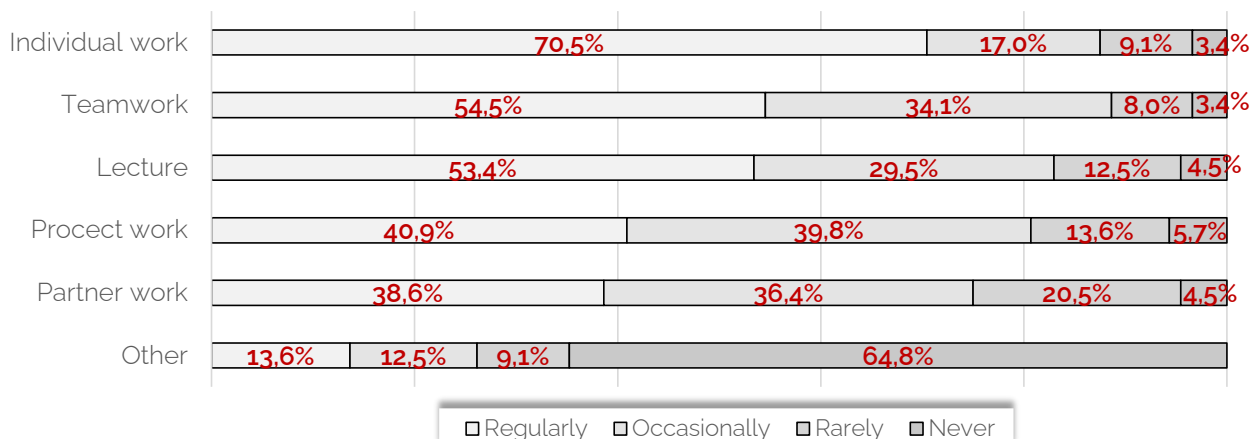


Figure 2. Social forms used in digital teaching

According to the survey conducted (Figure 2), the most common method of learning is the **individual work of students**, which is regularly used by 70.5% of all respondents and another 17% occasionally. In national terms, individual work as a learning method is most common in Poland, where it is regularly used by as many as 93.8% of respondents. By contrast, only 35.7% of respondents use it regularly in Bulgaria. However, 20% of Italian teachers never use individual work as a method of learning.

The next most used is the **teamwork** method, which is regularly used by 54.5% and occasionally by an additional 34.1% of respondents. According to the survey, the teamwork learning method is the most common for teachers in Cyprus (66.7%), Bulgaria (64.5%) and Italy (60.0%). Less is teamwork used in Poland (regularly 50%) and Portugal (37.5%).

Quite a lot of **lectures** are also used, most in Italy (80.0% of respondents regularly) and least in Portugal (only 25% of respondents regularly). At the same time, 21.4% of Bulgarian teachers replied that they would never use the lecture as a teaching method.

**Project work and partner work have** responded to teaching methods that are less common among teachers than the above, but are still widely used, taking into account both regular and occasional users.

In addition, case studies, study visits, brainstorming, educational games, surveys, discussions, inverted classrooms, business simulations were mentioned as other teaching methods used.

The largely prevailing preference for individual work, even for social involvement purpose, underlines that teachers assign **a high value to the learners' individual level of the experience.**

## STATEMENT. Teachers evaluate to have good digital skills

Knowledge and skills in digital tools and technology were assessed by responding vocational teachers on a scale good, acceptable, poor, no knowledge & skills.

*Please state your knowledge and skills in the following technologies and tools*

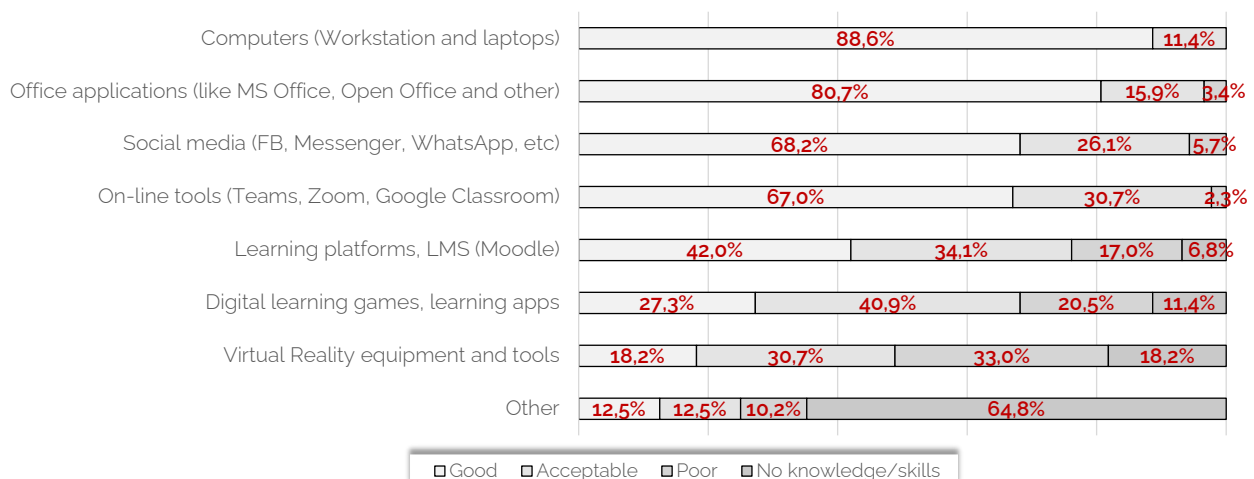


Figure 3. Teachers' knowledge and skills in digital technologies

Results show (Figure 3) that everyone has the ability to use computers, 88.6% of respondents rate it as good and 11.4% acceptable. The use of office software is also very high (80.7% good, 11.9% acceptable). Teachers also consider that they are coping very well with the use of social media (68.2% good, 26.1% acceptable) and by widely used on-line tools such as MS Teams, Google, Zoom (67.0% good, 30.7% acceptable). When using learning platforms (e.g. Moodle), they are judged to be more modest (42.0% good and 34.1% acceptable). Even more uncertain is the use of learning games (27.3% good, 40.9% acceptable) and virtual reality tools (18.2% good, 30.7% acceptable). For the latter, those who do not have the knowledge and skills to use them are also the most (18.2% for VR tools and 11.4% for learning games). Under "Other", noted additionally music, video-audio tools, GPS, creating original educational materials, creating/processing computer graphics, computer programming.

The pedagogical skills and capabilities (Fig. 4) were assessed by respondents on a scale that was fully apply, somewhat applies, applies to a lesser extent, and does not apply at all.

Please state the following about yourself as a teacher/trainer

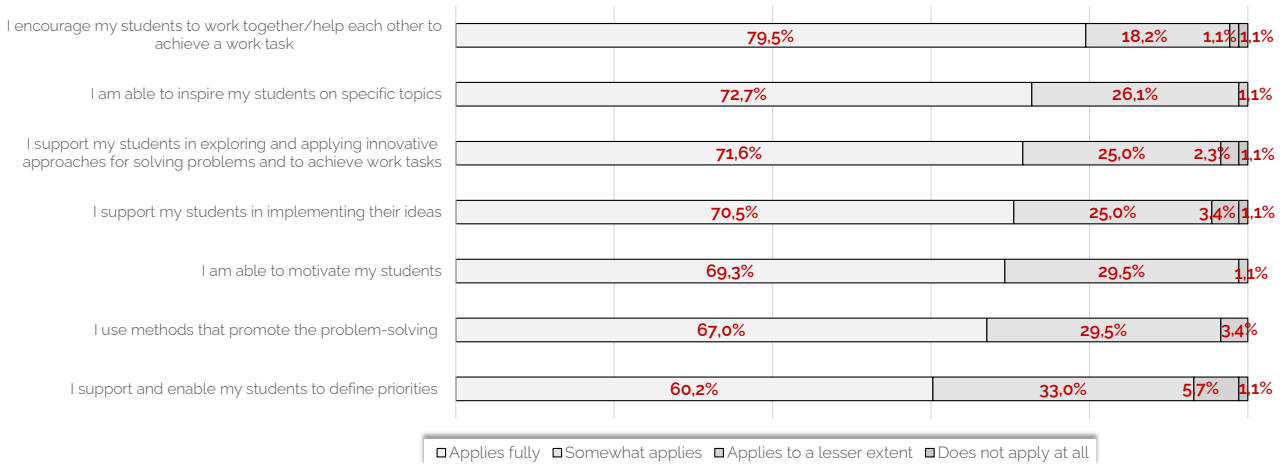


Figure 4. Teachers' self-evaluation of their teaching abilities

In comparisons by countries, the highest ranking pedagogical approach „I encourage my students to work together and help each other to achieve a work task“ was most highly (fully) valued by Portuguese teachers (93.8% of respondents), but also by Estonia (86.7%) and Italy (also 86.7%). However, only half (50.0%).

Relatively, the least relevant for teacher's was „I support and enable my students to define priorities and action plans to achieve a work task or a specific goal“ corresponding in national terms to Portugal (43.8% applies fully) and Estonia (46.7% applies fully), but quite high (81.3%) among Polish teachers.

For all the teaching competences asked, the rating was "applies fully" with more than half of teachers and, together with estimates, "somewhat applies" among more than 90% of teachers who responded. From this it can be concluded that the survey was answered by **experienced professional vocational teachers who possess modern teaching competences**.

As a recommendation, more attention can be paid to the development of the last three skills: ability to motivate students, use methods that promote the problem-solving ability of students and to support and enable students to define priorities and action plans to achieve a work task or a specific goal.

## 2. Work-Based Learning in European VET

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While the European countries collaborating in the vWBL project share goals and challenges, their VET systems are different as understanding of Work-Based Learning (WBL).

### 2.1 VET in vWBL partner countries

Vocational education and training in Europe has many similarities but also many differences. The countries participating in the Erasmus+ vWBL project follow this pattern also. A fundamental aspect of vocational training is directly linked to the mission of VET to help learners acquire knowledge, skills and competences which are essential in working life. Vocational education serves the purpose of fostering knowledge, skills and attitudes, occupational know-how and the social readiness required for working, participating in social life and participating in the lifelong learning process.

European VET is changing in a number of fundamental ways and the pandemic has definitely forced this process. Responding to rapidly changing demographics, technologies and labour market, European VET is diversifying its programmes and qualifications, expanding into higher levels and becoming more digital.

#### **VET in Portugal**

The main goals of VET providers are to increase youth employment and independence and foster the ability to face social exclusion and disadvantages. One strategy to achieve this is to provide students with everyday skills. VET providers are also responsible for updating their own organizational structures and, in some cases, creating social structures like companies. Portugal has been investing heavily on the role of VET in public education and training policies, either through its extension to the public-school network, or through the definition and creation of other training offers of a vocational nature, with a modular structure and initial short-term vocational training, aimed at qualifying the Portuguese population. Portugal Decree-Law explicitly stated that "alternation ... includes compulsory on-the-job training, progressively distributed, throughout the entire training process".

#### **VET in Estonia**

Vocational education and training in Estonia is under the jurisdiction of the Ministry of Education and Research and is crucial to ensuring a flexible and skilled workforce, capable of adapting to changes in the labour market. Professional standards in the eight-level Estonian qualifications framework are all outcomes-based and are the basis for VET curricula. Social partners are involved in VET policy development and implementation, helping respond to labour market needs. VET institutions offer both initial and continuing programmes. Initial VET is offered at the second, third, fourth and fifth levels of the Estonian qualification's framework (and the European qualifications framework, EQF). Learners can choose between full-time studies and those where the emphasis is on self-study and contact hours are fewer (referred to as 'non-stationary' studies in the national context).



Financial assistance is available for VET learners to guarantee equal access to education regardless of their socioeconomic circumstances. The qualification achieved in vocational secondary education gives access to higher education. Upper secondary education gives access to EQF level 5 initial VET programmes (ISCED 454). Continuing VET is offered at EQF levels 4 and 5, requiring a VET qualification or relevant competences.

### **VET in Italy**

Vocational training in Italy is a reality, which is in step with the evolution of the labour market by offering young people and adults' modern paths and specific training. VET courses are organized at all levels in formal or non-formal education and training by private sector, public sector and companies. In Italy, there are two types of VET: initial vocational training for young people who approach the world of work for the first time; and continuing vocational training for adults who wish to acquire new qualifications and skills. VET schools are of two levels: first level, accessible after the secondary school of first grade, providing for a two-year period and a three-year period of education according to the chosen field of study, and the Regional Vocational Training; second level, IFTS– Higher Technical Education and Training Institutes courses, and ITS – Higher Technical Institutes. According to the Italian recent reform of VET, there has been a shift from six to eleven fields of study in vocational schools. In addition, the reform provided for an increase in the percentage of time devoted to school and laboratory education up to 40% in the first two years and up to 50% in the last three years. In Italy, training is also provided and financed by the private sector. There is also tertiary training provided by free universities, voluntary associations and NGOs.

### **VET in Bulgaria**

In Bulgaria VET is carried out mainly in the system of school education, directing efforts to validation of learning through work (dual system of training), which gives an opportunity to students to gain real work experience, to be acquainted with demand from employers, and skills, which would facilitate realization of them in the market of labour. Bulgaria has state educational standards (SES) for acquiring professional qualifications from the List of professions for vocational education and training (LPVET), which define the obligatory professional competencies required for practicing the profession and they are mandatory for all training institutions entitled to organize training courses and to issue Certificates of vocational qualification or training upon course completion.

### **VET in Cyprus**

Vocational education and training in Cyprus is mainly public. The earliest level at which VET is available is the upper secondary level at the technical schools, including the evening technical schools. Formal upper secondary technical and vocational education programs are offered in various fields in both the theoretical direction and the practical direction. The duration of studies is three years. School leaving certificates (ISCED 354, EQF level 4) are awarded upon successful completion of either direction and are equivalent to those of secondary general education schools. VET is also available through the new modern apprenticeship, NMA. The NMA, which is co-funded by the ESF and the government of Cyprus, is directed towards young people between 14 and 21 years of age at two apprenticeship levels (preparatory and core). Participation in the NMA is not part of compulsory education and is free of charge. Furthermore, in Cyprus VET is extensively available for the employed, the unemployed, other groups at risk of exclusion from the labour market, and adults in general.



## VET in Poland

Vocational education and training (VET) in Poland has been also undergoing major reforms for several years. A number of fundamental changes were introduced in the VET to improve its quality and effectiveness and its relevance to the needs of employers and the labour market. Descriptions of occupations in the revised classification of occupations are based on qualifications. The classification for vocational education includes about 200 occupations which comprise over 250 qualifications as well as the levels of institutions providing VET. The reformed VET system also comprises institutions which provide wider opportunities to acquire vocational qualifications, in particular: 1. vocational and continuing education centres: offer a wider variety of courses and increase opportunities for cooperation with employers; 2. vocational qualification courses for adults: vocational training courses in non-school settings which enable learners to take exams leading to qualifications for a given occupation.

## 2.2 Work-Based Learning in VET

According to the glossary of the **European Centre for the Development of Vocational Training (CEDEFOP)** the definition of WBL consists of "acquisition of knowledge and skills through carrying out – and reflecting on – tasks in a vocational context, either at the workplace (such as alternance training) or in a VET institution".

It basically consists of "working", as the name indicates in practical classes, in terms of distance classes adapting strategies to captivate students as well as teachers and improve the teaching method, especially with the most difficult parts/subjects to teach at a distance.

According to Gray, 2001, WBL concept involved:

- "Learn for work"; which is the simplest way to teach professionals. The main function is training for the student to enter the job market or work placement. It usually involves an internship or simulations in the workplace.
- "Learning at work"; which involves learning in the work environment itself, usually involves an existing version of a higher-level curriculum, but in a company.
- "Learning through work"; involves using the work environment and the work itself based on reflection, research, knowledge construction, assessment, and curriculum construction.

WBL concept is not new, and traces of it can be found in some important authors, like Dewey, 2002, who used work and practice to stimulate the student and simulate some conditions to help the student develop and improve.

Other characteristics of Work-Based Learning are its conception that learning can happen anywhere, such as in the work environment, in the community or at home.

Together with traditional VET many European countries have implemented apprenticeship programs as part of Work-Based Learning (WBL)

**In Cyprus** new modern apprenticeship, NMA started its operation in the school year 2012/13. The NMA is directed towards young people between 14 and 21 years of age at two apprenticeship levels: preparatory and core.



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Students who have not completed compulsory education in lower secondary programs (third grade of the gymnasium) can enrol at the preparatory apprenticeship level.

Students who have either completed compulsory education or completed preparatory apprenticeship can enrol at the core apprenticeship level.

Preparatory apprenticeship does not involve employment but constitutes an alternative form of education and training for students between 14 and 16 years of age who have the opportunity through this one-year program to develop their numeracy and literacy skills, to become acquainted with the world of work.

Core apprenticeship lasts three years and involves both training at school and practical training in enterprises. Apprentices sign a contract with their employer which mainly regulates their terms of employment. Apprentices follow practical training in enterprises for three days per week where they are remunerated for their work and receive theoretical training for two days a week by attending classes at technical schools.

WBL and University Education: There is no national legislation in Cyprus addressing student placements yet. Placements are available and are organized by the universities, or like the professional body of architects and engineers, and other stakeholder associations, or sometimes by the companies.

In Cyprus currently, WBL is underdeveloped and limited to the efforts of specific people in career offices or some instances businesses/not a well-organized initiative. There is resistance by university professors and hesitation by businesses because there is no motive and direct benefit to them. Students/ graduates also lack the motive to pursue unless it is part of their program of study. Even in those cases, the benefit from their placements is lacking.

**Estonia** has a development program for apprenticeship in VET, but upon comparing students in traditional VET and the apprenticeship, it's still marginal.

Workplace based studies (apprenticeship) constitute a specialised form of vocational education where the ratio of practical assignments undertaken in companies or institutions encompasses at least two thirds of the curriculum.

The student achieves the learning outcomes described in the curriculum by fulfilling working tasks at the company. The remainder of the studies will be undertaken at school.

Workplace based studies are conducted upon signing an intern contract between the school, student and employer, which stipulates the rights and obligations of parties as well as the exact details of the learning process. The employer has to recompense the student for tasks performed to the amount agreed upon in the intern contract. The agreed wages must not be less than the statutory minimum wage established by the government. In cases where the student and employee are already bound by a valid employment contract, no extra wages are paid.

Expanding workplace-based study form in Estonia has been one of main goals for vocational education training system till 2020.

The term of work-based learning is not well-known in Estonian VET schools but the content in methods is widely used in VET institutions: real life projects, student companies, workshops, job-shadowing, on-job training in companies, etc.



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**In Italy** WBL is described as a set of training practices that differ from those based on classroom training, such as integrated work learning, flexible training, skills-based learning, problem analysis and resolution, therefore learning that integrates a working and experiential dimension in the educational or training path. The WBL covers the acquisition of knowledge and skills by carrying out tasks and activities in a professional context, both at the workplace and in a vocational training institution, thus representing the learning that occurs in a real working environment through participation in work activities, regardless of whether learners are young people, students, unemployed or employed, and whether they are paid or not. The performance of this activity leads to the production of a real asset and services, affecting all levels of education and continuing training.

Work-Based Learning (WBL) **in Poland** has not been officially defined yet. There are few sources concerning this issue and an official definition cannot be found. WBL is generally understood as a form of vocational training taking place in the work environment, it mainly refers to the real operation of an enterprise/company.

Types of work-based learning in Poland:

- practical training in VET schools (school workshops), continuing education centres and vocational training centres.
- in-company training.
- with an employer (can be organised in different ways, partially or fully at an employers' premises, including also dual training/alternate training).
- on-the-job training - lasts from 4 to 12 weeks, depending on the type of occupation.
- student apprenticeship.
- juvenile employment for the purpose of vocational training for young people (15-18 years old) with a lower secondary education or primary education.

It most often takes the form of training for a profession – this is an apprenticeship with the theoretical education taking place at a first stage sectoral school (or in out-of-school forms) and the practical training organised by the employer on the basis of a work contract.

## 3. Learning and teaching during pandemic

### STATEMENT. Planning in distance learning: by the timetable

New ways of learning have become more and more important for society in recent years. Digital technologies have had an impact on education, training and learning by developing more flexible learning environments, adapted to the needs of a highly changing society.

### 3.1 Planning and organisation

The teachers answered the question on the planning of teaching on the scale regularly, occasionally, rarely and never. The planning of teaching in distance learning during the pandemic was **mainly based** (Figure 5) **on a lesson plan** (77.3% of respondents regularly, 12.5% occasionally). A large number of responding vocational teachers set specific deadlines for the performance of tasks (61.4% of respondents regularly, 23.9% occasionally), as well as a large number of day-by-day planning (52.3% of all respondents). A relatively large number (47.7% regularly, 31.8% occasionally) were used in different tasks for students of different levels, slightly less for individual learning (23.9% of respondents regularly, 34.1% of respondents occasionally). Teachers had to give additional lessons for students who did not understand the learning materials or did not get to the virtual class on time. In the case of learners with special educational needs, there was an opportunity to use an assistant teacher ("for students with low certified learning levels, there is a support teacher who works with me regularly and according to the plan").

#### PLANNING IN DISTANCE LEARNING

*Most common: By the timetable*

*Less common: Individual learning plans*

#### How did you plan your teaching during pandemic in the WBL group?

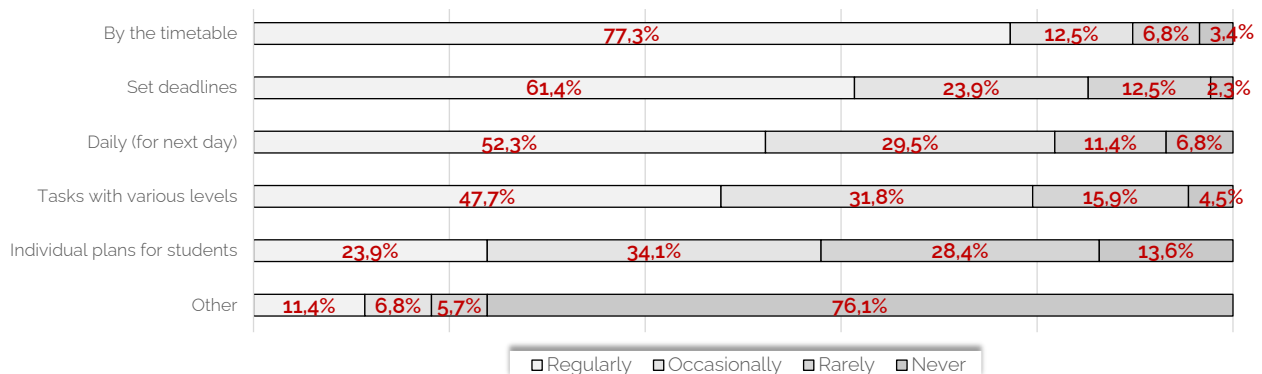


Figure 5. Planning WBL during pandemic

On the basis of the lesson plan, the planning of studies took place in 100% of vocational education and training in Poland and 85.7% in Bulgaria. In other countries, there was somewhat less planning for distance learning based on the lesson plan, but everywhere it was still the predominant basis for planning studies. Bulgarian teachers (71.4%) were mentioned as the most regular daily (for next day) planning and also Polish teachers (68.8%), from which it can be concluded that, in addition to a functioning lesson plan, more detailed plans were made for the next day.

Day-by-day study planning, planning for the next day was reported in all countries, but regularly the least in Cyprus and Italy (33.3% each) and also in Portugal (43.8% regularly). On the basis of deadlines, teaching planning was most common among Polish vocational teachers (100% regularly), significantly less in other countries – 60.0% regularly in Estonia and 53.3% regularly in Italy.

The variation of assignments for learners depending on their different level was mostly used by Bulgarian (85.7% regularly) and Polish teachers (56.3% regularly), the least by Italian (26.7% regularly) and Estonian (33.3% regularly) vocational teachers. Individual curricula were used relatively little in all countries, but most were in Poland (37.5% regularly) and Bulgaria (28.8%) and the least in Italy (6.7%) and Estonia (13.3%).

Planning by timetable as preferred choice seems necessary and helps to keep students involved. Planning teaching on the basis of a lesson plan as a preferred choice seems necessary and helps students set a certain routine in a situation of rapid change or crisis.

## 3.2 Learning activities

They were asked in the questionnaire about using different learning tasks and activities during the pandemic in WBL ("Think about learning tasks and activities during the pandemic in the WBL group"), which was evaluated on the scale "regularly(1); occasionally(2); rarely(3); never(4)."

The responses of vocational teachers developed into the following ranking of teaching tasks and activities used:

1. I encouraged students to express their views on the content they had learned (76.1% regularly, 15.9% occasionally)
2. I directed students to read/listen or watch additional materials via a web link (59.1% regularly, 31.8% occasionally)
3. I prepared individual tasks for students. (44.3% regularly, 38.6% occasionally)
4. I had tasks for independent exploratory activities and requested the results to be sent to myself. (42.0% regularly, 27.3% occasionally)
5. I directed students to other creative activities and requested the results to be sent to myself. (37.5% regularly, 37.5% occasionally)
6. I prepared tasks for teams or pairs. (37.5% regularly, 36.4% occasionally)
7. I used project-based learning in pairs or teams. (30.7% regularly, 30.7% occasionally)
8. I applied learning activities integrated with different subjects (29.5% regularly, 45.5% occasionally)
9. I directed written works (referees, stories, essays) to write. (21.6% regularly, 29.6% occasionally)

*Most common*

- (1) reflection of learned content**
- (2) read/listen additionally**
- (3) individual tasks for students**

*Less common*

- (1) written works**
- (2) integration of subjects**
- 3) learning in pairs or teams**

In addition, the following teaching tasks and activities were offered: doing projects (2), they do a project according to the instructions in video clips, watching videos on YouTube, handout for revision, gamification, tests as a form of checking the increase and level of theoretical knowledge.

Also: "Sometimes I asked to go for a walk in nature".

Polish teachers stand out for the most used teaching activities among vocational teachers, encouraging learners to express their opinions, 87.5% of whom do so regularly and 12.5% occasionally, and Bulgarian teachers (78.6% regularly and 7.1% occasionally).

Italian (66.7% regularly and 6.7% occasionally) and Estonian vocational teachers (66.7% regularly and 26.7% occasionally) use this teaching activity the least.

Poland (43.8% regularly and 12.5% occasionally) and Portugal (31.3% regularly and 31.3% occasionally) had the lowest use of written tasks by all teachers.

Italian (60.0% never) and Bulgarian (50.0% never) vocational teachers were the least used. The results show that there was little teamwork or pair work (about a third of teachers regularly) used in the distance learning during pandemic.

As recommendation, significantly more tasks could be assigned to pairs or teams of students, more project-based learning and integration of learning activities on different topics.

### 3.3 Assessment

**STATEMENT.** Assessment method: distinctive/formative score grades

Learners' assessment methods were also asked to rate on a scale regularly; occasionally; rarely; never. Assessment methods (Figure 6) are **dominated by distinctive assessment** (scored grades), which were regularly used by 54.5% of teachers and 15.9% of teachers in distance learning during the pandemic. However, 19.3% of teachers who responded did not use a distinctive assessment in distance learning.

#### ASSESSMENT

*Most common:* Scored grades

*Less common:* Pair assessment

Formative assessment was regularly used by 50.0% of respondents and occasionally by 19.3% of respondents.

Only 22.7% of respondents used the pair assessment regularly and 21.6% occasionally.

Other evaluation methods included self-assessment, selective evaluation ("I randomly select 3 students and check whether they were making notes by sending photos of their notes") and tests ("platforms with tests, online tests, tests prepared by us").

The results of the assessment question also show a **lack of cooperation between students**, significantly more use could be made of the pair assessment, which develops both the assessor and the student who get grades from teammates and increases the learner's involvement/participation in the learning process.

### Think about assessment activities during the pandemic in the WBL group

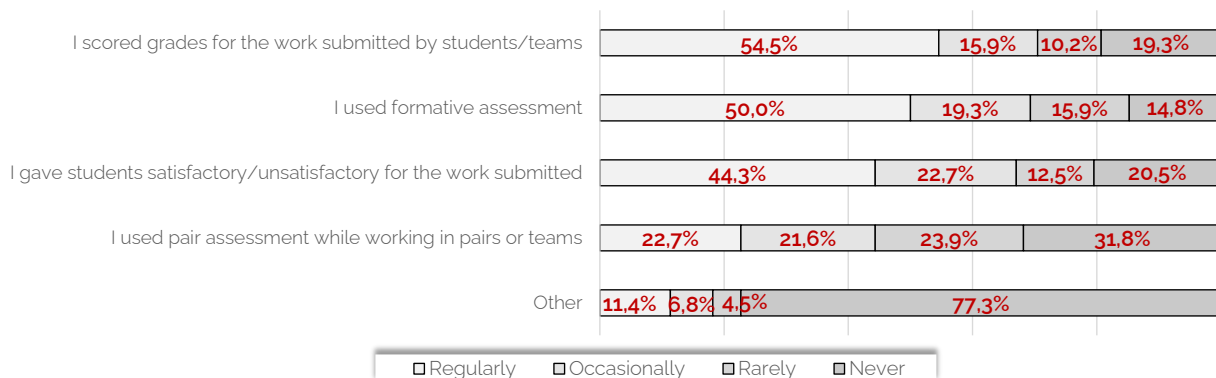


Figure 6. Assessments activities during pandemic

## 3.4 Feedback collection

**STATEMENT.** Students' feedback collection: through digital communication channels

Feedback from students on the scale regularly; occasionally; rarely; never was asked mostly by teachers (Figure 7) during the time of video lessons (73.9% regularly and 18.2% occasionally), but quite often feedback was also asked via e-mail or learning platform (42.1% regularly and 25.0% occasionally).

### FEEDBACK COLLECTION

*Most common:* During video sessions

*Less common:* By specific questionnaire

### Feedback from students during pandemic in the WBL group

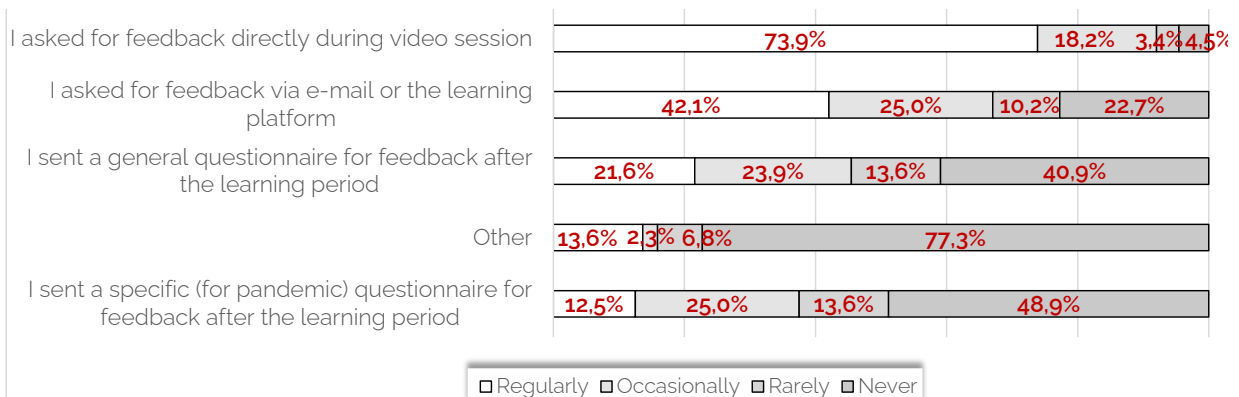


Figure 7. Feedback from students

A special questionnaire after the study period was the least used for feedback from learners (12.5% regularly and 25.0% occasionally, 48.9% never). To receive feedback from learners, digital tools (mentimeter) were also mentioned, asking for feedback at the end of each hour, asking feedback on an ongoing basis, asking relevant questions during the interview, via social media and chat windows (chat), by the school management through the respective platform.

Feedback from learners is a valuable source of information for the teacher to improve the learning process and for better achievement of the learning outcomes, therefore it is necessary to plan it carefully and, in addition to the feedback and active listening on an ongoing basis, also use a prepared special (short and simple) questionnaire that allows for more extensive (from all at once) and comparative feedback.

### 3.5 Variations for students (personal learning path)

#### STATEMENT. Reasonable adoption of variations (individual sessions and deadlines)

The teachers participated in the survey were asked "Variations used for students during the pandemic in the WBL group" on the scale regularly; occasionally; rarely; never. In creating variations for learners (personal learning path) in virtual work-based learning during the pandemic, respondents estimated (Figure 8) that individual sessions were the most used (37.5% regularly, 35.2% occasionally). To the same extent (37.5% regularly, 33.0% occasionally) learners were evaluated differently, considering their individual abilities and achievements.

#### VARIATIONS FOR STUDENTS

*Most common: Individual sessions*

*Less common: Different deadlines*

In national terms, Polish (56.3% regularly), Bulgarian (50.0% regularly) and Portuguese (50.0% regularly) teachers had the highest number of individual sessions for learners with learning difficulties, with the lowest (6.7%) Italian teachers. Poland (62.5% regularly) and Estonia (0.0%) were the most likely to apply the differentiation of the assessment based on their abilities.

The least of the proposed methods, but still significantly used to give different deadlines to learners (19.3% regularly, 26.1% occasionally). In doing so, Polish teachers used it quite a lot (43.8% regularly and 31.3% occasionally), but Bulgarian teachers not very much (0.0% regularly and 21.4% occasionally).

#### Variations used for students during the pandemic in the WBL group

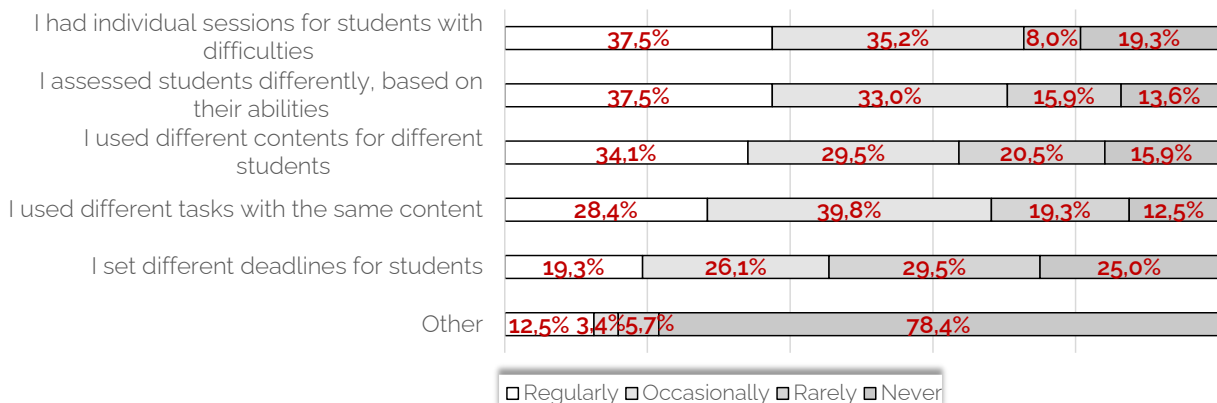


Figure 8. Variations for students

As free answers, more: „forming groups of students for exercises so that everyone learns to cooperate with each other“, „I schedule private meetings to discuss difficult issues“ and „I'm still looking for new

possibilities, e.g. e-books, cartoons". The results show that, if necessary, teachers support those who have difficulties in learning, but only 19.3% of teachers regularly use different deadlines for students. The same deadlines are certainly important for the equality of learners, and there is also a certain time frame in the organisation of studies, but in terms of the individual development of the learner, the time taken to learn is undoubtedly very different. In the interests of a personal learning path, a reasonable distinction between deadlines could also be considered.

### 3.6 Support for students

#### STATEMENT. Individual consultation and counselling to students

Teachers were asked "What kind of support did you offer for students?" on the scale regularly; occasionally; rarely; never. The response given by the teachers show that many **individual consultations and counselling** were offered in distance learning during the pandemic, both at the request of learners (59.1% regularly, 26.1% occasionally) and as a teacher's initiative (56.8% regularly, 27.3% occasionally). Polish (75.0% regularly) and Bulgarian (71.4% regularly) vocational teachers offered the most consultations on demand, the least by Estonian teachers (40.0% regularly).

**85% teachers offered individual consultations and counselling in distance learning**

Given that individual consultations were also of the same magnitude on the initiative of the teacher, we can conclude that the workload of teachers in individual counselling of learners increased significantly during the distance learning period.

Group counselling in smaller groups was offered somewhat less by responding teachers (29.5% regularly, 34.1% occasionally). Specialist support for counselling for learners was less than that of teachers (19.3% regularly, 19.3% occasionally), with the highest number of specialist counselling in Poland (50.0% regularly, 12.5% occasionally) and the least in Cyprus (0.0% regularly, 16.7% occasionally).

As a free reply, the student's trust in the teacher was highlighted as "My students know they can count on us, and according to their needs, they report on their school or private problems".

### 3.7 Students' need for support

#### STATEMENT. Digital VET requires a wide range of support to students

To the open question "What kind of additional support did students need during virtual work-based learning?" vocational teachers gave a wide range of answers.

- **Technical skills and digital literacy**

According to answers of vocational teachers from all partner countries, students needed additional support in developing technical skills and digital literacy:

"IT basic skills and distance learning skills- how to connect, how to send files, how to access the content etc" (BG)

"Basically, hardware support and a minimum of help for some software." (IT)

"Guideline on how to use new forms of technology" (CY)  
"How to use these platforms, where is their homework written" (EE)  
"Help with installing specialized programs" (PL)  
"Digital literacy: some students had difficulties with technical activities such as filming a video on their phone or uploading it to the system" (PT)

- **Equipment and connections**

Sometimes additional assistance was needed to deliver necessary devices (computers, laptops) and provide internet connection.

"Connectivity issues, lack of internet access (including where internet access is poor due to rural location)" (PT); "A laptop at home as a learning tool" (EE)

"They were not provided with devices and an internet connection to ensure a synchronous learning process with a large screen, not a telephone."(BG)

- **Distance learning requires clearer guidance**

In distance learning, where there is no direct contact between the teacher and the student, significantly clearer instructions and guidelines are needed for the performance of learning tasks and activities.

"A clear structure of the learning path and training programme" (CY)

"Clarification of the study tasks" (EE)

- **Common platforms and teachers' cooperation**

In a situation where teachers had to quickly decide which platforms and programs to use in the learning process, it may have happened that the student had to use several of them at once, and this led to additional confusion. Cooperation between teachers in the learning process became more important.

"They asked teachers to use common working and communication platforms." (IT)

Development of technical skills noted as necessary by teachers from all countries.

- **Online tools and guides**

Many respondents mentioned the additional need for online teaching/learning materials.

"I use a lot of tutoring videos, so that students have a consultation tool at any time" (PT)

"More detailed and circumstantial explanations, supported by detailed video materials and online real-time demonstrations" (BG)

"Additional sources of learning" (CY)

"Students need to have the content available on the e-learning platform in an easy and accessible way"(PT)

- **Additional training and consultations**

There was a clear need to further explain and consult on teaching tasks.

"Professional individual consultations." (EE)

„More and more detailed verbal explanations. Commenting on different situations and cases."(BG)

"Additional and individual consultations" (PL)

- **Personal approach**

According to the respondents, distance learning increased the need for a more individualised approach, and learners also needed individual feedback to move forward.

"Personal approach" (CY)

"An individual/ personalised system for organization of study time and independent performance of tasks and tests" (BG)

"Individual explanation of the contents taught." (PT)

"Individual feedback on their learning process. Individual feedback on their journey of learning technical skills" (EE)

- **Psychological support**



Many vocational teachers mentioned the need for additional psychological support in distance learning during the pandemic, which was expected from both teachers and specialists. The problems that had to be addressed were stress, anxiety, and lack of motivation to participate in distance learning.

"My activities, in connection with fellow psychologists and educators, included continuous psycho-pedagogical support." (IT)

"Dealing with stress and worries" (PT)

"I think that many students could use the support of a psychologist who would teach them how to deal with their individual problems." (PL)

"Engaging proactively with students to check on their mental health and progress on their tasks and offer them customised support" (CY)

- **Role of parents**

In this situation, teachers perceived the need for greater support from parents who had contact with the students and were able to directly influence him or her.

"I think that parents play the most important role and control in this situation, because they see what is happening with the children at home, the teacher in this form of conducting classes can only determine whether a student is performing his/her school duties." (PL)

"From the support of their parents, because the students are young, and it is difficult to cope on their own" (BG)

### STUDENTS NEED FOR SUPPORT

- technical skills and digital literacy
- equipment and connections
- distance learning requires clearer guidance
- common platforms and teachers' cooperation
- online tools and guides
- additional training and consultations
- personal approach
- psychological support
- role of parents



## 4. Technology in on-line teaching and learning

### STATEMENT. VET teachers have good digital skills

The participants in the vWBL survey provided comprehensive information on their use, awareness of and expectations from the communication technology supporting online teaching.

#### 4.1 Technology usage

An important finding through self-evaluation of the teachers' skills and experience on the use ICTs for online teaching described in chapter 1.2 and on Figure 3. "Teachers' knowledge and skills in digital technologies". It is notable that a large amount of the respondents to the survey, self-estimated to have good knowledge and skills on ICTs (see previous Figure 3), particularly on the traditional devices and digital applications. Even though their self-grading progressively decreases in relation to the complexity of the ICT tools submitted to the evaluation, almost the half of the interviewed teachers knows (from 'Good' to Acceptable' level) what Virtual Reality is. Teachers were also asked to estimate what tools they used during on scaleregularly, occasionally, rarely, never. **MS Team** (62,5% regularly, 6,8% occasionally) and **Zoom** (28,4% regularly, 21,6% occasionally) resulted (Figure 9) to be the **most used applications used** by the teachers for their online lessons. On the figure dominates "never" for every tool is likely because of teachers chose one specific tool and used it throughout distance learning period.

*Most common*

- (1) MS Teams
- (2) Zoom
- (3) Google Meet

*Less common*

- (1) ClassMill
- (2) WeSchool
- (3) GoToMeeting

#### In your online teaching/training you mostly use

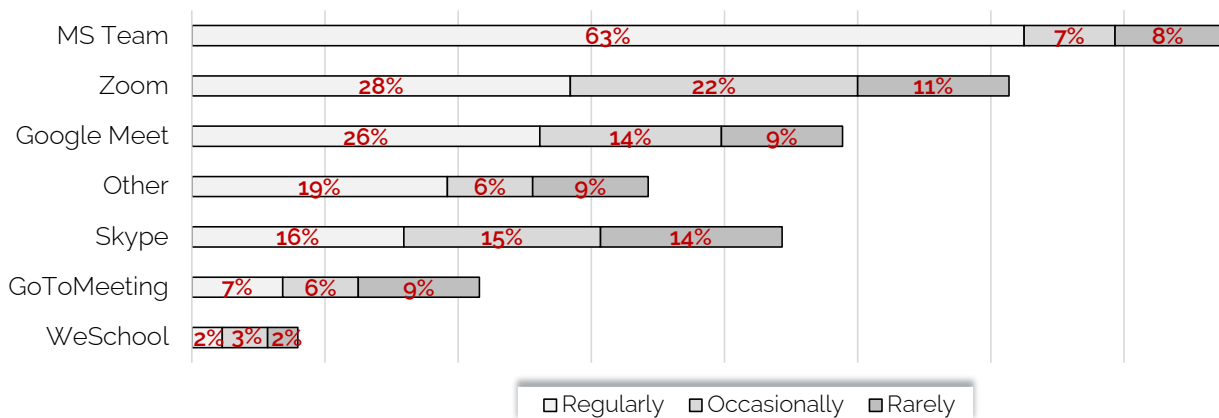


Figure 9. Tools mostly used in online learning

Nonetheless, all teachers reported to have used on a regular basis an online application, hence confirming to have, or have achieved good knowledge and skills on the adoption of digital tools for online learning.

## 4.2 Possible difficulties/challenges

**STATEMENT. VET teachers need support: to upskill their literacy level to enhance their use of digital tools; to better overcome digital obstacles to online teaching**

The vWBL project paid special attention to define the teachers' concerns and difficulties on the use of ICTs in their online teaching experience. Question "Considering your experience, what do you think are the biggest difficulties encountered in online teaching/training?" was evaluated on scale regularly, occasionally, rarely, never." The majority of teachers identified (Figure 10) that the biggest challenges are the **students' attention and participation** (46,6% of respondents regularly and 38,6% occasionally) and the **limitations due to the technology being used** (42,1% regularly and 35,2% occasionally). The least difficulty was in the literacy level of both students and teachers. With the necessary skills, 29,5% of respondents (regularly) considered difficulties for students and 12,5% (regularly) for teachers.

**85% teachers identified that the biggest challenges are students' attention and participation.**

*Considering your experience, what do you think are the biggest difficulties encountered in online teaching/training?*

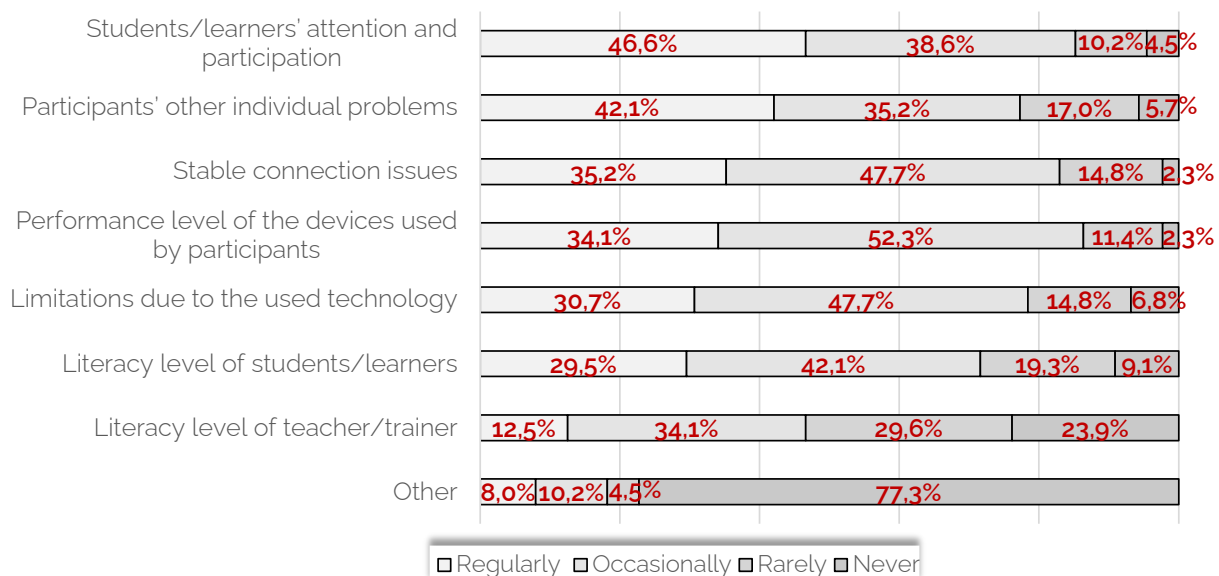


Figure 10. The biggest difficulties in online learning

As far as the students' attention and participation to the online learning is concerned, the differences in the project countries are consistent (Figure 11).

### Students/learners' attention and participation

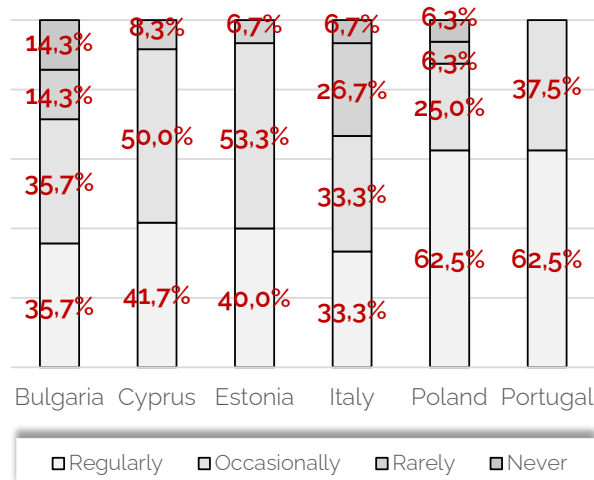


Figure 11. Difficulty with students' attention by countries

In Italy and Bulgaria, the issue is considered to occur 'Regularly' from the 33,3% to the 35,7%; in Estonia and Cyprus from the 40,0% to the 41,7%; whilst in Portugal and Poland for the same 62,5%.

Similarly, for the opposite grading 'Never', which is indicated only by the teachers in Poland, Italy and Bulgaria (from 6,3% to 14,3%).

A similar broad range of evaluation has been indicated for the limitations to the learning caused by the technologies used. Only Cyprus, Poland and Italy reported to have no ICT limitations (from 8,3% to 13,3%), whilst the most constant occurrence of this issue has been reported by the Bulgarian, Portuguese and Polish teachers (from 31,3% to 64,3%).

## 4.3 Transfer of practices, exercises and WBL in online learning

**STATEMENT.** VET teachers' good digital skills have been put in place for online WBL

Teachers were asked how they conducted practical and work-based learning online. Options were provided for answering, which made one or more matches to choose from. The responses show (Figure 12) that video presentations (26.1% of respondents) and a teacher's story telling with static slide presentation (21.6%) were the most used in practical and work-based learning. 18.2% of teachers used static slide presentation with videos and 17.0% of static slide presentations when conducting practical learning.

### VIRTUAL WBL

Most common: Video presentation

Less common: Audio presentation

*Considering practice, exercises and work-based learning, how did you transfer these to online learning experiences?*

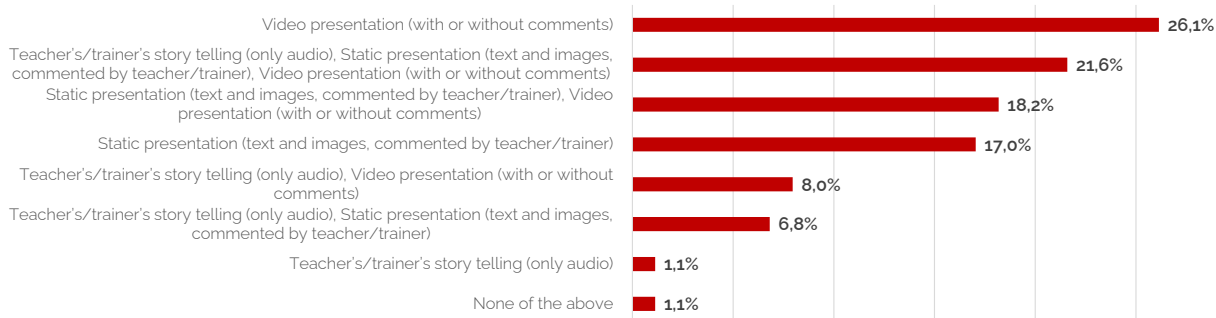


Figure 12. Practical learning in online

## 4.4 Reality simulation in online learning

**STATEMENT. VET teachers have a high interest on advanced digital skills to simulate WBL online**

Teachers were asked if they use simulation tools in their teaching with choices "yes" or "no" and "if yes, please specify". The answers show that most of the teachers who responded do **not use simulations**. From a country comparison (Figure 13), we can see that Polish (43.8%) and Bulgarian (35.7%) vocational teachers use simulation tools the most. In Italy (13.3%) and in Estonia (20,0%) there are the lowest use of simulation tools among vocational teachers.

**Teachers do not use tools for simulating reality but are interested in using them**

*Do you use advanced digital tools for simulating reality in your training/learning?*

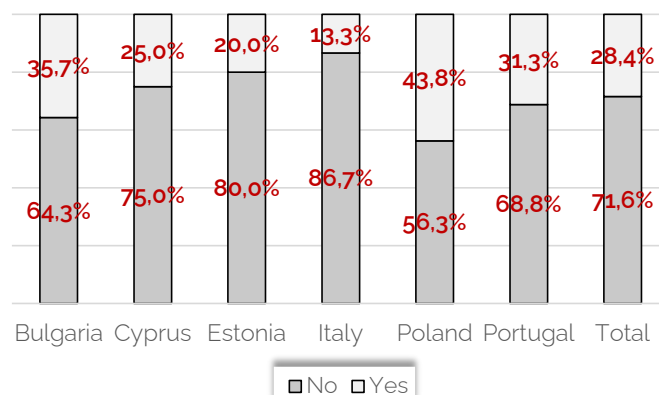


Figure 13. Teachers' usage of simulation tools in online learning

The second question was whether teachers were interested in using simulation tools, with the choices “very much interested, interested, not interested” and “if yes, please specify”.

*Would you be interested in experiencing digital simulation tools?*

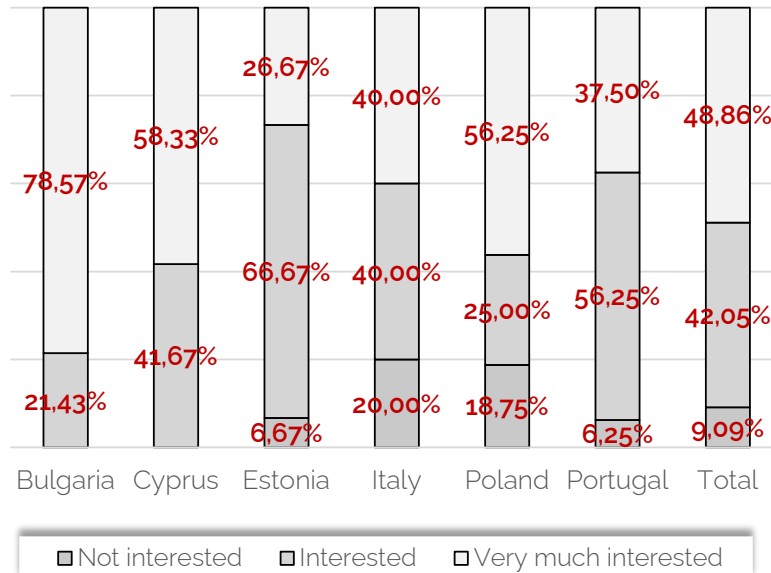


Figure 14. Teachers, who are interested in simulation tools

As we can see in Figure 14, the teachers' interest in using simulating tools is quite high, especially among Bulgarian teachers, where all teachers are interested in using simulation tools in their teaching and learning, 78.6% of them are very interested to do so. Also, all Cypriot teachers are interested in using simulation tools. Among respondents from other countries, there a few teachers who are not interested, 20,0% of Italian teachers and 18,8% of Polish teachers are not interested in using simulation tools.

## 5. Management and teachers' collaboration

**STATEMENT.** VET teachers need more information, and collaboration/communication between colleagues to improve management of digital teaching

Management in a pandemic situation is crisis management, for which most school leaders lacked preparation.

There are some universal success factors in crisis resolution (Raidma 2021) that affect the response and outcome of all crises:

- possession of sufficient information for decision-making, i.e., situational awareness.
- to solve problems, i.e., the appropriate management structure for crisis management, its personnel and the legal basis for its activities.
- crisis communication that explains your actions and decisions and shapes people's conscious behaviour.

### **NECESSARY IN (CHANGES) MANAGEMENT**

- sufficient information for decision-making
- analysing and solving problems
- clear communication

Based on the survey conducted, it can be concluded that there was a lack of information, clear instructions, a corresponding management and support structure, as well as clear communication.

### 5.1 Planning and organisation

The start of the pandemic in the spring of 2020 was unexpected for all countries, and the decision to switch schools to distance learning often took place overnight.

Therefore, schools had no plans for distance learning.

Planning and organisation began to be carried out at the same time as the continuation of studies. This caused a lot of confusion among both students and teachers in the first few weeks.

The statement "I had full information, how virtual WBL is organized at our organisation" was evaluated on the scale applies fully, somewhat applies, applies to lesser extent, does not apply at all.

Only 38.6% of the teachers surveyed (Table 3) had complete information on how virtual Work-Based Learning was organised in their organisation.

|  | Applies fully | Somewhat applies | Applies to a lesser extent | Does not apply at all |
|--|---------------|------------------|----------------------------|-----------------------|
| I had full information, how virtual WBL is organized at our organisation | 38,6%         | 40,9%            | 14,8%                      | 5,7%                  |

Table 3. Information of virtual WBL organisation

There are significant differences between countries (Figure 15), with Poland (68.8% fully applies) and Bulgaria (57.1% fully applies) better informed about the organisation of virtual work-based learning. Estonian teachers were the least completely informed (6.7% applies fully, 73.3% somewhat applies) as well Italian teachers (33.3% applies fully, 26.7% somewhat applies and 13.3% does not apply at all).

*I had full information, how virtual WBL is organized at our organisation*

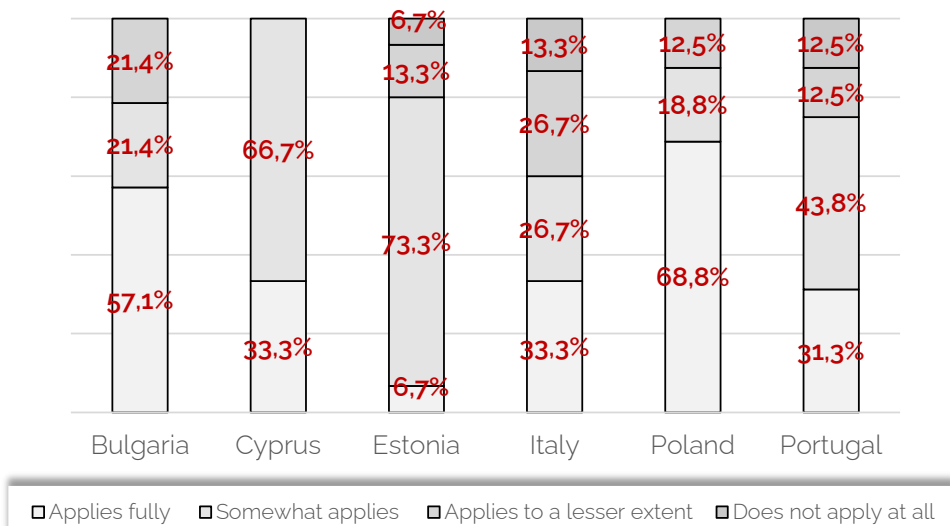


Figure 15. Information of virtual WBL organisation

The teachers had to manage and plan on their own for the most part. Teachers are highly professional and could do it. 70.5% of vocational teachers who responded to the survey (table 4) were fully able to decide how to conduct their classes in distance learning.

|   | Applies fully | Somewhat applies | Applies to a lesser extent | Does not apply at all |
|---|---------------|------------------|----------------------------|-----------------------|
| I was able to decide for myself how to conduct my lessons | 70,5%         | 22,7%            | 3,4%                       | 3,4%                  |

Table 4. Teachers' independence in decisions

However, a large proportion of teachers (55.7% fully and 29.5% somewhat) knew (table 5) whom to ask for help if needed.



|                                   | Applies fully | Somewhat applies | Applies to a lesser extent | Does not apply at all |
|-----------------------------------|---------------|------------------|----------------------------|-----------------------|
| I knew I could get help if needed | 55.7%         | 29,5%            | 11,4%                      | 2,3%                  |

Table 5. Information of support

Respondents pointed out that they received help from an educational technologist or a head teacher.

"It was possible to have help an educational technologist"

"In my opinion, the school in which I work did very well in the pandemic situation. The head teacher who takes care of our specialization is always at our disposal when there are any problems."

## 5.2 Communication and collaboration

**Cooperation and communication within the organisation became even more important** during the pandemic than before.

Teachers' conversations through social media tools and online platforms helped to continue the learning process, solve problems and get the necessary social support (see also the following section 6.5 Support for teachers).

### COOPERATION FORMS

*Most common:* online meetings with whole team; sharing information and materials via e-mail

*Less common:* evaluate students together; teach students together

However, the survey showed that this option was not used everywhere and that only a third (33.0%) of responded vocational teachers had discussions with colleagues at least once a week (Table 6).

|   | Applies fully | Somewhat applies | Applies to a lesser extent | Does not apply at all |
|---|---------------|------------------|----------------------------|-----------------------|
| I discussed activities and tasks related to the learning process with other teachers at least once a week | 33,0%         | 30,7%            | 28,4%                      | 8,0%                  |

Table 6. Collaboration between teachers during pandemic

As a free response, mutual support for teachers was highlighted "Valuable behaviours: teachers support each other, help each other in situations that require support."

The question of used communications forms, on the scale regularly, occasionally, rarely, never, answered (Figure 16) that online meetings for the whole team were the most used (63,6% of respondents used regularly).

By countries Estonian teachers had the most online team meetings (86.7%) and Cypriot teachers (50.0%) the least.

### During the pandemic, we implemented the following forms of cooperation

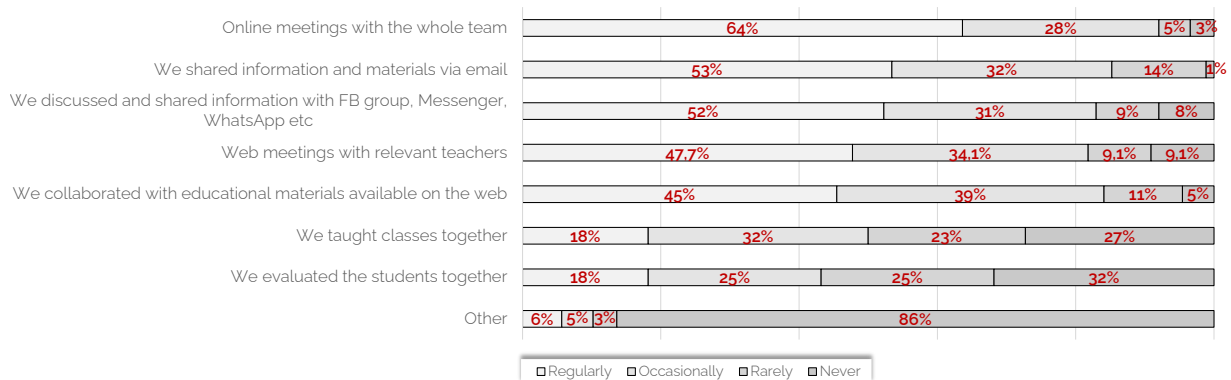


Figure 16. Forms of cooperation during pandemic

Slightly less, 53.4% of all respondents shared information via email and 52.3% communicated with colleagues in some social media groups (e.g. FB, Messenges, WhatsApp, etc.). Compared to forms of communication between teachers from different countries, Polish teachers (68.8%) used e-mail the most and the fewest Estonian teachers (40.0%).

The social media group was most used by Bulgarian teachers (71.4%) and the least for Estonian and Italian teachers (both 40.0%)

Only 18,2% (regularly) of respondents collaborated with colleagues, taught classes together or evaluated the students together. At the same time 27,3% of respondents never taught classes together and 31,8% never evaluated students together during pandemic.

The comparison between countries shows that, to some extent, teaching in cooperation was carried out by teachers from all countries, most in Estonia (26.7% regularly, 46.7% occasionally) and Cyprus (25.0% regularly, 50.0% occasionally), less so in Poland and Portugal (12.5% each regularly, 18,8 - 37,5% occasionally).

In addition to what was offered, telephone conversations with colleagues were also mentioned as a form of cooperation.

## 5.3 Problem solving

**Analysing and solving problems plays an important role in management.** Asking teachers to assess how the problems that arose were solved during the pandemic ("Any problems that arose were resolved quickly" on the scale applies fully, somewhat applies, applies to lesser extent, does not apply at all, results show (Table 7) that problems solved in opinion of 42,0 % of respondents fully and another 42,0% somewhat, which is a good enough indicator overall, given the complexity of the situation and the extent of the change.

|   | <b>Applies fully</b> | <b>Somewhat applies</b> | <b>Applies to a lesser extent</b> | <b>Does not apply at all</b> |
|---|----------------------|-------------------------|-----------------------------------|------------------------------|
| Any problems that arose were resolved quickly | <b>42,0%</b>         | <b>42,0%</b>            | <b>14,8%</b>                      | <b>1,1%</b>                  |

Table 7. Problem solving during pandemic

In comparison to other countries, Bulgarian teachers (71.4% applies fully) gave the highest assessment of the quick solution of problems, with all others ranging from 31.3% to 41.7% (applies fully). Thus, in the opinion of less than half of teachers from other countries, quick solutions were found to the problems that arose, confirming the lack of a support and management structure for crisis management or a lack of preparedness.

A proper analysis of the problem is a prerequisite for a successful solution to the problems, for which time and opportunities were certainly scarce during the crisis. However, in the post-pandemic period, problem analysis becomes particularly important, as the problems are different from the ones we have faced so far.

## 5.4 Feedback collection

We asked teachers in the questionnaire how student feedback was collected and taken into account during the distance study period, and these also had to be assessed on a scale applies fully, somewhat applies, applies to lesser extent, does not apply at all.

**Teachers can be encouraged to collect feedback from students and use it to improve the learning process.**

Feedback from students to some extent (44.3% of respondents) was collected (Table 8) during the distance learning period, but as a source of management information, it remained modest overall.

|  | <b>Applies fully</b> | <b>Somewhat applies</b> | <b>Applies to a lesser extent</b> | <b>Does not apply at all</b> |
|--|----------------------|-------------------------|-----------------------------------|------------------------------|
| Feedback was collected from the students during the study period | <b>44,3%</b>         | <b>36,4%</b>            | <b>10,2%</b>                      | <b>9,1%</b>                  |
| Feedback from students was discussed with other teachers         | <b>35,2%</b>         | <b>34,1%</b>            | <b>17,0%</b>                      | <b>13,6%</b>                 |
| Feedback was used when forming solutions                         | <b>44,3%</b>         | <b>29,5%</b>            | <b>14,8%</b>                      | <b>11,4%</b>                 |

Table 8. Feedback collection and usage

This is certainly understandable in a situation where the priority was to continue teaching and learning and engage students virtually.

Even less (35.2% of respondents) discussed the feedback collected by other teachers. The use of feedback in problem solving is comparable to the indicators of its collection, 44.3% of respondents used feedback to find solutions, the rest less and 11.4% did not use at all.

As a recommendation, teachers can also be encouraged to collect feedback from students in difficult situations in order to obtain the necessary information to solve problems and make better decisions.

## 5.5 Changes in teachers' collaboration

Respondents to the survey assessed teachers' cooperation during the pandemic compared to the previous one on a scale Decreased, Decreased slightly, Did not change, Increased slightly, Increased. Responses varied (Figure 17), half of teachers assessed cooperation increased (23.9% increased, 26.1% increased slightly), while 22.7% of respondents estimated that there was no change in cooperation and a third of respondents assessed cooperation decreased slightly (15.9% decreased, 11.4% decreased).

**50% of teachers estimated more cooperation during pandemic**

*Compared to the previous period, teacher cooperation during the pandemic*

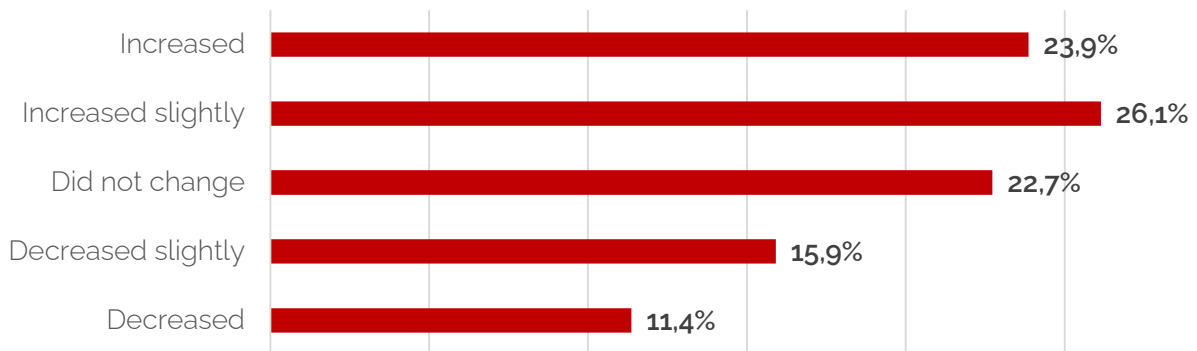


Figure 17. Comparison of teachers cooperation

When comparing teachers' opinions by countries (Figure 18), it appears that teachers in Cyprus, Estonia, Portugal and Bulgaria estimated that cooperation during the pandemic increased, Italian teachers estimated unchanged and in the Polish teachers' opinions cooperation decreased.

*Compared to the previous period, teacher cooperation during the pandemic*

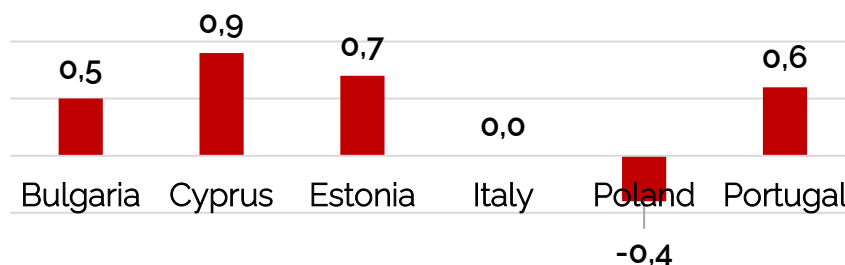


Figure 18. Comparison of teachers' cooperation by countries

## 6. Experience in virtual WBL 2020/21

**STATEMENT.** VET teachers are aware that the virtual WBL experience during the pandemic period demonstrated that a significant change in VET is started, including Work-Based Learning.

The pandemic and related full or partial distance learning has been complicated and challenging for everyone: students, teachers, school leaders, and parents. But what have all of us learnt from it and how do we appreciate this experience? We asked the vocational teachers who participated in the survey to assess their experience "I value the experience of virtual WBL during the pandemic period" on the scale applies fully, somewhat applies, applies to lesser extent, does not apply at all.

**50% of teachers value the experience of virtual WBL during the pandemic period**

A large proportion (Table 9) of teachers are expected to value the experience of distance learning during the pandemic (59.1% applies fully, 30.7% somewhat applies and 8.0% applies to a lesser extent. Only 2.3% of respondents do not value the experience at all.

|  | <b>Applies fully</b> | <b>Somewhat applies</b> | <b>Applies to a lesser extent</b> | <b>Does not apply at all</b> |
|--|----------------------|-------------------------|-----------------------------------|------------------------------|
| I value the experience of virtual WBL during the pandemic period | <b>59,1%</b>         | <b>30,7%</b>            | <b>8,0%</b>                       | <b>2,3%</b>                  |

Table 9. Value of experience

We can conclude that there is a lot of learning from the experience of the pandemic, both successes and failures, and that this will lead to a **significant change in post-pandemic vocational training, including Work-Based learning.**

### 6.1 Students participation level in vWBL

**STATEMENT.** Active participation of students is still a challenge

From the many free text responses of the survey, it appears that students' participation and attendance in distance learning created some problems, either the reason was a lack of suitable equipment or adequate internet connectivity, or also motivation of students. Vocational teachers assessed the level of participation of students to virtual Work-Based Learning carried out by them on a scale high, good, moderate, poor. From the results (Figure 19) it appears that the majority of respondents rate the level of participation of students as moderate

**The active participation and conscious presence of students in virtual WBL remains a challenge**

(39,8%) or good (33,0%). However, only 13,6% of teachers gave a high assessment of students' participation, the same number (13,6%) there were those who rated students' participation in distance learning at poor levels.

*How would you rate the students'/learners' participation level with the online work-based learning you offered?*

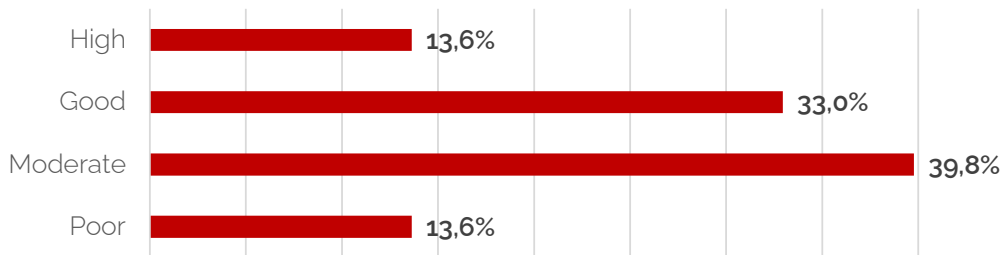


Figure 19. Students' participation in virtual WBL

National comparisons show that Bulgarian teachers (28,6% assessed high and 35,7% good) rated the participation of students the highest, while Portuguese teachers lowest (0,0% high, 12,5% good, 68,8% moderate, 18,8% poor)

The active participation and conscious presence of students in virtual learning remains a challenge for which suitable solutions need to be sought in future vocational training.

## 6.2 Learning results/outcomes

**STATEMENT.** Students' learning results are acceptable/good but challenging

Learning outcomes were asked as teachers' assessments on the scale excellent, good, acceptable, poor and as an open question "How do you assess students' performance during the pandemic compared to the past?". The answers show (Figure 20), that teachers rated learning results as acceptable (46,6%) or good (36,4%), which is a very good achievement given the complexity of the situation and the lack of preparation.

*My overall evaluation for students' learning results/outcomes during the distance learning period*

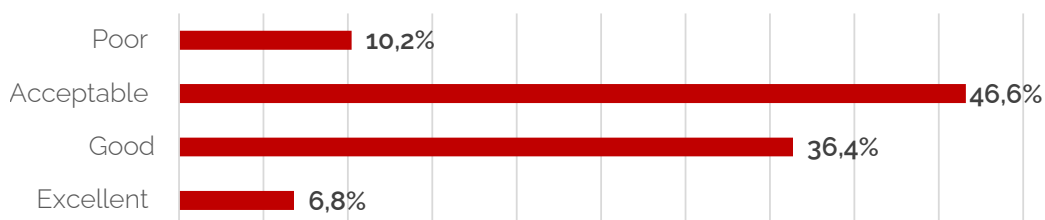


Figure 20. Evaluation for students' learning results

The open question on how students coped in distance learning during the pandemic gave a wide range of answers. Most respondents estimated that **performance was lower** than compared to the previous period. „Students achievement has decreased significantly“ (BG); „They have a lower performance“ (CY); „Attention level appears to be lower and this affects overall performance“ (IT); „Students competences suffer, even if teachers do everything they can“ (PL); „30% lower, sensitive students are in the worst situation“ (PT).

It was believed that although grades may be in some cases better than before, **knowledge-skills have been acquired less than before**. „During the pandemic it is much worse, better grades, less knowledge and skills“ (PL).

Along with motivation, **students' learning skills also decreased**. „The students' motivation is going down, as well as their learning skills“ (BG); „Students are more laidback during remote teaching“ (PT); „Greater demotivation, fatigue and frequent loss of attention“ (IT).

But there were also respondents who found that there were **no differences** in actual performance, and everything worked. In case it didn't work, it (non-functioning) was the same as before. „There is no significant change in the level of performance of students“ (BG); „Just like before“ (EE); „Good performance as offline“ (IT); „Participation in classes and commitment to the development of the proposed tasks“ (PT).

Teachers also point out that **students coped differently**, and this was very much dependent on the student's own will and effort. Those who worked hard progressed greatly. „Different – it was so, that stronger/active students became stronger, the weaker/passive students became weaker“ (EE); „Some were less motivated to adopt to the „new normal“. Some were doing nothing to change or improve or learn new skills. Therefore performance of the majority was less satisfactory. The minority that tried hard to adopt, made an enormous improvement“ (CY)

**Self-discipline was needed by students more** than before, and its absence caused problems with studies. „Some students think they have time off because of the pandemic. It is difficult to verify knowledge, therefore they do not learn, but only use notes and internet, which makes them lazier and makes them fall behind in their learning. The problem lies in self-discipline, students at school are supervised by the teacher, whereas at home, they sit in front of the computer, log on to the lesson and during this time play or do completely different things, they pretend to take part in classes“ (PL)

Some teachers estimated the **results were better than before** and everything went perfectly. It was important to ensure a safe learning environment. „It is much better and more individual“ (PL); „In a very positive way, due to the commitment and dedication they showed“ (PT); „The students did well. If they were fully secured, their progress would be even better. Online training, however, was a great interest to them and this helped to increase their motivation.“ (BG).

There was **more assessments** during pandemic to ensure continuous teachers' feedback for students. „By assessing all the activities they do and effort they make“ (PT); „Assessed them more because of lack of other kind of feedback“ (EE).

It was also mentioned that **more formative assessment was used**. „Formative assessment is usually used“ (CY); „More was a formative assessment“ (EE).

## LEARNING OUTCOMES

- learning outcomes are different, but mostly acceptable
- less knowledge and skills acquired
- students coped differently
- more self-discipline was needed
- more assessments to have awareness of results

There was the joy of **discovery from teaching in a new way**. „I found great responsibility, curiosity and pleasure in implementing a new way of teaching“ (IT).

**Development of students' soft skills** (My overall evaluation of students' soft skills development during the distance learning period) assessed also on the scale excellent, good, acceptable, poor and the results are similar to the overall performance: 42.0% of respondents considered the development of students' key skills to be acceptable, with 37.5% of respondents rated it as good, 17.0% poor and 3.4% excellent.

## 6.3 Difficulties in preparation and during online training

**STATEMENT.** Most impacting difficulties encountered by VET teachers in online learning are: literacy and digital obstacles; interaction with student/colleagues; not adequate information/support

The survey asked a question with multiple answers “Did you encounter difficulties with the preparation of the online work-based experience you offered?”. The replies show that almost equally among the respondents there are those who did not have difficulties (23.9%), who had difficulties related to lack of time (23.9%), difficulties related to the use of digital tools and the production of educational content (25.0%).

The constraints caused by the pandemic were difficult for 17.0% of respondents, while 8.0% of respondents had difficulties in accessing digital tools.

To the open question “In your own opinion, what are the most important difficulties encountered by VET online training during the outbreak response?” many comprehensive answers were given.

In answering this question, the teachers who took part in the survey once again highlighted the **lack of digital skills and technical problems** faced by all parties: the availability of suitable digital tools and/or software for learners or teachers, intermittent internet access or insufficient speed, etc.

Separately, problems with the **lack of digital culture** and its need for development in online communication were highlighted, in particular the use of cameras and microphones, and the actual presence in class. „The almost total lack of digital culture“(IT); „Educate people to trust the new platforms. Attend with open cameras. Participate. Don't do other tasks while attending a session, e.g checking email or social media“(CY).

However, the greatest difficulties for teachers in virtual vocational training were caused by a **lack of direct contact** with both students and colleagues, which was highlighted as the most important

### DIFFICULTIES IN ONLINE LEARNING

- lack of digital skills and technical problems
- lack of digital culture
- lack of direct contact
- difficulties in virtual practical learning
- no regulations or necessary support
- lack of suitable digital learning materials
- lack of participation and motivation



problem by teachers in one form or another in all countries. „Relationships with my students and fellow teachers at school“(CY); „The impossibility of direct teacher-student contact“ (BG); „There is no direct communication with students“(EE); „Lack of interaction and immediate response from learners“(IT); „The main difficulty is to transmit knowledge without presence of a teacher/student relationship“ (PT); „Lack of contact with students, we are not sure if they listen to us, and what is more important, if they understand us“(PL).

**Difficulties in virtual practical learning** were mentioned frequently, especially when laboratories were used in the learning process. „In my opinion the most important difficulties are the ones related to practice“(PT); „Difficult to teach/transfer practical skills“(EE); „In terms of strictly professional and technical training, the greatest difficulty was not being able to operate in laboratory environments.

The start of the pandemic and the quick move to distance learning were unexpected for the majority of vocational teachers, so there were **no regulations or necessary support** for distance learning, especially at the beginning of the pandemic. This put teachers in a difficult situation in continuing teaching and learning, which was a major challenge for teachers. „Insufficiently clear regulation for conducting the training (at the beginning)“ (BG); „Lack of understanding of the core of the problem by key organisations“ (PL); „The biggest difficulty was the lack of preparation for distance learning. Nobody expects a pandemic to arise, so it was all very quickly, we did the best we could. And only then, we can find solutions, through well or less well outdated experiences“ (PT).

In some cases, the **lack of suitable digital learning materials** was also highlighted precisely for practical vocational training, which led to the need for teachers to prepare them themselves. „Educational materials for students and teachers of technical schools requires creating own resources“ (PL). The unsuitability of traditional learning methods and tools for distance learning emerged. „It is not understood that in this field the traditional methods are not enough, it should be modernised with software and hardware“ (PL).

As has already been pointed out, the biggest problems and challenges faced by learners relate to **participation and motivation**. Ensuring the “presence” of learners in an online class is undoubtedly a bigger challenge than in a regular contact class. Teachers quickly came to the conclusion that not all students participate, are not “actually present” online and do not participate in the learning process. Although it also occurs in traditional learning, distance learning still provided more opportunities for “disappearance”. Teachers realized that additional work would have to be done by many at a later time. „Students tend to lose focus“ (IT); „Not all students were covered“ (BG); „Not all students will be involved in the study work, they must be teach separately later“ (EE); Work-Based Learning required learners to practice independently, which requires greater responsibility. „Motivating students at home to study and practice independently“(EE).

The pandemic was not limited to the first wave and by the time the survey was conducted it had been in effect for almost a year.

Due to maintaining the interest and motivation of students, searching for and testing suitable methods and learning materials, the workload of teachers had already had **an impact on the teachers themselves** at the time of the survey, manifesting themselves in fatigue and decreased motivation. Coping with this and continuing their work in teaching online studies requires additional efforts by teachers. „Self-motivation to stay proactive in teaching and training. Being a good example to students showing them that even the most difficult skills can be learnt during difficult times“ (EE); Loss of motivation in students and teachers“ (BG); Teaching and learning was certainly also affected by the anxiety caused by the pandemic, which affected all parties and requires attention to mental health. „Generalized psychological distress that impacts attention and motivation levels“ (IT); „Emotional difficulties and those related to live communications“ (BG).

## STATEMENT. The VET teachers evaluate that Work-Based Learning has been/ is not enough effective in online teaching

Another open question on the same topic was asked specifically about the negative effects of virtual work-based learning. Practical learning and practice in workplaces play a major role in vocational education and training, for example in Estonia together they account for at least half of the curriculum.

Work-Based Learning therefore plays a very important role in vocational education and training.

The aspects that negatively impacted work-based learning were highlighted by the teachers who took part in the survey, in particular the **difficulties in carrying out practical learning and practice in the workplace**. „Learning practical professional skills.

Finding places of practice, as jobs do not want to take strangers into the company because their afraid virus.“ (EE); „In professions that require a lot of practice“ (BG); „Although it is a useful alternative, there is no substitute to real practice in the workplace“ (PT).

Teachers in almost all partner countries consider **practical learning to be insufficient in distance learning** and this has a negative impact on the development of technical skills. „Lack of practical activities has demoralized and demotivated the children“ (IT); Lack of insufficient practical training“ (BG); „Learning and making practical work is difficult on-line course“ (EE); „Students are unable to put theoretical knowledge into practice, making the necessary training for technical development impossible“ (PT); „Development of practical skills necessary for given profession, especially related to gastronomy“ (PL).

There are **greater demands for proper hardware and software** to acquire practical skills online, as well as teachers' skills to use them. „Some practical tasks cannot be explained or presented online, it is also not possible to learn in practice without good hardware and software“ (PL); „My lack of competence in approaching remote simulations“ (IT); „Lack of good preparation of students and teachers for the implementation of online activities“ (PL); „Inability to use laboratory machinery. Few and expensive simulation application of laboratory mechanical, electronic, chemical instruments“ (IT).

**The availability of technical tools** was highlighted once more by respondents, as well as the increase of costs for users.

The extra work done or additional costs incurred were not paid. „Limited access of students and teachers to IT equipment and high-speed internet“ (PL); „Lack of sufficient equipment, using own equipment and electricity, no reimbursement of costs, little praise for the work put in“ (PL).

**Online learning requires different planning and execution**, it is necessary to take into account the alternation of online and offline activities.

Excessive sitting at the computer leads to health problems. „Too many hours of training are not

### SPECIAL EFFECTS ON WORK-BASED LEARNING

- difficulties in carrying out practical learning and practice in the workplace
- practical learning to be insufficient in distance learning
- greater demands for proper hardware and software
- the availability of technical tools
- online learning requires different planning and execution
- insufficient adaptability to changes or inappropriate methods
- problems with the involvement of students

dividend enough, as you get tired more easily online" (IT); „No planning and adequate preparation" (PT); „No exercise in the fresh air, excessive number of classes – unnatural body position, little exercise"(PL).

**Insufficient adaptability to changes or inappropriate methods**, such as long monologues of teachers or the same requirements for exams, were assumed as a reason of lower learning results of students. „Non proactiveness and non readiness non readiness to adapt" (CY); „Monologues" (IT); „The same examination requirements as before pandemic" (PL).

Distance learning led to a number of **problems with the involvement of students in the work-based learning process**.

Lack of motivation, side activities online, stress, emotional insecurity, fear, isolation strongly influenced the effectiveness of practical work-based learning. „Students in general spent more time playing video games than studying. In september they returned to school more addicted to their phones" (PT); „Students are not engaged, tired" (PL); „Generalized psychological distress that impacts attention and motivation levels" (IT); „Fears and worries of students, emotional uncertainty of students" (PT); „I believe that the state of mind, sometimes of discouragement, has greatly affected learning" (IT); „Aspects that have negatively affected the learning process are isolation or loneliness which might exist outside the traditional school environment" (PT); „Those students in risk of dropping school are most likely to abandon in a WBL" (PT); „Progress comes with slower pace" (EE); „Students need the face-to-face component to learn, human relationship is essential in teaching/learning process" (PT); „The lack of closer relationships" (IT).

Although there were many difficulties and challenges in distance learning during the pandemic, the collected data is a valuable asset for innovation in work-based learning in vocational education and training.

Those who had problems with progress in teaching in the past found it even more difficult. Slower progress in learning also had to be taken into account.

## 6.4 Teachers' work and well-being during pandemic

**STATEMENT. VET teachers have need to overcome problems of workload and involvement of students, in online teaching**

The pandemic led to major changes in the work of the vocational teacher. There has been much discussion about whether and how much teachers' workload increased and what more needs to be done differently than before. The study carried out asked vocational teachers to assess the extent of changes in their work on the scale Decreased, Decreased slightly, Did not change, Increased slightly, Increased.

**Teachers with 6 to 10 years of work experience are most confident in virtual learning.**

Respondents' assessments (Figure 21) show, that 71.6% of teachers' workload has increased during the pandemic, including 43.2% increased and 28.4% increased slightly. At the same time, 19.3% of respondents say otherwise that their workload has decreased, including a 9.1% decreased and 10.2% decreased slightly. 9.1% of teachers estimate that their workload did not change.

*The extent to which your work changed during the distance learning period (1)*

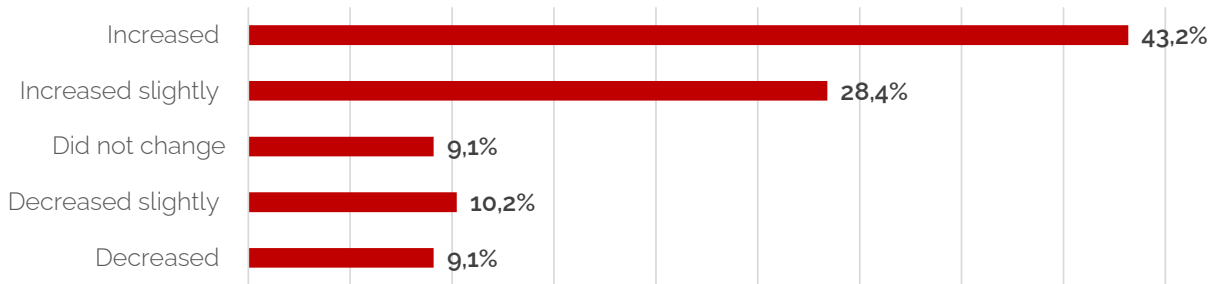


Figure 21. Changes in teachers' work

There are significant differences between countries (Figure 22): Polish (100%) and Estonian (93,3%) teachers had the largest increase in their workload, according to the survey. At the same time Bulgarian (35,7%) and Italian (33,4%) vocational teachers estimated a decrease in their workload during pandemic.

*The extent to which your work changed during the distance learning period (2)*

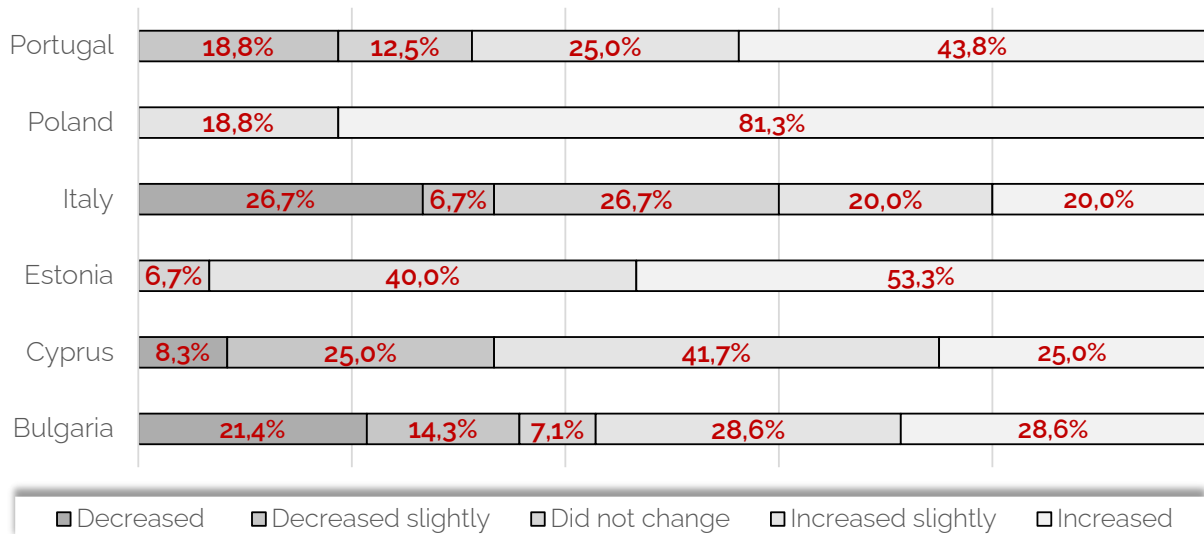


Figure 22. Changes in teachers' work by countries

Comparing the respondents' assessments of the change in their workload during the pandemic according to their teaching experience (Figure 23), it appears that the greatest increase in the workload was among teachers with long-term experience (over 10 years), with all of them increasing their workload.

At the same time, teachers with 6 to 10 years of work experience seem most confident in conducting distance learning, their workload either decreased (67%) or not changed at all (33%). Among teachers with less experience, the majority was again with those whose workload increased.

### The extent to which your work changed during the distance learning period (3)

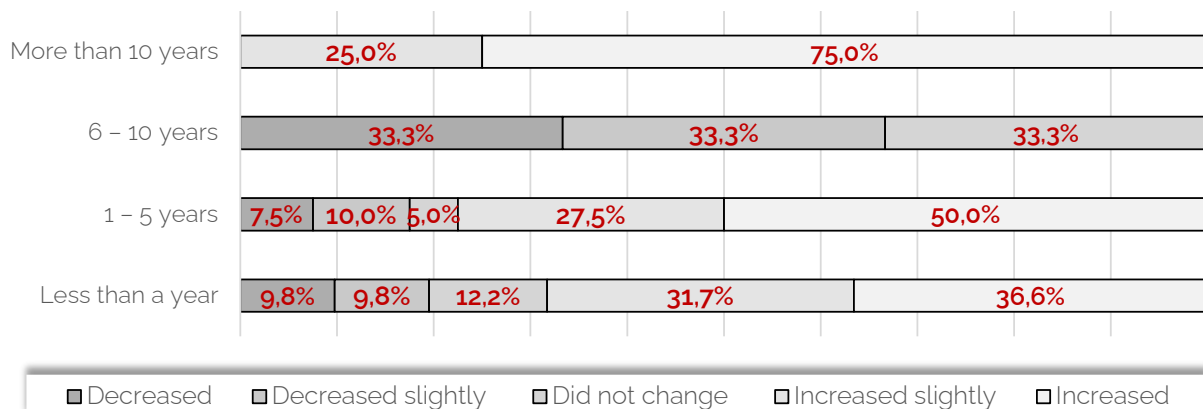


Figure 23. Changes in teachers' work by experience

To the open question of **problems and challenges that emerged** in teaching during pandemic („Think about your work and well-being during the distance learning period due to the pandemic. What were the main difficulties and challenges you faced?) a number of comprehensive responses were given, as further structured.

- Motivation and participation of students**

When thinking about work and well-being during the pandemic, teachers in all partner countries considered the motivation of students and participation in learning to be the greatest challenge, especially among those who had similar problems in the past.

„Those suffering from attention deficit, were completely lost in cyberspace“ (BG); „The main challenges that arise were to keep students motivated“ (CY); „Difficulties with reaching some students who „disappeared digitally, especially at the beginning of the pandemic“ (PL); „Younger learners were less motivated than adult learners“ (EE); „Engagement can be harder, students can hide much easier“ (PT); „The main challenge was being to create interest and engagement even without physical contact“ (IT).

- Lack of devices and Internet connection**

The lack of computers and adequate internet access for distance learning was also noted by vocational teachers from all partner countries under the difficulties and challenges. Bulgarian teachers mostly missed decent computers and internet access („The school where I work is located in a small town with limited internet access“), sometimes students only had their parents' phone to use for lessons, there were cases where the problem was to pay for internet access. In order to carry out their studies, Bulgarian teachers even had to print assignments and send them home weekly. Problems with computers and the Internet were everywhere, and this made it difficult to implement distance learning.

- Lack of online learning resources**

#### PROBLEMS AND CHALLENGES IN TEACHING

- lack of motivation and participation of students
- lack of devices and Internet
- lack of online learning resources
- redesign of curriculum and methodology
- lack of contacts with learners
- increased workload
- digital skills of teachers and students

The lack of learning resources suitable for online learning was highlighted by the Bulgarian („it is difficult to teach professional subject because there are no online resources available“) and Polish („no materials to teach online“) vocational teachers. Cypriot teacher aimed to redesign existing learning materials („modify existing learning material for online seminars“), Italian teachers, however, had difficulties finding a suitable platform („difficulty to find a platform that satisfy my training needs“).

- **Curriculum and methodology**

The transition to distance learning presented great challenges for vocational teachers in terms of teaching and evaluation methodology. Teachers had to quickly redesign curricula („creating a realistically applicable curriculum for online training“ (BG); as teaching methods and to acquire new skills: „Practical skills are remotely difficult to pass in, it was necessary to figure out a lot of new tasks and supplement your materials“ (EE). Due to both technical and methodological problems and shortcomings, teaching became less democratic as smooth discussions with learners became difficult to carry out „For teaching, overcoming the difficulties due the fact that it is not democratic teaching“ (IT).

- **Lack of contact**

The lack of direct contact with learners was noted as a major difficulty or challenge by vocational teachers from Bulgaria, Cyprus, Poland and Italy. Bulgarian teacher also considered it an influence on learning motivation „ Loss of motivation in students due to lack of live contact with teachers“. Lack of contact and interaction between teachers and pupils has a direct impact on the well-being of both students and teachers: „lack of contact with students and colleagues has an impact on people's well-being“ (PL). It is also not possible to understand the actual needs of students through a webcam „The main difficulty was interacting with students. Their needs cannot be understood through webcam“ (IT).

- **Teachers' well-being and workload**

The transition to distance learning took place quickly and without any preparation during the first wave of the pandemic, and this also had a strong impact on teachers' daily living arrangements, their well-being and increased the workload of many. Teachers could not maintain a work-rest balance in a changed situation „One of the most challenging points during this period, is to able to maintain work-life balance“ (CY); teachers felt left alone „I had to organise everything by myself“(PL); doubted about coping „I was questioned myself if I am doing right“(BG) and tired of workload „I'm tired in afternoons“(PT) or constant sitting at the computer „Online learning has significantly increased the amount of time spent working at the computer. This caused increased fatigues – especially eyesight“(PL). On top of all this, teachers experienced fear and stress „Stress and fear of the unknown“(EE), „in addition, there is the fear for our health“ (PL); uncertainty „uncertainty, we still do not know when things will go back to normal, and things are changing rapidly“(CY). In addition, the absence of a support system was noted: „No regulations facilitating teachers' activities“ (PL).

- **Digital skills of teachers**

Teachers' preparation for the use of digital platforms has not been sufficient and the development of digital skills requires continued attention „I had never use Teams before, I felt insecure“ (EE). In addition to technical skills, teachers have noted the importance of psychological preparation and so-called soft skills for distance learning „ Adapting to a new situation that demanded high digital skills and other skills“ (CY), „Educate people to entrust online learning“ (CY).

- **Digital skills of students**

Under the main difficulties and challenges of distance learning, several respondents also highlighted shortcomings in students' digital skills „difficulties with installing programs by students, not everyone could cope with it, I had to spend a lot of time to make sure everyone had the right tools“ (PL) or the lack of computer skills among older learners „poor

computer literacy for over 50 classes“(IT). Separately, the skills required in distance learning to correctly use the microphone and camera were mentioned: „students lack of knowledge to use the different tools of distance/virtual learning as well as communication practice e.g. to speak slower and louder than usual“(CY), „some students did not work with microphones, there was no voice, no picture“(EE). The use of the microphone and camera by learners is important in distance learning to ensure the quality of learning, as well as to facilitate the work of the teacher and all learning process „the younger students were easier to teach. The older ones wouldn't turn on their cameras“ (PT).

In free form, vocational teachers answered the question what supported them in this situation („Think about your work and well-being during the distance learning period due to the pandemic. What supported you in this situation?“).

- **Collaboration with colleagues**

When asking vocational teachers what or from whom they received the most support during the distance learning period, teachers from all partner countries have highlighted cooperation with colleagues as a very important supporting factor. „Cooperation and teamwork between VET teachers“ (PT); „Conversations with teachers“(PL); „Colleagues. Always help with the use of programs and the technical side“(EE); „Psychological and social support from colleagues“(CY); „Many teachers shared their learning resources and more. All this gave us strengths to deal with the challenges of the situation“(BG). Separately, it was pointed out that there was a lot of help from teachers' meetings during distance learning (EE, IT, PL) as well as from the support of the school board (PL).

#### SUPPORT FOR TEACHERS

- collaboration with colleagues
- new technology
- support systems in school and country
- students' support
- teachers' work and commitment
- time management and priorities
- personal qualities and personal growth
- mental and physical well-being
- family and friends

- **New technology**

Importantly, the vocational teachers in the study mentioned support of existing new technology. „Support of new technologies – Teams“ (PT); „Sharing information on the use of the Moodle and Teams platform“ (PL); „Online platforms like Zoom and Google Meet“ (IT). Teachers were delighted that existing online platforms allowed them to continue their work „The existence of online tools such as Zoom, Meet etc. It allowed me to continue working“(IT) and income maintained „Therefore, the salary is obtained“(BG). Technology also offered teachers the joy of discovery „The pleasant discovery of technology, the potential in the didactic application“( IT) and thoughts for the development of the learning process. From the Internet teachers also found the necessary support in the form of online platforms, websites, apps and guides „Tutorials were very handy“ (PT); Youtube was a big support to implement new tools“ (PT).

- **Support systems in school and country**

Bulgarian teachers noted the television study programs offered during this period, and many publishers also came to help and offered free access to educational materials. Estonian teachers separately highlighted the IT support provided by the school, namely educational technologists working in Estonian schools, whose job it is to provide technical and methodological support to teachers in digital learning, which has now expanded

into distance learning. Technical support was also noted by the Cypriot teacher. Although the unexpected situation mainly helped with the skills acquired in the past, „Previously acquired knowledge and skills prepared me for online teaching“ (PL); „The only support was given only by my previous skills“ (IT); „Thanks to my digital skills I was able to organize the lessons“(BG), also online trainings organized during the pandemic, provided necessary support to teachers in online training „I had trainings for distance learning“ (EE); „participation in trainings and professional development programmes“ (PL). Coping with distance learning was influenced by the availability of resources in schools „good educational base of the school“ (PL) and the possibility for teachers to use them „the school rented me a high-quality laptop, with which I could work properly“ (EE).

- **Students' support**

Teachers received a lot of support from students who came participated in digital learning. „The desire of students to continue their education in a digital environment“ (BG); „My action was fundamentally based on interaction with students, thus allowing all of them to interact with each other and with the teacher. Promote constant motivation so that students do not lose focus on learning“(PT); „The closeness of students“ (IT); „Sometimes students showing good will to overcome the problems due to pandemic“(CY). „It was difficult to get students to Teams. Thanks to Facebook, students communicated with each other and invited each other to Teams“ (EE). Students' progress, even small, also provided support „with perseverance and demand, the students still progressed, but in smaller steps“(BG); „perseverance, faith in educational success“ (PL), „the desire of people to seek and try alternative ways and methods of learning“ (BG).

- **Teachers' work and commitment**

Distance learning during the pandemic posed unexpected and unknown challenges for teaching. For many, the workload increased significantly, but for everyone the content of the work changed. In order to cope with the chaos that has arisen, many teachers relied on more distant goals and their mission in society. „For me the education of students is the most important thing to do“ (BG); „Focusing on the results and trying to do work when it was possible“(EE); „The greatest support is to like what I do and not to stop teaching even when I'm away from students.“ (PT); „We teachers were the only option in most families. I felt needed and needed at all times“ (BG); „The work and commitment of the students to be complete“(BG). As a positive factor in online learning, more equal access compared to traditional learning was highlighted. „Online teaching was a new experience for me, which has some advantages such as the ease of transferring knowledge because not always everyone can see what is displayed with a projector, sometimes the light is too bright and they get distracted, whereas during online classes everyone can look at the monitor“ (PL).

- **Time management and priorities**

Distance learning revealed the need to plan time with a student in virtual online contact via digital tools „Then the fact that the commitment time is limited to work in the „classroom“ allows to optimize the times“ (IT). It is important to create a clear plan for yourself and the ability to prioritise „have well-defined routines“ (PT), „the ability to prioritise, and optimism“ (CY). As supporting factors, teachers were influenced by distance learning opportunities to manage their own time „I was allowed to manage my own time“ (EE); „having a reduced timetable gave me time to explore and prepare classes and answer students messages and emails“ (PT).

- **Personal qualities and personal growth of the teacher**

The vocational teachers who responded to the survey highlighted a wealth of qualities



and skills that will provide the necessary support in difficult situations: Creativity (PL), Curiosity (EE), Resilience (PT), Dutifulness (PL). „I was supported by the courage to try new opportunities“ (EE); „Self motivation to survive, adopt and succeed“ (CY). Teachers as highly qualified professionals attach importance to the possibility of personal development and lifelong learning „The desire to grow also under this formative aspect different from the usual“ (IT), „Constant knowledge and personal development“ (CY), „learning and developing skills every day“ (PL). The progress was further inspired: „my thought was that I could handle any difficulty and this is the best thing I do for the students and the smooth running of the learning process“ (BG).

- **Mental and physical well-being**

Attention to mental and physical well-being proved particularly important during the pandemic „have a good emotional structure“ (PT), „my hobby helps me“ (PL), „supporting others, gymnastics, trainings“ (PL), supported the opportunity to work in a secure environment „I teach at home in comfortable working and safe environment“ (IT).

- **Family and friends**

Teachers received support and power from family, friends and social networks. The importance of family and friends' support was noted by several Portuguese teachers, as well as by others „the only thing that help is being in touch with people, friends and family“ (PL), „surely social networks have made it possible to reduce physical distances and keep relationships alive“ (IT). Family and friends also helped out technical issues when needed „my children (age 17-24) who were more familiar with online platforms“ (CY) or helped with equipment „our friends donated devices to students who did not have them“ (BG).

## 6.5 Teachers' professional development

**STATEMENT.** The VET teachers' professional development is a positive consequence of the pandemic experience

The open question in the survey “How do you evaluate your professional development in virtual WBL? How did the pandemic change your teaching?” has returned a lot of substantial answers. Analyzing these responses, it turned out that distance learning during the pandemic led to a significant leap in the professional development of teachers.

- **Development of teachers' digital skills**

According to the teachers who responded to the survey, their digital skills, digital literacy improved significantly. „I started to apply online platforms more actively“ (BG); „Certainly my digital and online facilitation skills improved for organising a session online, using some online learning and assessment tools“ (CY); „Teaching online made me develop in this field“ (PL); „I can use digital tools better“(EE).

### PROFESSIONAL DEVELOPMENT

- development of digital skills
- valuable experience
- changing in teaching and learning
- new methods
- more flexibility
- more learner-centred
- development of planning skills

- **Teachers' valuable experience**

Teachers highly appreciate the valuable experience they have gained. „I gained valuable experience“ (BG); „The development was good and a form of new adaptations to the new reality“ (PT); „I am more confident now, when it come to online and distance learning“.

- **Changes in teaching and learning**

The pandemic changed traditional teaching, and teachers had to find solutions and a way to manage with the situation. „The search for possible ways to present the study material proved me that there are ways“ (BG). Virtually organizing work-based learning added challenges and opportunities for development. „It change the way we used to work the practical classes“ (PT); „I developed further in virtual WBL due to the pandemic“ (CY); „I've increased my knowledge in WBL and I believe it was necessary“ (IT). Teachers became more flexible in their work. „I'm more flexible, I take into consideration many variables“ (PT); „We had to adapt all the material we used and usually change the plan depending on the situation“ (CY); „I would say that I became even more flexible after the training in an electronic environment, due to side factors, mostly technical and the time I had“ (BG).

Many respondents acknowledge that the period of distance learning during the pandemic significantly changed their teaching methodology, with new solutions reached through analysis and testing. Teaching became more learner-centered, the learning process had to be planned in more detail. „This time led me more to think about different teaching tasks and supplement existing teaching materials“ (EE); „The learning process became more student centered“ (PT); „It allowed me to broaden and deepen the different teaching and training opportunities offered by the network to diversify teaching“ (IT); „I had to think outside of the box and explore other options or online tools that were available and could enhance the teaching experience“( CY).

Learning had to be made more attractive to the learner in order to keep the student motivated from a distance. „I had to interact more through images and schemes to make the topics less difficult and boring“ (IT); „It made me want to be more practical and less theoretical, in addition to trying to find new ways to innovate my lessons“ (PT).

There were only two teachers among the respondents whose teaching methods were not changed by the pandemic, one of whom cited the reason that he taught using digital tools before.

Teachers pointed out a number of conclusions about their professional skills as well as their technological and methodological opportunities. „I personally have a long way to go“ (IT); „I believe in blended learning including the use of asynchronous learning“ (CY); „Everything is possible“ (EE). In conclusion, distance learning during the pandemic led to a significant growth in the personal qualities, attitudes and professional skills of vocational teachers in all partner countries.

## 6.6 Main lessons learnt

**STATEMENT.** The VET teachers are aware that more is possible and valuable to be achieved

Main lessons learnt from distance learning during the pandemic (“What are the main lessons learnt in virtual WBL during the pandemic?”) when analysing responses, were the following.

- **Possibility of online training in WBL**

Online learning is possible and effective, but definitely different. „If desired, it is possible to

organize effective online training" (BG); „That it is a useful alternative" (PT); „It is a different and useful in some instances method of teaching" (CY); „To be more grateful of all opportunities" (BG).

- **Adapt the curriculum and the arrangement of studies**

The curriculum and the arrangement of studies prepared for traditional studies do not work, rearrangements/adaptions must be made. „How to adapt the curricula" (BG); „All different which were in lesson plan" (EE); „The main lesson is that we should try our best to put everything we want to transmit on the computer screen and be very present to support difficulties" (PT); „That online is definitely different from physical training and needs great effort to be facilitated efficiently" (CY).

- **More challenging**

Online learning offers significantly more challenges and, at least initially, more work in preparation for teaching. „That is much more challenging than physical teaching" (CY); „That we work a lot more and have a less results" (PT); „WBL is challenging and it is really satisfying to learn new ways to carry out your professional mission" (IT).

- **More flexibility for teachers and students**

Teachers, as well as students, need to be more flexible, react quickly to changes and solve problems. „Always be prepared for surprises" (EE); „Problem solving" (IT); „That we have to be prepared to every situation" (PT); „How to be more creativity in my teaching methods" (BG); „You have to be flexible" (EE).

- **High leap towards digital technology**

The pandemic provided an important boost for the ultra-fast movement towards the use of digital technologies. „If it weren't for the pandemic, there wouldn't be such a high leap towards digital technology in schools" (BG); „Many teachers and students have acquired new technical skills," (BG); „Using many new platforms and programmes facilitating online teaching and learning" (PL).

- **New teaching methods/ development for teachers/ growth mindset**

„I can still learn new teaching methods even if they're not in my tune" (IT); „I need to find new better ways to motivate my students to learn, when a distance learning is needed" (BG); „You can always do better" (EE); „I am able to take challenges and to improve my teaching experience all the time" (BG).

- **Pair-to-pair recommendations for online WBL**

„Online teaching requires frequent breaks" (CY); „Keep it simple" (EE); „Respect the audience opinion" (BG); „Be more empathetic. I realized that not all students are able to study at home without distractions or have all the tools that allow them to work optimally" (PT); „That active listening, in training, always remains the most important element that should not be underestimated." (IT); „Students like to have freedom of choice regarding the time to complete tasks. Affection is important to promote engagement and motivation" (PT); „Can't expect students without virtual WBL to just switch to virtual mode – results come with time" (EE); „To be patient with the students" (BG).

- **More personalized teaching and learning**

### MAIN LESSONS LEARNT

- online training in WBL is possible
- curriculum and learning process need to adapt
- more challenges
- more flexibility needed
- high leap towards digital technology in WBL
- new methods
- growth mindset
- more collaboration needed
- more personalized teaching and learning
- more challenging to involve students

„Only virtually teaching it's even more important to personalize teaching than in-class teaching“ (EE); „Teaching has to be person to be well done“ (PT); „No one should be left behind. If necessary call students.

- **Participation of students is challenging**

„At school, it is already difficult to capture the attention of students, and when they are at home, it becomes more difficult“ (PT); „Being able to keep the student's attention high without having a direct relationship“ (IT).

### Conclusions

In conclusion, it was pointed out that school as a physical place is still very important for students and teachers, that education and its quality should be a priority for all and that lessons must be learned from distance learning during the pandemic and taken into account for future learning processes. „Besides all aspects, the main lesson is that SCHOOL (as a physical space) is very important for all students and teachers“ (PT); „Education must be priority for all“ (CY); „The pandemic provides a powerful test of the potential of online learning. It has also revealed its key limitations, including the prerequisite of adequate digital skills, computer equipment and internet connection to undertake training online, the difficulty of delivering traditional work-based learning online“ (PT).

**Education and its quality  
should be a priority for all**

## 6.7 Changes in WBL

**STATEMENT.** The VET teachers are aware that changes in WBL are necessary and support is needed to promote that these changes will be positive

The open question of changes in Work-Based learning (“How did the pandemic change the WBL?”) also brought many different opinions from all the experts involved.

- **Changes in concepts, methods and arrangement of the work**

Due to the pandemic, compulsory distance learning was a challenge for both students and teachers, especially in practical work-based learning. Concepts, methods and organization of work changed, and everyone had to adapt in a short time. „It changed the traditional concept of teaching“ (PT); New working environment, there was a need to think how to organise work“ (EE); „It showed that different forms of teaching are possible“ (PT).

- **Work-Based Learning became even more important**

Changes in work-based learning can bring positive results, highlighting its importance better. „It changes it constantly, the results might be positive“ (PT); „All people understood the importance of WBL“ (CY); „The WBL has been reinvented“ (IT).

- **The importance of online learning and technology in the learning process increased**

The importance of online learning and technology increased, which was almost the only way to continue learning process and teaching. At the same time, the imperfections of online learning remained, although technology also developed. „It allowed the students to keep learning and finishing their courses“ (PT); „It has made online a constant in our life (sometimes the only way to grow or communicate)“ (IT); „Due to the lack of alternatives, online learning has developed and improved as a learning environment, but maintaining the known imperfections of distance learning“ (BG); „Technology is more important now, it made it more modern“ (PL).

- **Digital literacy of users developed**  
The digital literacy of users undoubtedly improved significantly, everyone had to learn a lot. „Improved the technical literacy of teachers and students“ (BG); „We have learned a lot about using digital tools“ (EE); „It has promoted self learning by teacher who didn't use digital tools before“ (PT).

- **Teachers are more creative and flexible**  
Teachers had to be more creative and flexible, quickly find new solutions. It also sees the beginning of major changes in education. „Teachers should become more flexible and look for solutions on the internet“ (PL); „The pandemic forces us to be more creative. It forced us to realize that the world is indeed changing and that education needs to adapt to that change“ (PT).

- **Positive changes in the quality of teaching**  
Positive changes are seen in the quality of teaching, as teaching had to be planned more carefully, creative solutions found, often rethinking existing learning activities. Weaknesses and inefficiency came out better, which contributed to the improvements. „I have a smarter approach to work“ (IT); „From a more positive point of view, there is now more time to comprehend the learning topics“ (CY); „In practical training sessions it raised many questions regarding its effectiveness“ (PT); „Proved its weaknesses and inefficiencies in certain areas“ (BG).

- **New approaches to key skills**  
By adapting the teaching methodology, teachers came up with a number of new approaches to key skills that received slightly less attention so far, e.g. growth mindset, emotional intelligence, agile methodologies, etc. „New learning tools – platforms, new learning areas emphasizing e.g. EQ, Growth Mindset, Agility, Resilience“ (CY).

- **Different consequences and greater autonomy for learners**  
In terms of learners, both positive and negative effects were highlighted, they had more autonomy, sometimes “exploited”. It was certainly more difficult to engage learners. „Make the children more organized and some more cunning“ (BG); „It gave students more autonomy“ (PT); „More difficult to engage students“ (EE); „Decreased the education level“ (PL).

- **Practical learning was partly replaced by theory**  
Sometimes practical learning was replaced by theory, and the role of the teacher in the learning process may have become more dominant than before. Even if learners had the opportunity for greater responsibility and independence, this often did not lead to a result. However, it is acknowledged that it is not possible to successfully carry out all work-based learning online. „The pandemic forced us to temporarily convert practice into

## CHANGES IN WORK-BASED LEARNING

- changes in concepts, methods and work arrangements
- WBL became even more important
- the importance of online learning and technology in the learning process increased
- digital literacy of users developed
- teachers are more creative and flexible
- positive changes in the quality of teaching
- new approaches to key skills
- different consequences and greater autonomy for learners
- practical learning was partly replaced by theory
- difficulties with apprenticeship and practice on workplaces
- results of distance learning depending on the region or teacher
- both negative and positive effects in long term

theory" (IT); „Teachers have to show and explain more things, students can experience/ do independently much less" (PL); „It did make it more complicated. There were many tasks and procedures that needed real life attendance but due to the pandemic students needed to be more independent and find solutions themselves. Usually students gave up unfortunately" (EE).

- **Difficulties with apprenticeship and practice on workplaces**

Apprenticeship or practicing on workplaces encountered difficulties due to the economy and businesses affected by the pandemic. „It still has to show, since 2020 many students could not be placed into apprenticeships" (CY); „Of course the pandemic made it more challenging to implement WBL, since there was high unemployment at global level, companies weren't motivated to hire even trainees" (CY).

- **Result of distance learning depending on the region or teacher**

The impact of the pandemic on teaching may vary in large cities and rural areas, where access to technology and the Internet may vary in large scale. The age and attitude of teachers can also play an important role in accepting changes. „The pandemic changed and improved online learning. In larger cities, where there is free access to the Internet, effective online training is conducted. This, of course, depends to a large extent on the competence of the teachers. Many older teachers refuse to accept the new way of teaching and increase their knowledge. On the other hand, there are teachers who skilfully use online learning resources, manage to engage their students and conduct effective learning" (BG).

- **The negative effects of distance learning in long term**

There is a common opinion that there is great scope for changes in education and in VET, but there are different opinions, about what and how is changing in education, work or the labor market. For example, inequalities are predicted to deteriorate. „The COVID-19 pandemic has severely affected skills, lifelong learning systems and work-based learning, etc. There has been a very abrupt and large-scale interruption in skilling, reskilling, and up-skilling of young people and adult workers around the world. The pandemic has disrupted examinations, delayed completion of programs, and will affect the immediate and future careers of millions of learners. It has also reinforced existing inequalities affecting workers and learners around the globe" (PT).

- **The positive effects of distance learning in long term**

On the other hand, challenges and uncertainties during the pandemic are seen as an opportunity for positive changes in the world of work in terms of accessibility, inclusion and more equal opportunities. „Practitioners and participants involved in work-based learning (WBL) have experienced both a period of challenges and uncertainty during the pandemic. However, there has been an opportunity for the world as a whole to assess and identify solutions to workforce development that integrate diversity, accessibility, inclusion, equality" (PT).

## 7. Main considerations on virtual WBL

**STATEMENT.** Digital VET increased during the pandemic, is likely to be further adopted in the post-pandemic teaching and innovation is required in WBL

Distance learning due to the pandemic has brought major changes to vocational education and training, including Work-Based Learning, affecting our students, teachers, the social and economic environment in the long term. At the time in which our study and analysis is conducted, the whole world is still facing the COVID-19 pandemic, and extensive restrictions are in force in most vWBL countries, which in turn also means closing schools and continuing distance learning. However, it is already evident that even after the restrictions will expire, we will not return to the same 'traditional' learning that we were in at the beginning of 2020. Changes in learning, communication and work are anchoring with the mindset about what education and training means and how it is enabled.

The use of digital technologies in learning, communication and work has increased exponentially and is likely to further being adopted after the pandemic ends. Although there were many difficulties and challenges in distance learning during the pandemic, the collected data is a valuable asset for innovation in Work-Based Learning in vocational education and training.

### 7.1 Effectiveness of distance learning

**STATEMENT.** The consulted VET teachers reported an overall unawareness on the efficacy of the digital WBL offered during the pandemic

Self-evaluation results on the scale highly effective, effective, somehow effective, not enough effective, show (Figure 15) that the majority of teachers (89.8%) considers online learning to be effective, including a highly effective 3.4%, an effective 43.2%, somehow effective 43.2%. Only 6.8% said it was not effective enough.

*How do you self-evaluate your proposed online work-based learning?*

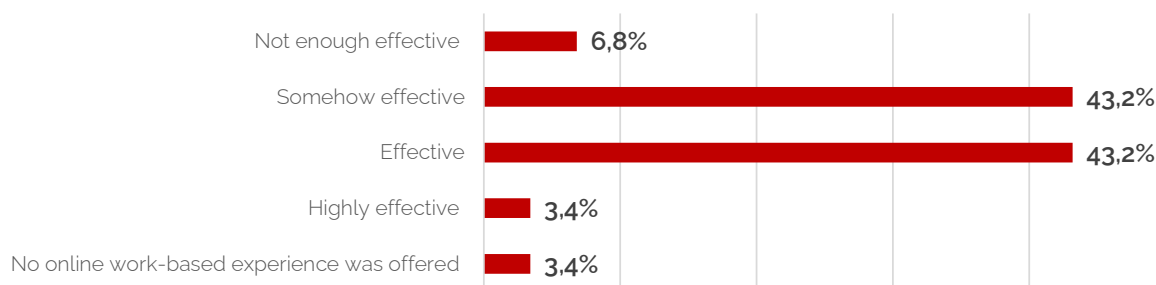


Figure 24. Teachers' self-evaluation of online WBL

Respondents to the survey assessed the effectiveness of Work-Based Learning during the pandemic (Figure 25), compared to the previous one on a scale of decreased, decreased slightly, did not change, increased slightly, increased. The assessments made by the respondents show that the opinion that the effectiveness of work-based learning during the pandemic decreased slightly (42% of respondents) or decreased (21.6%), with a total of 63.6% of respondents saying that effectiveness decreased. However, there are also contrary opinions, almost a fifth, 18.2% of vocational teachers claim effectiveness of work-based learning has increased (6.8% of respondents) or increased slightly (11.4% of respondents). The same number, 18.2% do not see any changes in effectiveness.

**90% of teachers evaluates virtual WBL as effective**

**64% of teachers estimates effectiveness decreased during pandemic**

*Comparing traditional learning in WBL before the pandemic, please evaluate the effectiveness of distance learning during the pandemic*

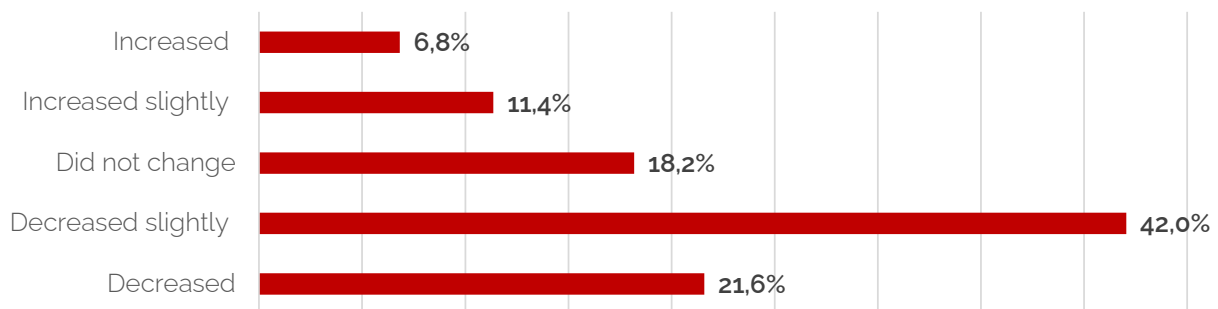


Figure 25. Effectiveness of virtual WBL compared with pre-pandemic

The assessments made by the respondents show that the opinion that the effectiveness of work-based learning during the pandemic decreased slightly (42% of respondents) or decreased (21.6%), with a total of 63.6% of respondents saying that effectiveness decreased.

## 7.2 What is important in virtual WBL

**STATEMENT.** Virtual WBL mostly has to: be closely connected with practice; motivate students.

To the question of multiple choices "What do you think is the most important aspect that an online work-based experience should always transfer?" most teachers answered (Figure 26) "real difficulties and solutions connected with practice"(29,5% of respondents) and "the motivational impact on students/learner" (28.4% of respondents).

The fewest "votes" went to "the emotional aspects related to the production of outputs" (4,5%) and "the time required to practical execution" (5,7%).



*What do you think is the most important aspect that an online work-based experience should always transfer?*

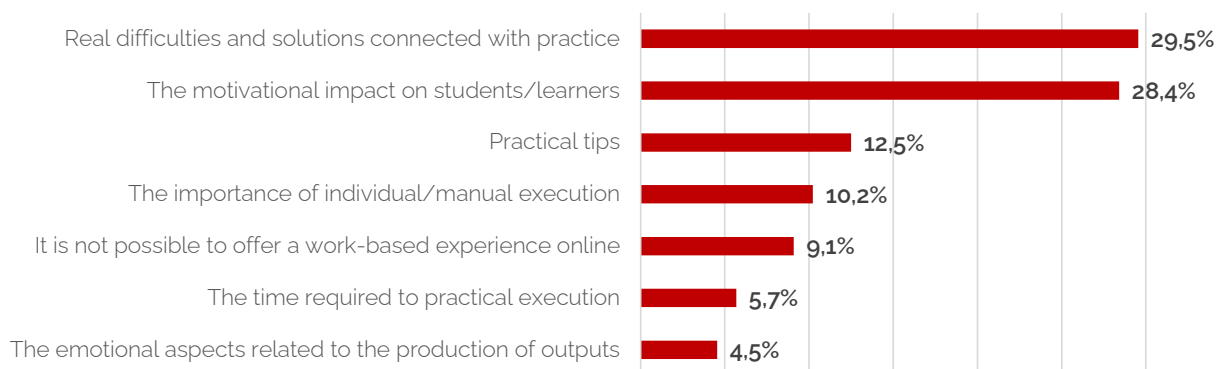


Figure 26. Aspects in virtual WBL should always transfer

### 7.3 Need for long term changes in VET

**STATEMENT.** Long term changes in VET digital teaching will have particularly to include: - dedicated preparation, tools and methods on the digital dimension of teaching; - continuing training for teachers

The open question on the future of digital learning in vocational education and training (“How and to what extent do you believe online VET training should be reviewed in the long term, in the post-pandemic forthcoming period?”) has been answered similarly quite often: so that the role of digital learning in vocational education and work-based learning increases significantly compared to the period before the pandemic. Digital learning has come to stay and, as a result, the necessary adjustments and arrangements need to be made. Digital learning has shown itself to be an effective option. “Certainly online VET needs to be reviewed and readapted, since this will be a new reality for an extended period in the future” (CY); “Yes, it has generally been shown to be an effective training option” (BG). As **digital learning needs to be combined with contact learning**, a ‘hybrid’ version is proposed by vocational teachers from almost all partner countries. “I think that distance learning has a place in education, but it must be applied purposefully and in combination with the traditional classroom environment” (BG); “I believe that the education system could be mixed” (PT); “It will be mixed with earlier used methods” (EE);

#### NEED FOR LONG TERM CHANGES IN VET

- digital learning needs to be combined with contact learning
- preparatory actions need to be carried out
- appropriate tools and equipment
- good connections for everyone
- appropriate methods and content
- communication and cooperation
- continuing training for teachers
- new digital culture
- more online learning in future
- more European cooperation

“Online learning is a great addition/support for traditional teaching at school” (PL); “To be combined with the physical implementation method” (CY); “Those who partly use the classic lesson modality could, in some cases, use the distance dimension on the web, but integrating it with a part of active and participatory learning in the presence, especially for cooperative and laboratory work.” (IT). In order to make effective use of digital learning in practical work-based learning post- pandemic VET, in combination with contact learning, a number of **preparatory actions need to be carried out.** „We are now living the transition period of online VET training. Therefore in the post-pandemic forthcoming period there will be a need for a reviewing” (CY); „It should be reviewed, everybody that works at schools should be prepared” (PT); „Review is clearly important to make better decisions in the future” (EE); „Yes, we still do not have the structure and methodology” (CY).

- **Tools and equipment**

“It will be necessary to make the platforms easier and more intuitive” (IT); „I think that tools and procedures need to be simpler and more uniform” (IT); „Wider access to online materials” (PL); “assisting students and teachers with technical devices to be able to reach the maximum number of students” (BG); “Use simpler and shared management tools among the various stakeholders” (IT).

- **Equal connections**

“Not every students has access to WIFI and we can run into equity problem” (PT).

- **Methods and content**

“Find solutions (digital) to teach practical skills” (EE); “Videos should be created in practical classes with all necessary steps to teach the various subjects” (PT); “Diversifying more teaching, exploiting the knowledge of the network obtained in this period to make it more participatory and attractive” (IT)

- **Communication and cooperation**

“Improving the internal communication between the project managers of a course, teachers and learners, would certainly have a positive impact” (IT);





“Sharing experiences between colleagues” (EE);  
“Online teaching is a good experience when it comes to group work via special platforms” (PL).

- **Teachers' training**

„Reshape and enhance the training systems to create meaningful pathways and strategies to orient current and future workers towards the skills and jobs of the future” (PT); “More training in the use of technology and teaching alternative to the classical one” (IT); “We all (instructors - students) were unprepared for a sudden embarkation in online training. Should we prepare ourselves and enhance digital tools things will turn better and distance learning will prove to be better than traditioned one” (CY); “We'll be doing more distance learning and we need to be ready for that” (EE).

- **New digital culture**

“By introducing as soon as possible, a new culture towards digital and new technologies, both in institutions and in companies” (IT).

- **Self-learning future**

“Transition periods are always difficult. I believe students are fully capable of self-learning and remote teaching's objective is to guide/monitor them” (PT).

- **More online learning in the future**

“It needs to be reconsidered in the long run, as it is likely to be used more and more in the future” (BG); “Online teaching should be included into the teaching system on a regular basis, it provides a lot of opportunities” (PL); “While in the short term the pandemic shows serious challenges for VET teachers, trainers and learners, the lockdown may ultimately result in a stronger and more resilient VET system if the right choices are made. Especially, if the lockdown continues over a long period of time, wholesale closures of education and training institutions may force learning providers to adopt system and technology innovations that will expand the use of distance learning and distance or alternative assessments.” (PT)

- **European cooperation**

“To do more European projects in general” (IT).

## 8. The vWBL recommendations to VET teachers

European Council recommendation of 24 November 2020 on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience that **high quality and innovative vocational education and training systems** provide people with skills for work, personal development and citizenship, which help them to adapt to and deliver on the twin digital and green transitions, to cope with emergency situations and economic shocks, while also supporting economic growth and social cohesion. Thereby providing them with skills that help them get or create jobs in demand on the labour market.

European Council recommended new objectives for high quality and innovative VET (2020)

Council recommended objectives for vocational education and training for next years

1. Vocational education and training is **agile** in adapting to labour market changes
2. **Flexibility and progression opportunities** are at the core of vocational education and training
3. Vocational education and training is a **driver for innovation and growth** and prepares for the digital and green transitions and occupations in high demand
4. Vocational education and training is an **attractive choice** based on modern and digitalised provision of training/ skills
5. Vocational education and training promotes **equality of opportunities**.

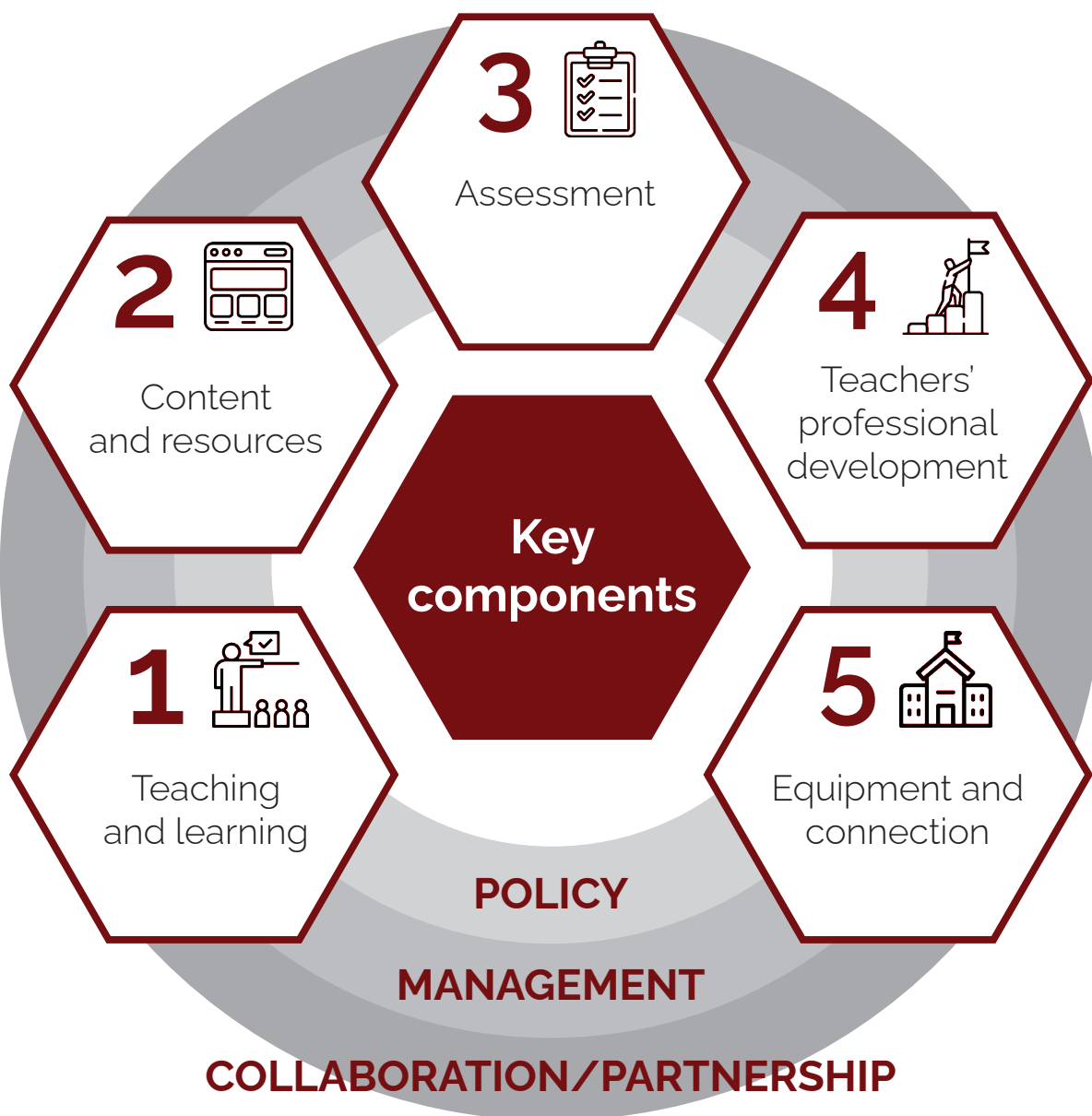
In order to achieve these objectives, VET providers are expected to

- Vocational education and training programmes offer a **balanced mix of vocational including technical skills** well aligned to all economic cycles, evolving jobs and working methods and key competences, including solid basic skills, digital, transversal, green and other life skills which provide strong foundations for resilience, lifelong learning, lifelong employability, social inclusion, active citizenship and personal development.
- Vocational education and training programmes at **all levels comprise Work-Based Learning** components that are further expanded also in continuing vocational education and training
- Vocational education and training programmes are **learner centred**, offer access to face-to-face and digital or blended learning, flexible and modular pathways based on the recognition of the outcomes of non-formal and informal learning, and open up career and learning progression; continuing vocational training programmes are designed to be adaptable to labour market, sectoral or individual up- or reskilling needs;
- Vocational education and training programmes are **delivered through an appropriate mix of open, digital and participative learning environments**, including learning conducive workplaces and are supported by state-of-the-art and accessible infrastructure, equipment and technology, and versatile pedagogies and tools, for example ICT based simulators, virtual and augmented reality which increase the accessibility and efficiency of training provision, including for small enterprises
- **Teachers, trainers and other staff in vocational education and training undertake initial and continuing professional development** in order to: deliver high quality training; foster

technical and digital skills and effective innovative training methods, including teaching in virtual environment; in line with state of the art vocational and digital pedagogy, work with digital learning tools, and in diverse and multicultural environments.

- VET programmes are **accessible through digital learning platforms**, supported by tools, devices and internet connection, in particular for vulnerable groups and people in rural or remote areas.

## 8.1 The vWBL Framework



## Key components

### 1. Teaching and learning

- Methods to:
  - prepare learners for the future skills with appropriate abilities (problem solving, critical thinking, self-managing)
  - integrate tech and soft skills for students
  - learner-centred methods
  - personalized learning

### 2. Content and resources

- Learning materials and tools:
  - learning resources and tools, supporting virtual WBL
  - available/accessible for all learners

### 3. Assessment

- Clear overview of students' progress:
  - score grades for quick feedback
  - integrated formative assessment for personalized feedback
  - development of self-managing learner

### 4. Teachers' professional development

- Preparation for vWBL:
  - continuous learning and personal development
  - training courses + learning circles
  - teachers's skills to integrate traditional and virtual WB
  - collaboration and peer-learning

### 5. Equipment and connection

- availability of appropriate equipment and connection in schools and students' homes
- equal access for teachers and learners, smart classrooms
- promoting upskilling in vWBL

## Enabling factors

- POLICY – EC recommendations for VET and national policies
- MANAGEMENT – appropriate management in VET system and institution (school) level
- COLLABORATION/PARTNERSHIP – mentors', teachers', students' cooperation and collaboration

## The vWBL Framework

### KEY COMPONENTS

- Teaching and learning
- Content and resources
- Assessment
- Teachers' professional development
- Equipment and connection

### ENABLING FACTORS

- POLICY
- MANAGEMENT
- COLLABORATION/  
PARTNERSHIP

## 8.2 Management of virtual WBL in VET institutions

**Curricula's and lesson plans.** Both curricula and lesson plans need to be reviewed in order to organize virtual work-based learning effectively. Teaching and evaluation tasks need to be specified and adjusted in order to be able to be carried out virtually.

**The lesson plans** used in the day-to-day planning at VET institutions are just as important in virtual learning, but they must also take into account the differences in virtual learning, and the tools and methods used. Teaching planned on the basis of a lesson plan is the preferred choice of responses from the conducted survey, is necessary, and helps teachers and students set a certain routine in a situation of rapid change.

**Learning materials** for virtual Work-Based Learning must be learner-centered, freely accessible and independently usable by the learner.

**The technology, tools and internet connection** are critical to the functioning of effective virtual work-based learning. In the case of virtual learning, it is necessary to carefully consider what tools and learning environments to use to ensure a successful learning process. There are greater demands for proper hardware and software to acquire practical skills online.

There are a lot of variables in this process that need to be taken into account. The learning process is led by the teacher and the school provides him or her with the necessary equipment and resources, as well as an adequate connection. However, the learning process will only be successful if the end-user student also has the necessary equipment, facilities, access, and adequate connection speed. All these usually exist at school, but often not at the learner's home. There is a need to identify the possibilities that students really have. Consequently, the necessary resources must be made available, or changes made to the learning process in order to ensure the necessary learning environment for virtual work-based learning. The results of the study carried out showed that the issue of adequate access to technology was one of the most decisive in distance learning during the pandemic, especially by the learner.

**New technologies**, such as virtual reality and artificial intelligence solutions, have had little used in work-based learning so far. The teachers who took part in the study claimed that they mostly do not use simulations in WBL, but they would like to use them.

### **Teachers: prepare, support, collaboration**

**Teachers as leaders** in the learning process need adequate preparatory training and support, both methodologically and technologically. Teachers' preparation for the use of digital platforms has not been sufficient and the development of digital skills requires continued attention. In addition to technical skills, teachers have noted the importance of psychological preparation and so-called soft skills for online learning.

**Cooperation between teachers** for the expected successful results of work-based learning is essential for both contact learning and virtual learning. The knowledge, skills and attitudes expected of students in today's labour market are complex and intertwined and it makes sense to teach and evaluate them in an integrated way, in close cooperation between teachers. As a result students are better prepared for the challenges of the labour market ahead.

Enabling cooperation between teachers in an organization, in terms of time and work arrangement, requires better attention from school leaders.

Based on the survey conducted, it can be concluded that there was a lack of information, clear instructions, corresponding management and a support structure, as well as clear communication. All these factors need to be taken into account in the future.

## Regulations and digital culture in organisation

Teaching and learning in VET schools is mostly well regulated by many rules and instructions. However, the transition to distance learning highlighted the lack or absence of corresponding agreements and regulations on virtual learning. Separately, problems with the lack of **digital culture** and its need for development in **online communication** were highlighted in the survey, in particular the use of cameras and microphones.

Agreements on digital culture are needed in schools, as well as appropriate preparation for all those who involved. How to use cameras and microphones, how to securely use digital tools and ways to protect privacy and rights, etc., are issues that need to be agreed.

## Problem solving

Distance learning during the pandemic led to **many and new problems and challenges** that are to be analyzed and solved. It is important to understand that the problems and challenges that have emerged are different from before and that traditional solutions to them may not produce a good result.

Therefore, it is good to implement the **contingency approach** to management (Newstrom 2011), which means that different situations require different behavioral practices for the greatest effectiveness. Analyzing the problems, causes and consequences helps us gather the information necessary for decision-making.

## 8.3 Implementation of vWBL

### Methods in vWBL

There are lot of methods that teachers can use in Work-Based Learning, and each teacher makes a choice according to the learning objectives and outcomes, target group and content. The issues of unsuitability of traditional learning methods and tools for online learning emerged from the conducted survey. Therefore, it is **important to vary methods in classroom and online**, but there are also common principles suitable both in classroom and online.

Based on the objectives set for modern vocational education and the expected learning outcomes, **priority should be given to activity-based methods.**

For example problem based learning, project based learning, flipped classroom, experience learning, etc. - all methodologies that allow for better involvement of the learner in the learning process, greater responsibility, better social skills, self-management, creativity and entrepreneurship.

Examples of learning activities to engage learners are:

- present students with tasks with no obvious solutions
- ask students to decide their own procedures for solving complex tasks
- let students work in teams to find solutions
- give tasks that require students to think critically

Ensuring the "presence" of learners in an online class is undoubtedly a bigger challenge than in a regular contact class.

### Engage students



The **active participation and conscious presence of students** in virtual learning remains a challenge for which suitable solutions need to be sought in future vocational training and in teachers' collaboration.

### **Learner centred / Personal learning path**

The study found that teachers do not pay sufficient attention to supporting learners in **setting their goals and priorities**, but this is crucial for the development of an independent, self-leading learner and deserves to be highlighted as a skill that requires greater focus and support from teachers. . More personalized learning requires personalised content and assessment.

### **Teamwork**

The results show that there was little teamwork or pair work for students (about a third of teachers regularly) used in the online learning during pandemic. As a further recommendation, significantly **more tasks could be assigned to pairs or teams of students**, more project-based learning and integration of learning activities on different topics.

### **Assessment**

Peer assessment develops both the assessor and the student who get grades from teammates and increases the learner's involvement/participation in the learning process.

The survey also showed that teachers themselves do not cooperate sufficiently, with as many as a third of teachers saying they never teach or evaluate students together with colleagues. It is therefore very important to pay more attention to **cooperation among both students and teachers**.

At the same time, modern studies and analyses show that **learning is becoming more and more personal**, each learner learns at their own pace and achieves different results, applies them differently and learns throughout their life. It presents new challenges for the school, the teachers and also for technological solutions. How best to support the learner in this process, what are his or her goals and priorities, what are the reasonable choices to achieve these goals, what are the knowledge, skills, attitudes needed at this stage to shape and support the learning process?

The study conducted had a number of free answers in which **teachers advised colleagues** on how to implement virtual work-based learning more effectively. „Be more empathetic. I realized that not all students are able to study at home without distractions or have all the tools that allow them to work optimally" (PT); „Online teaching requires frequent breaks" (CY); "To be patient with the students" (BG); „That active listening, in training, always remains the most important element that should not be underestimated" (IT); „Students like to have freedom of choice regarding the time to complete tasks. Affection is important to promote engagement and motivation" (PT); „Can't expect students without virtual WBL to just switch to virtual mode – results come with time" (EE); „Respect the audience opinion" (BG).

## **8.4 Quality assurance in vWBL**

### **Collection of students' feedback**

**Feedback from learners** is a valuable source of information for the teacher to improve the learning process and for better achievement of the learning outcomes, therefore it is necessary to plan it carefully and, in addition to the feedback and active listening on an ongoing basis, also use a

prepared special (short and simple) questionnaire that allows for more extensive (from all at once) and comparative feedback.

### **Evaluation of effectiveness**

The actual **quality of learning** is determined by what is going on in the classrooms, whether physical or virtual, and this process is led by teachers.

Ever faster changes in society and the economy also necessitate constant innovation in school and the learning process, especially in work-based learning. Recalling the rapid reorganization of learning at the beginning of the pandemic, teachers highlighted the support of colleagues and the learning from colleagues as very essential during this time.

This valuable experience is certainly worth taking advantage of in post-pandemic learning.

### **Peer learning for teachers – learning circles**

Perhaps now is the time to pay more attention to this in schools and to form more of the relevant Learning **Circles for teachers**. This would improve teachers' cooperation and professional development, and the learning process would be more integrated, innovative and of higher quality for the learner. Peer learning can create a rich learning environment in which everyone simultaneously teaches and learns, acts and observes, speaks and listens.

### **Improvements in learning process**

Teachers' Learning Circles in school, namely learning from a colleague is valuable because each teacher is an expert in something, sharing is how we learn best, and feedback is necessary in order to improve.

## 9. Conclusion

Based on the elaboration of the working team of the vWBL partners and on the consultation of the VET teachers and experts conducted in Portugal, Estonia, Italy, Bulgaria, Cyprus, and Poland, this Guide provides support to the virtual WBL in VET, as merged in the following synopsis.

| Statement  | Recommendation  | vWBL solution   |
|--|---|---|
| Relevance of the consultation of experts   | <i>VET indicates that competences on virtual WBL are required</i>   | Guidance and training for VET teachers to upskill their competences on vWBL                                       |
| Teachers prefer individual work, teamwork and lecturing  | <i>Wider range of methods, depending on learning objectives, content and students</i>   | More personalized learning connected with online collaboration  |
| Teachers evaluate to have good digital skills  | <i>Enhancement of digital skills through training and collaboration, peer-learning</i>  | Training on the use of existing digital skills to acquire competences on new opportunities in vWBL (VR, AR, etc.) |
| Planning in distance learning: by the timetable  | <i>Objectives and plans of learning activities in distance learning should be clearly understood and traceable to the learner</i>                           | Involvement of learners in setting and monitoring objectives and plans of learning activities                     |
| Learning tasks: Involvement of students on reflective activities and individual tasks  | <i>Integrated approach to the preparation and performance of learning tasks</i>   | Cooperation of teachers in the preparation of learning tasks  |
| Assessment method: distinctive/formative score grades  | <i>More personalized learning and support for learner development requires more formative assessment</i>  | Training to teachers' cooperation in assessment and more comprehensive (integrated) assessment                    |
| Students' feedback collection: through digital communication channels  | <i>Collecting more systematic feedback from learners as a direct source of information to improve the effectiveness and quality of the learning process</i> | Training on using digital opportunities for quick feedback from learners  |
| Reasonable adoption of variations (individual sessions and deadlines)  | <i>More flexible learning to support learner's personal development</i>   | Examples of variations in learning tasks and assessments  |
| Individual consultation and counselling to students  | <i>Individual consultation and advice is necessary, but resource-intensive, based on dedicated educational materials</i>                                    | Digital solutions used for individual consultation (chat etc)   |
| Digital VET requires a wide range of support to students   | <i>Creation of appropriate supporting systems, with possibility to quick guidance</i>   | Digital solutions, working 24/7   |
| VET teachers have good digital skills  | <i>Professional development through training and cooperation</i>  | Essential prerequisite for vWBL development   |
| VET teachers need support: to upskill their literacy level to enhance their use of digital tools; - to better overcome digital obstacles to online teaching. | <i>Relevant guides, trainings and teacher learning circles</i>  | Use of online information, forums and social media chat circles for teachers                                      |

|  |   |   |
|--|---|---|
| VET teachers' good digital skills have been put in place for online WBL  | <i>Professional development through training and cooperation</i>  | Upskilling of existing teachers' skills on digital media management and production                                  |
| VET teachers have a high interest on advanced digital skills to simulate WBL online  | <i>Simulation of WBL is a necessary component of digitalisation of VET</i>  | Dedicated training to virtual WBL   |
| VET teachers need more information, and collaboration/ communication between colleagues to improve management of digital teaching  | <i>Personalised and integrated learning needs more collaboration between teachers in planning, implementing and evaluating the learning process</i> | Teacher with upskilled competences on virtual WBL will propagate professional improvements to other teachers/ peers |
| VET teachers are aware that the virtual WBL experience during the pandemic period demonstrated that a significant change in VET is started, including Work-Based Learning. | <i>Readiness for change exists among teachers</i>   | The vWBL training directly contribute to the digital readiness of VET   |
| Active participation of students is still a challenge/ Students' learning results are acceptable/good but challenging  | <i>Development and testing of new suitable methods for learning and teaching</i>  | Virtual WBL helps promoting students' interest and participation  |



|   |  |  |
|---|--|--|
| Most impacting difficulties encountered by VET teachers in online learning are:<br>- literacy and digital obstacles;<br>- interaction with student/colleagues;<br>- not adequate information/support. | <i>Development of digital skills of learners and teachers, preparation for distance learning<br/>Information and support system (national and school-based)</i>                                | Training and piloting in VET schools to practice the teachers' upskilled digital competences and collect students' feedback on the delivered online teaching |
| The VET teachers evaluate that Work-Based Learning has been/ is not enough effective in online teaching   | <i>Work-based Learning requires specific plans for implementation virtually, taking into account accessibility of resources and connections, as well using appropriate methods in teaching</i> | The vWBL Framework is designed as comprehensive framework that considers all identified objectives and issues  |
| In online teaching, VET teachers have problems of workload and involvement of students  | <i>Teachers' better preparation on distance learning reduces their overload, while optimizing time and effectiveness of teaching as well as students' involvement</i>                          | Methods based on reasonable time for learning  |
| The VET teachers' professional development is a positive consequence of the pandemic experience   | <i>Professional development in distance learning is a good prerequisite for the necessary changes to the VET system and Work-based Learning</i>  | vWBL training directly addresses to support and promote the necessary changes in VET   |
| Long term changes in VET digital teaching will have to include:<br>- dedicated preparation, tools and methods on the digital dimension of teaching;<br>- continuing training for teachers.            | <i>Digital teaching requires continuous training and upskilling of digital competences, particularly in VET and digital WBL, which is a key component of VET</i>                               | vWBL training supports also the VET teachers' acquiring full awareness of the need of upskilling on a continuous basis                                       |

The vWBL (virtual Work-Based Learning to simulate genuine experience in VET digital training) project team has conducted an extended survey to identify new needs and issues in VET digital training and virtual Work-Based Learning. Guide for VET teachers to virtual WBL has been compiled on the basis of the results of this survey.

The results of the survey show that VET providers, experts and teachers are ready for significant changes in VET and Work-Based Learning. Distance learning during the pandemic led to a quick progress in teachers' digital skills, but also highlighted a number of problems and challenges.

Traditional contact learning methods do not work well in distance learning, especially in Work-Based Learning, teaching and learning must be more carefully planned for providing online both synchronous and asynchronous learning, it is more complicated to involve learners in the online learning process, it is more difficult to get an overview of the knowledge and skills acquired.

However, digital tools and opportunities are largely unused, either because of insufficient skills of teachers and students or because of unequal access.

The recommendations and conclusion section of the guide provides VET providers, experts and teachers with the results of the survey and proposals based on them for a more effective virtual Work-Based Learning.

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# Annexes

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## Annex 1. Questionnaire

### Questionnaire for VET teachers/trainers/experts in virtual Work Based Learning (WBL)

The team implementing the European project 2020-1-PT01-KA202-078845 vWBL Virtual Work-Based Learning to simulate genuine experience in VET digital training, as part of the Erasmus+ program, is conducting an extended survey at the start of the activities to identify new needs and issues in VET digital training, involving VET teachers and experts in Portugal, Estonia, Italy, Bulgaria, Cyprus, and Poland. As expertly selected in your country, vWBL invites you to provide your opinion on the impacts of the outbreak response on the VET digital training by completing this survey. Your feedback will provide us with relevant guidance, helping us to define how the vWBL professional course on virtual Work-Based Learning should keep your needs in consideration.

#### 1. Personal/Professional information

1.1. Which occupational field do you teach/train and on which level? (required)

Occupational field

EQF-level

1.2. Which contents do you teach/train? (required)

1.3. How long have you been teaching/training in VET? (required)

- less than a year
- 1 – 5 years
- 6 – 10 years
- more than 10 years

1.4. What kind of professional qualifications do you have? (required)

- Vocational training
- Master certification
- Bachelor's degree
- Master's degree
- PhD
- another qualification

1.5. What kind of work-based learning (WBL) do you practice? (required)

- apprenticeship
- on the job teaching
- job shadow
- study trips
- student companies

other, please specify:

1.6. How much experience do you have in distance teaching/training? (required)

- less than a year  
 1 – 5 years  
 6 – 10 years  
 more than 10 years

1.7. Which of the following social forms do you use during your teaching? (required)

|                        | Usage                    |                          |                          |                          |
|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                        | Regularly (1)            | Occasionally (2)         | Rarely (3)               | Never (4)                |
| Individual work        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Partner work           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Teamwork               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Lecture                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Project work           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other, please specify: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

1.8. Please state your knowledge and skills in the following technologies and tools (required):

| My knowledge and skills of...                                | good (1)                 | acceptable (2)           | poor (3)                 | no knowledge/<br>skills (4) |
|--|--------------------------|--------------------------|--------------------------|-----------------------------|
| Computers (Workstation and laptops) is...                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>    |
| Office applications (like MS Office, Open Office and others) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>    |
| Learning platforms, LMS (Moodle)                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>    |
| Social media (FB, Messenger, WhatsApp, etc)                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>    |
| On-line tools (Teams, Zoom, Google Classroom)                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>    |
| Digital learning games, learning apps                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>    |
| Virtual Reality equipment and tools                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>    |
| Others, please specify                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>    |

1.9. Please rate the following statements about yourself as a teacher/trainer (required):

| Please rate the following statements if they apply to you | Applies fully (1) | Somewhat applies (2) | Applies to a lesser extent (3) | Does not apply at all (4) |
|---|-------------------|----------------------|--------------------------------|---------------------------|
|   |                   |                      |                                |                           |



|   |                          |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| I am able to motivate my students.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I am able to inspire my students on specific topics.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I use methods that promote the problem-solving ability of my students.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I support my students in exploring and applying innovative approaches for solving problems and to achieve work tasks. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I support my students in implementing their ideas.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I encourage my students to work together and to help each other to achieve a work task.                               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I support and enable my students to define priorities and action plans to achieve a work task or a specific goal.     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**2. General information about virtual work-based learning (WBL) during the pandemic 2020/21**

2.1. Think about your work and well-being during the distance learning period due to the pandemic. What were the main difficulties and challenges you faced? Give a few examples, please (required)

2.2. Think about your work and well-being during the distance learning period due to the pandemic. What supported you in this situation? Give a few examples, please. (required)

2.3. The extent to which your work changed during the distance learning period (required)

|  |   |  |  |   |
|--|---|--|--|---|
| Decreased (-2)<br><input type="checkbox"/> | Decreased slightly (-1)<br><input type="checkbox"/> | Did not change (0)<br><input type="checkbox"/> | Increased slightly (1)<br><input type="checkbox"/> | Increased (2)<br><input type="checkbox"/> |
|--|---|--|--|---|

**3. Learning/teaching activities and tasks in virtual work-based learning (WBL) during the pandemic 2020/21**

3.1. How did you plan your teaching during the pandemic in the WBL group (required)

|  | Planning                 |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
|  | Regularly (1)            | Occasionally (2)         | Rarely (3)               | Never (4)                |
| By the timetable                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Daily (for next day)                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Weekly (for next week)                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Set deadlines                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Tasks with various levels              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Individual learning plans for students | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other, please specify:                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3.2. Think about learning tasks and activities during the pandemic in the WBL group (required)

|  | Learning tasks for students |                          |                          |                          |
|--|-----------------------------|--------------------------|--------------------------|--------------------------|
|  | Regularly (1)               | Occasionally (2)         | Rarely (3)               | Never (4)                |
| I prepared individual tasks for students.  | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I prepared tasks for teams or pairs.   | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I had tasks for independent exploratory activities and requested the results to be sent to myself. | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I used project-based learning in pairs or teams.   | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I directed students to read/listen or watch additional materials via a web link.                   | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I encouraged students to express their views on the content they had learned.                      | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I directed written works (referees, stories, essays) to write.                                     | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I directed students to other creative activities and requested the results to be sent to myself.   | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I applied learning activities integrated with different subjects                                   | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other, please specify:   | <input type="checkbox"/>    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**3.3. Think about assessment activities during the pandemic in the WBL group (required)**

|   | Assessment of students   |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
|   | Regularly (1)            | Occasionally (2)         | Rarely (3)               | Never (4)                |
| I scored grades for the work submitted by students/teams.                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I gave students satisfactory/unsatisfactory for the work submitted by students/teams. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I used pair assessment while working in pairs or teams.                               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I used formative assessment.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other, please specify:  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**3.4. Feedback from students during the pandemic in the WBL group (required)**

|  | Feedback from students   |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
|  | Regularly (1)            | Occasionally (2)         | Rarely (3)               | Never (4)                |
| I sent a general questionnaire for feedback after the learning period.                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I sent a specific (for pandemic) questionnaire for feedback after the learning period. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I asked for feedback via e-mail or the learning platform.                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I asked for feedback directly during video sessions.                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other, please specify:   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**3.5. Variations used for students during the pandemic in the WBL group (required)**

|  | Feedback from students   |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
|  | Regularly (1)            | Occasionally (2)         | Rarely (3)               | Never (4)                |
| I used different contents for different students.          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I used different tasks with the same content.              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I set different deadlines for students.                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I assessed students differently, based on their abilities. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I had individual sessions for students with difficulties.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other, please specify:                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3.6. What kind of support did you offer to students? (required)

|   | Support for students     |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
|   | Regularly (1)            | Occasionally (2)         | Rarely (3)               | Never (4)                |
| I offered individual consultations or counselling.                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I conducted individual consultations or counselling when students requested it. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I conducted consultations in a small group.                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Students received help from a support specialist.                               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other, please specify:  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3.7. What kind of additional support did students need during virtual Work-based learning?

3.8. How do you assess students' performance during the pandemic period compared to the past?

**4. General information about technology usage for teaching during pandemic 2020/21**

4.1. In your online teaching/training you mostly used (required):

|                       | Technology usage         |                          |                          |                          |
|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                       | Regularly (1)            | Occasionally (2)         | Rarely (3)               | Never (4)                |
| Google Meet           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MS Teams              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Zoom                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Classmill             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| WeSchool              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Skype                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| GoToMeeting           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other, please specify | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

4.2. Considering your experience, what do you think are the biggest difficulties encountered in online teaching/training? (required)

|  | Difficulties encountered |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
|  | Regularly (1)            | Occasionally (2)         | Rarely (3)               | Never (4)                |
| Limitations due to the used technology   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Literacy level of teacher/trainer  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Literacy level of students/learners  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Stable connection issues   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Performance level of the devices used by participants  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Students/learners' attention and participation   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Participants' other individual problems (e.g. disturbing factors from the connection environment, etc) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other, please specify  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

4.3. Considering practice, exercises and work-based learning, how did you transfer these to online learning experiences? (required)

- Teacher's/trainer's story telling (only audio presentation)
- Static presentation (presentation with text and images, commented by teacher/trainer)
- Video presentation (movies played, with or without teacher's/trainer's comments)
- None of the above. Please specify

4.4. Do you use advanced digital tools for simulating reality in your training/learning?

- Yes

Please specify

- No

4.5. Would you be interested in experiencing digital simulation tools? (required)

- Very much interested
- Interested
- Not interested

If yes, please specify

## 5. Management and Teachers' collaboration during the pandemic

### 5.1. Please rate the following statements (required)

| Please rate the following statements if they apply to you  | Applies fully (1)        | Somewhat applies (2)     | Applies to a lesser extent (3) | Does not apply at all (4) |
|--|--------------------------|--------------------------|--------------------------------|---------------------------|
| I had full information, how virtual WBL is organized at our organisation                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>  |
| I knew I could get help if needed.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>  |
| Any problems that arose were resolved quickly.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>  |
| I was able to decide for myself how to conduct my lessons.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>  |
| I discussed activities and tasks related to the learning process with other teachers at least once a week. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>  |
| Feedback was collected from the students during the study period.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>  |
| Feedback was used when forming solutions.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>  |
| Feedback from students was discussed with other teachers.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>  |
| I value the experience of virtual WBL during the pandemic period.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>  |
| Other, please specify  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       | <input type="checkbox"/>  |

### 5.2. During the pandemic, we implemented the following forms of cooperation (required):

|   | Collaboration of teachers |                          |                          |                          |
|---|---------------------------|--------------------------|--------------------------|--------------------------|
|   | Regularly (1)             | Occasionally (2)         | Rarely (3)               | Never (4)                |
| Online meetings with the whole team.  | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Web meetings with relevant teachers.  | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| We discussed and shared information with the online community (FB group, Messenger, WhatsApp etc) | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| We collaborated with educational materials available on the web.                                  | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| We shared information and materials via email.  | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| We taught classes together.   | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|                                     |                          |                          |                          |                          |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| We evaluated the students together. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other, please specify:              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

5.3. Compared to the previous period, teacher cooperation during the pandemic (required):

|  |   |  |  |   |
|--|---|--|--|---|
| Decreased (-2)<br><input type="checkbox"/> | Decreased slightly (-1)<br><input type="checkbox"/> | Did not change (0)<br><input type="checkbox"/> | Increased slightly (1)<br><input type="checkbox"/> | Increased (2)<br><input type="checkbox"/> |
|--|---|--|--|---|

**6. Experience and results of teaching and learning in virtual work-based learning (WBL) during the pandemic 2020/21**

6.1. How would you rate the students'/learners' participation level with the online work-based learning you offered? (required)

|                                      |                                      |  |                                      |   |
|--------------------------------------|--------------------------------------|--|--------------------------------------|---|
| High (1)<br><input type="checkbox"/> | Good (2)<br><input type="checkbox"/> | Moderate (3)<br><input type="checkbox"/> | Poor (4)<br><input type="checkbox"/> | Deficient (5)<br><input type="checkbox"/> |
|--------------------------------------|--------------------------------------|--|--------------------------------------|---|

or

No participation (no online work-based experience was offered (0))

Please comment, if any:

6.2. My overall evaluation for students' learning results/outcomes during the distance learning period (required):

|   |                                      |  |                                      |   |
|---|--------------------------------------|--|--------------------------------------|---|
| Excellent (1)<br><input type="checkbox"/> | Good (2)<br><input type="checkbox"/> | Acceptable (3)<br><input type="checkbox"/> | Poor (4)<br><input type="checkbox"/> | Very poor (5)<br><input type="checkbox"/> |
|---|--------------------------------------|--|--------------------------------------|---|

Please comment, if any:

6.3. My overall evaluation of students' soft skills development during the distance learning period (required):

|   |                                      |  |                                      |   |
|---|--------------------------------------|--|--------------------------------------|---|
| Excellent (1)<br><input type="checkbox"/> | Good (2)<br><input type="checkbox"/> | Acceptable (3)<br><input type="checkbox"/> | Poor (4)<br><input type="checkbox"/> | Very poor (5)<br><input type="checkbox"/> |
|---|--------------------------------------|--|--------------------------------------|---|

Please comment, if any:

6.4. Comparing traditional learning in WBL before the pandemic, please evaluate the effectiveness of distance learning during the pandemic (required):

|  |   |  |  |   |
|--|---|--|--|---|
| Decreased (-2)<br><input type="checkbox"/> | Decreased slightly (-1)<br><input type="checkbox"/> | Did not change (0)<br><input type="checkbox"/> | Increased slightly (1)<br><input type="checkbox"/> | Increased (2)<br><input type="checkbox"/> |
|--|---|--|--|---|

Please comment, if any:

6.5. How do you self-evaluate your proposed online work-based learning? (required)

|  |  |   |  |  |
|--|--|---|--|--|
| Highly effective (1)<br><input type="checkbox"/> | Effective(2)<br><input type="checkbox"/> | Somehow effective (3)<br><input type="checkbox"/> | Not enough effective (4)<br><input type="checkbox"/> | Not effective at all (5)<br><input type="checkbox"/> |
|--|--|---|--|--|

or

No online work-based experience was offered (0)

Please comment, if any:

- 6.6. Did you encounter difficulties with the preparation of the online work-based experience you offered? (required)
- No difficulties
  - Difficulties connected with time availability/pressure
  - Difficulties related to mastering the digital tools to produce the learning contents
  - Difficulties related to the availability of digital tools to produce the learning contents
  - General difficulties related to the restrictions in place during the pandemic
  - No online work-based experience was offered

- 6.7. What do you think is the most important aspect that an online work-based experience should always transfer? (required)
- Practical tips
  - Real difficulties and solutions connected with practice
  - The time required to practical execution
  - The importance of individual/manual execution
  - The emotional aspects related to the production of outputs
  - The motivational impact on students/learners
  - It is not possible to offer a work-based experience online

Please explain

- 6.8. How do you evaluate your professional development in virtual WBL? How did the pandemic change your teaching? Please give a few examples. (free text, required)

- 6.9. In your own opinion, what are the most important difficulties encountered by VET online training during the outbreak response? (free text, required)

- 6.10. Specifically, regarding the work-based learning, what aspects do you believe have negatively affected the learning process during the outbreak response? (free text, required)

- 6.11. What are the main lessons you learnt in virtual WBL during the pandemic? (free text, required)



6.12. How did the pandemic change the WBL? (free text, required)

6.13. How and to what extent do you believe online VET training should be reviewed in the long term, in the post-pandemic forthcoming period? (free text, required)

6.14. What are your suggestions for a better virtual WBL? (free text, required)

6.15. Additional remarks and suggestions (free text, optional)

Thank you for taking the time to complete our survey regarding the impacts of the outbreak response on the VET Work-Based-Learning!

## Annex 2. Best Practices

In addition to the survey, vWBL partners searched for samples of best practices. Best practices focus on existing learning resources that are useful, suitable and relevant to the target group of students of the virtual Work-Based Learning.

| Title  |   | Portal "Escola Virtual" |           |
|--|---|-------------------------|-----------|
| Country  | Portugal  | Language                | Portugese |
| Title (EN)   | "Virtual School" platform   |                         |           |
| Type of BP   | Sample of material, technology, method used in virtual WBL<br>Sample of initiative or policy in virtual WBL |                         |           |
| Format of BP   | Online (Digital / e-learning)   |                         |           |
| Reference  | www.escolavirtual.pt  |                         |           |
| <p><b>Brief summary:</b></p> <p>"Escola Virtual" is a personalized teaching-learning platform that provides the curricular subjects of the main subjects of the National Curriculum, from 1st to 12th grade. The aim of the project, which is the responsibility of Grupo Porto Editora, is to provide the entire educational community with more attractive and effective study and support methods geared towards student success</p> <p>This is a pioneering project in Portugal, which allows users to approach study in an integrated and credible manner through the Internet, helping to consolidate knowledge acquired in the classroom, promoting study autonomy and constituting a truly interactive vehicle for learning and testing curricular subjects.</p> <p>The curricular contents provided are designed with all scientific and pedagogical rigour by a team of teachers and consultants and structured according to the programmatic guidelines of the different subjects.</p> <p>Today, "Escola Virtual" School is an unavoidable reference when it comes to educational content in digital format. Multiple times awarded, the Virtual School serves more than 200 000 teachers and students, is used in hundreds of schools, receives more than 1 000 000 visits per month and provides more than 2 000 000 hours of study per year.</p> |   |                         |           |

| Title   |   | Plataforma LeYa Educação |           |
|---|---|--------------------------|-----------|
| Country   | Portugal  | Language                 | Portugese |
| Title (EN)  | LeYa Education Platform   |                          |           |
| Type of BP  | Program/module for students (initial VET)                                 |                          |           |
| Format of BP  | Online (Digital / e-learning)   |                          |           |
| Reference   | <a href="https://www.leyaeducacao.com/">https://www.leyaeducacao.com/</a> |                          |           |
| <p><b>Brief summary:</b></p> <p>An Education portal that brings all, in one place, the relevant resources for the education community: teachers, students, parents and schools.</p> <p>The distance learning platform allows you to study the contents of your subjects, from 1st to 12th grade, through digital resources such as videos, animations, virtual labs, presentations, interactive tests, games and much more.</p> |   |                          |           |

| Title        |   | MyCompetence |           |
|--------------|---|--------------|-----------|
| Country      | Bulgaria  | Language     | Bulgarian |
| Title (EN)   | MyCompetence  |              |           |
| Type of BP   | Program/module for students (initial VET)<br>Program/module for adult learners (continuing VET)<br>In-company training (continuing VET) |              |           |
| Format of BP | Online (Digital / e-learning)   |              |           |
| Reference    | <a href="https://mycompetence.bg/bg/elearn/">https://mycompetence.bg/bg/elearn/</a>   |              |           |

**Brief summary:**

MyCompetence is the only national information system in the field of human resources management in Bulgaria, which provides competency standards for over 500 positions in 25 economic sectors, practical e-tools for competence assessment, analysis and evaluation of positions, academy with e-learning for development of competencies, as well as an electronic environment for automated online information processing. MyCompetence provides the following features and goals to:

- support the development of the potential of the workforce through e-tools for competence assessment and e-training for acquiring and improving competencies;
- support and provide in one place information and know-how in the management of the processes for implementation of the competence approach in the management and development of human capital;
- support and initiate the adoption of effective measures (at national and sectoral level) in the development of employment and skills of the labour force in Bulgaria
- provide initial information and request for the needs of the business to the content of the curricula, to the quality and results of vocational and higher education
- presented good practices in the implementation of the human resources management process;
- provide an online environment and tools for managing human resource management processes.

| Title        |  | Национална електронна библиотека на учителите |           |
|--------------|--|---|-----------|
| Country      | Bulgaria   | Language                                      | Bulgarian |
| Title (EN)   | The National Electronic Library of Teachers  |   |           |
| Type of BP   | Program/module for students (initial VET)<br>Program/module for adult learners (continuing VET)<br>Sample of material, technology, method used in virtual WBL  |   |           |
| Format of BP | Online (Digital / e-learning)  |   |           |
| Reference    | <a href="https://e-learn.mon.bg/">https://e-learn.mon.bg/</a><br><a href="https://e-learn.mon.bg/public/study-resources?selectedArea=aeb299fe-cb92-4ea9-aa14-bc9a940083e9">https://e-learn.mon.bg/public/study-resources?selectedArea=aeb299fe-cb92-4ea9-aa14-bc9a940083e9</a> |   |           |

**Brief summary:**

National Electronic Library of Teachers was created by the Ministry of Education and Science and provides an opportunity for publication and sharing by pedagogical professionals of author's educational, didactic and methodical materials for work in electronic environment - video lessons, training programs, innovative methodologies, tests, movies, exercises, entertaining pedagogy, presentations and most of all projects that are related to both independence in the implementation in an electronic environment and with research, student work, curiosity, motivating elements, reverse connection, group and individual work, creation and application of skills, etc.

Teachers can publish the author's materials by classes, by thematic directions and by type of material - for training, for self-preparation and for testing. They can prepare the materials individually or in a team, as is they need to comply with state educational and training standards programs.

|              |  |          |           |
|--------------|--|----------|-----------|
| <b>Title</b> | <b>Портал в помощ на дистанционното обучение в българските училища</b> |          |           |
| Country      | Bulgaria   | Language | Bulgarian |
| Title (EN)   | Portal to support distance learning in Bulgarian schools               |          |           |
| Type of BP   | Sample of initiative or policy in virtual WBL                          |          |           |
| Format of BP | Online (Digital / e-learning)  |          |           |
| Reference    | <a href="https://edu.mon.bg/">https://edu.mon.bg/</a>                  |          |           |

**Brief summary:**

A web platform created by the Bulgarian Ministry of Education in order to:

- support the distance learning in Bulgarian schools and to
- help teachers and other stakeholders with all distance learning related questions, trainings for teachers and school's managers, webinars on M365 etc.

| Title<br>Έργο "Γραφεία Διασύνδεσης Πανεπιστημίων με τη αγορά εργασίας" |   |          |       |
|--|---|----------|-------|
| Country  | Cypros  | Language | Greek |
| Title (EN)   | Project "University Liaison Offices with the labour market"   |          |       |
| Type of BP   | Students placement in the form of internship, during their studies.   |          |       |
| Format of BP   | Online (Digital / e-learning)   |          |       |
| Reference  | <a href="http://liaisonoffices.ac.cy">Γραφεία Διασύνδεσης Πανεπιστημίων με την αγορά εργασίας</a><br>(liaisonoffices.ac.cy) |          |       |

**Brief summary:**

This is an initiative from the European Social Fund, which connects the universities, with the industry and gives the opportunity to the students to gain real experience, related with their field of expertise during their studies. In more detail, the companies with the students are matched through a specific platform, created only for the University Labor Market Liaison Offices. The Universities Liaison Offices with the labour market are working in the context of the European Union's Structural Funds. Eight Universities operating in the Republic of Cyprus (three Public, five Idians) are involved in the Work with a focal point of the University of Cyprus.

The main purpose of the Liaison Offices is to place students in businesses and organisations, with the placement of being part of their curriculum, with a view to obtaining professional experience. This cooperation is beneficial for both students and businesses and organisations participating in the Work.

The goal of universities is like curricula and placements are focused on areas with developmental potential and high added value. These areas have emerged through a Strategic Arms Survey, including, inter alia, Information and Communication Technologies, Tourism, Research and Innovation, the environment, Construction, Admiralty, etc.

The direct benefit to students is to improve their skills, to gain additional knowledge and experience, to improve their communication capabilities, so as to enhance their chances and employability during their schooling and after graduation. The direct benefit of enterprises is employment and on-site preparation (on the job) of new human resources, with new ideas and modern knowledge and closer cooperation with universities in Cyprus. The indirect benefit to the wider Cypriot community is the likely reduction of unemployment among young graduates and the development of operational and marketable innovation through new ideas to be transferred from universities to businesses and industries by students and graduates.

By their function, the Liaison Offices contribute effectively to improving the association of the university community with the labour market and its real needs, for the benefit of the development of the site.

**Example:**

Eurosucces Consulting hosted two people in the past year through this programme. In response to the global health crisis, and the restrictions as well as opportunities that it created, EUROSC ran both programmes fully through virtual work-based learning. Two tools that were proved to be very useful was using a common online task manager and an online coaching methodology and progress report to make sure that everyone was on the same page and the participants could reflect on the experience they gained, provide feedback and discuss any concerns or questions they had about the placement and their tasks.

An international Example is listed below:(PDF) Liaison Offices-Good Practices in European Universities-The Case of Liaison Office sec T.E.I. Piraeus, Greece" (researchgate.net)

| Title   |   | Internship program for undergraduate students of the department of accounting and finance |         |
|---|---|---|---------|
| Country   | Cypros  | Language  | English |
| Title (EN)  | Internship program for undergraduate students of the department of accounting and finance   |   |         |
| Type of BP  | Students placement in the form of internship, during their studies.   |   |         |
| Format of BP  | Online (Digital / e-learning)   |   |         |
| Reference   | <a href="https://www.ucy.ac.cy/fem/documents/Internships_AFN_eng.pdf">https://www.ucy.ac.cy/fem/documents/Internships_AFN_eng.pdf</a> |   |         |
| <p>This is an initiative of the Department of the Accounting and Finance (AFN) of the University of Cyprus, which started in 2018.</p> <p>Basically, the country's four largest auditing firms are offering a paid internship to the students, during their studies.</p> <p>Benefits of the program:</p> <ol style="list-style-type: none"> <li>1. Students are expanding their networking; in many cases the students might get an offer for a permanent contract from the company.</li> <li>2. Experience and hours of practice are recorded by the audit firm and measured against the professional experience they need to develop as trainees to become members of the ICAEW and ACCA professional institutes.</li> <li>3. Gives the opportunity to the students to examine whether they are interested or not to attend an auditing firm and pursue an international qualification related to the auditing.</li> <li>4. Great source of recruitment for the companies: eliminating the risk of giving a permanent contract to an employee who is not talented enough to join the company.</li> <li>5. Minimizing the workload for the companies.</li> <li>6. Nowadays, due to Covid-19 and due to the fact that the companies are working on the service industry, they are offering this opportunity virtually.</li> </ol> |   |   |         |

| Title                       |   |          |          |
|-----------------------------|---|----------|----------|
| Hariduse tehnoloogiakompass |   |          |          |
| Country                     | Estonia   | Language | Estonian |
| Title (EN)                  | The Technology Compass for Education                            |          |          |
| Type of BP                  | Sample of initiative or policy in virtual WBL                   |          |          |
| Format of BP                | Online (Digital / e-learning)                                   |          |          |
| Reference                   | <a href="https://kompass.harno.ee">https://kompass.harno.ee</a> |          |          |

**Brief summary:**

The Technology Compass is an initiative of the Education and Youth Board, which will map the technology trends that most affect the educational landscape in the coming years and keep Estonian educators informed about the development of technology and related teaching methods in the world. The annual overview focuses on selected topics and identifies the current state of the Estonian school and new opportunities - what we should teach students to prepare them for the labour market of the future and what opportunities are offered by the application of different technologies in teaching.

In order to carry out the first monitoring, a panel of experts was convened in 2018, consisting of representatives of universities, technology advocates and teachers. Together, the questions to which the monitoring report should provide answers were selected.

- What are the important technology trends at the moment?
- Which ones are likely to be relevant to the development of the Estonian education system in the next three to five years?
- What do they allow and what problem could they solve?
- How can the opportunities arising from these trends be harnessed in education (learning and teaching)? What is already being done in schools?
- In this context, what is important to teach already at general education level in order to prepare and prepare learners (and teachers) for the effects of digitalisation?
- What are the new opportunities in Estonian education arising from technological trends?

As a first step, based on international experience and the vision of Estonian experts, the expert group maps the most important technology trends and selects the focus of the year from among them. The first report, published on 21 February 2019, presented five trends: internet of things, augmented and virtual reality, big data and analytics, artificial intelligence and security in the digital world in all areas. In 2020, the technology compass was complemented by two new themes: personalised learning, gaming and game-based learning. This year, 21 February 2021, we will open a new chapter in compass, which is "Distance learning of dreams, i.e. how to use distance learning most sensibly in learning?"



| Title  |   | E-koolikott: õppematerjalide portaal |          |
|--|---|--------------------------------------|----------|
| Country  | Estonia   | Language                             | Estonian |
| Title (EN)   | The Technology Compass for Education  |                                      |          |
| Type of BP   | Program/module for students (initial VET)<br>Sample of material, technology, method used in virtual WBL |                                      |          |
| Format of BP   | Online (Digital / e-learning)   |                                      |          |
| Reference  | <a href="https://e-koolikott.ee">https://e-koolikott.ee</a>   |                                      |          |
| <p><b>Brief summary:</b></p> <p>E-Koolikott/ E-Schoolbag is initiative of the Education and Youth Board, under Ministry of education of Estonia. Portal is common for all levels and types of education, but well-structured and easy to navigate. There are more than 700 learning resources for vocational education and training, among them lot of usable in work-based learning.</p> <p>Team of portal produce and mediate modern teaching materials (textbooks, workbooks, audio-visual materials, e-materials, etc.) intended for use in Estonian vocational educational institutions for both teachers and students.</p> <p>Educational materials are structured by field of study and curriculum group.</p> |   |                                      |          |

| Title        |   | "Didattica a distanza e diritti degli studenti – Mini-guida per docenti" |         |
|--------------|---|--|---------|
| Country      | Italy   | Language   | Italian |
| Title (EN)   | "Distance learning and students' rights – Mini-guide for teachers"  |  |         |
| Type of BP   | Sample of initiative or policy in virtual WBL   |  |         |
| Format of BP | Printed material<br>Online (Digital / e-learning)   |  |         |
| Reference    | <a href="https://www.istruzione.it/coronavirus/allegati/miniguide_mi_AGIA_6_4_2020_.pdf">https://www.istruzione.it/coronavirus/allegati/miniguide_mi_AGIA_6_4_2020_.pdf</a><br>"Didattica a distanza e diritti degli studenti – Mini-guida per docenti",<br>Ministero dell'Istruzione |  |         |

**Brief summary:**

"Distance learning and students' rights – Mini-guide for teachers" is a mini-guide prepared by the Italian Ministry of Education in order to support teachers in the organization of online teaching in the pandemic period. Using this guide, the Ministry of Education is trying to give a daily rhythm to the activities and to reassure students in this emergency period, offering methodological-practical support, starting with the protection of rights. The goal, in this moment of real upheavals, is certainly not to completely upset the rhythms of their daily lives, but also to help teachers and educate students to respond flexibly to changes, adapting to them, and drawing from them the ability to give creative and innovative answers. In this way, the health emergency will have been an opportunity to give everyone a chance to learn: to learn that it is possible to learn from difficulties, transforming a moment of crisis into a useful resource. The suggestions developed by the guide are: lectures dedicated to students; propose learning opportunities and an innovative methodology; creation of video tutorials to disseminate information; create a dedicated platform for teachers and students. The guide can be used at various educational levels.

| Title   |  | "Accademia delle Professioni" |         |
|---|--|-------------------------------|---------|
| Country   | Italy  | Language                      | Italian |
| Title (EN)  | "Italian Professional Academy"   |                               |         |
| Type of BP  | Program/module for students (initial VET)<br>Program/module for adult learners (continuing VET)<br>In-company training (continuing VET) Sample of material, technology, method used in virtual WBL |                               |         |
| Format of BP  | Online (Digital / e-learning)  |                               |         |
| Reference   | <a href="https://www.accademiaprofessionale.it/index.php">https://www.accademiaprofessionale.it/index.php</a>  |                               |         |
| <b>Brief summary:</b>   |  |                               |         |
| <p>"Accademia Professionale Italiana" offers a wide range of enabling courses, with insights, laboratories and expert and efficient teachers. A real guide for workers, a path that starts from the orientation and ends up forming highly trained and specialized professional profiles. It allows the learners to acquire skills and practice by meeting the needs of the market. The training courses take place online in e-learning mode. On the platform, learners will find all the teaching material they need free of charge, and will also be assigned a tutor who will support them.</p> |  |                               |         |
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| Title   |   |          |        |
|---|---|----------|--------|
| Portal "Zawodowa Edukacja"  |   |          |        |
| Country   | Poland  | Language | Polish |
| Title (EN)  | "Vocational Education" platform   |          |        |
| Type of BP  | Program/module for students (initial VET)<br>Program/module for adult learners (continuing VET)   |          |        |
| Format of BP  | Online (Digital / e-learning)   |          |        |
| Reference   | <a href="http://zawodowaedu.pl/index.php/design/item/294-zagospodarowanie-turystyczne-i-objekty-edukacji-lesne">http://zawodowaedu.pl/index.php/design/item/294-zagospodarowanie-turystyczne-i-objekty-edukacji-lesne</a> |          |        |
| <b>Brief summary:</b>   |   |          |        |
| <p>The portal "Zawodowa Edukacja" is a collection of e-resources, which were created under the project „Model systemu wdrażania i upowszechniania kształcenia na odległość w uczeniu się przez całe życie" implemented by the National Centre for Supporting Vocational and Continuing Education. The portal was established in 2014, and reactivated in 2020 due to the increasing need of using online and multimedia resources. The platform is divided into the fields of vocational education and training, e.g. Field B – construction, Field C – electric-electronic, etc. Each field involves different materials. The materials are divided into topics, and each topic specifies: the profession the topic is addressed to, the level of the Polish Qualification Framework, type of the course, module, and types of materials included (e-books, video casts, audio casts, diagrams, theoretical materials, etc.). Each topic is a substantive source of knowledge for students, which can be used for learning independently or by teachers during online classes. It gives students the possibility to see how certain activities are done in practice, how certain machines / devices work, etc.</p> |   |          |        |
| © 2014 - 2021 Zawodowa Edukacja. All rights reserved. Designed by Piotr Halama  |   |          |        |

| Title  |   |          |        |
|--|---|----------|--------|
| Platforma Edukacyjna: Almanach Cukierniczo-Piekarski |   |          |        |
| Country  | Poland  | Language | Polish |
| Title (EN)   | Educational Platform: Confectionery and Bakery Almanac  |          |        |
| Type of BP   | Program/module for students (initial VET)<br>Program/module for adult learners (continuing VET)           |          |        |
| Format of BP   | Online (Digital / e-learning)   |          |        |
| Reference  | <a href="https://cukiernictwo-piekarstwo.blogspot.com/">https://cukiernictwo-piekarstwo.blogspot.com/</a> |          |        |

**Brief summary:**

The Confectionery and Bakery Almanac is an educational platform – a widely and freely available collection of materials concerning food technology and bakery and confectionery production. The materials included in the main section of the website cover basic concepts in the field of food technology, commodity science, microbiology, technical equipment, as well as bakery production and confectionary technology. It was created for the students who prepare to perform the profession of a confectioner and/or a baker and their teachers. The aim of the platform is to facilitate acquiring theoretical knowledge by students. The topics included involve theoretical materials, video tutorials, video presentations, etc. It's a great source of knowledge for students because they can learn how to prepare certain products by watching, which is a more practical approach. The videos uploaded are professional, include important information in the field in question and a lot of practical tips for students. The platform can be used by students to learn independently or by teachers during online classes.

| Title        |   | "Kształcenie na odległość – poradnik dla szkół" |        |
|--------------|---|---|--------|
| Country      | Poland  | Language  | Polish |
| Title (EN)   | Sample of initiative or policy in virtual WBL   |   |        |
| Type of BP   | Online (Digital / e-learning)<br>Printed material   |   |        |
| Format of BP | Online (Digital / e-learning)   |   |        |
| Reference    | <a href="https://static.epodreczniki.pl/portal/f/res/R1ofjwJoglRUc/2/29UvHpoQ4oVvQbD7M2AcjunZAaRyV5YQ.pdf">https://static.epodreczniki.pl/portal/f/res/R1ofjwJoglRUc/2/29UvHpoQ4oVvQbD7M2AcjunZAaRyV5YQ.pdf</a><br>"Kształcenie na odległość – Poradnik dla szkół", Ministerstwo Edukacji Narodowej |   |        |

**Brief summary:**

"Distance learning – a guide for schools" is a practical guide prepared by the Ministry of National Education in Poland in order to support teachers and head teachers in the organization of online teaching. The guide is divided into several sections – it includes guidelines for head teachers, teachers, students and parents. It was developed for the needs of online education during the pandemic period, which started in 2020 in Poland. This publication can be used by different types of schools at various educational levels. As far as vocational education and training is concerned, it involves information regarding the exam confirming qualifications in a given profession, additional information for the head teacher of a VET school, materials that can be used for VET (educational platforms), safe work with a computer and on the internet, various e-tools and e-materials for online teaching. The guide constitutes a form of assistance for schools – it provides support with regard to the organization of online teaching and learning in this difficult situation.



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