



**ECHOES: Extended Classrooms for Higher Opportunities Enhancing Skills**

## **R1.A2.2 - NATIONAL RESEARCH**

## **R1.A3.1 – NATIONAL REPORT**



**Co-funded by  
the European Union**

This Project has been funded with support by The European Commission through the ERASMUS+ Programme. This publication reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein." Project n° 2021-1-IT01-KA220-VET-000033244

Project Document Information	
<b>Project acronym</b>	ECHOES
<b>Project full title</b>	Extended Classrooms for Higher Opportunities Enhancing Skills
<b>Project Code</b>	<a href="#">Project n° 2021-1-IT01-KA220-VET-000033244</a>
<b>KA220-VET</b>	Cooperation partnerships in vocational education and training
<b>Result</b>	1 - State of Art and Research Report on distance and virtual learning for VET and WBL projects
<b>Deliverable Type</b>	Report
<b>Report title</b>	R1-A1 PREPARATION OF WORK PROGRAMME AND RESEARCH METHODOLOGY
<b>Deliverable Partner Responsible</b>	T2i
<b>Reviewers</b>	
<b>Contributing Partners</b>	
<b>Dissemination Level</b>	Public (Confidential / Restricted / )
<b>Version</b>	<i>(date)</i>
<b>Keywords</b>	VET; WBL; Distance Learning; Virtual Learning



## Table of Content

<b>1. Methodological</b> .....	4
<b>2. Aims of the National State of Art and Research Report</b> .....	4
<b>3. Methodology</b> .....	6
<b>4. Desk research - State of the art and development of online / distance learning in Spain</b> .....	8
4.1. National and regional diffusion of online / remote training and the main areas of application .....	8
4.2. The most used platforms .....	10
<b>5. Online / distance training in vocational training (VET) and work-based learning (WBL) projects Spain</b> .....	18
5.1. Dissemination at national / regional level .....	18
5.2. Experiences and Best Practices .....	20
5.3. Competence gap .....	21
5.4. Constraints and needs in relation to technology, types of activities and target groups .....	30
5.5. Verification of learning and effectiveness of the training path .....	35
<b>6. Advantages and disadvantages of distance learning</b> .....	36
<b>7. Conclusions and recommendations</b> .....	39

## 1. Methodological

This document is configured as the logical union of the two deliverables provided for R1.A2.2 - NATIONAL RESEARCH and R1.A3.1 - NATIONAL REPORT. The two deliverables are closely related and the entire development methodology saw the simultaneous construction of the document taking into account the common factors useful for a complete and coherent understanding of the phenomenon analyzed in the various national frameworks.

The DESK analysis (R1.A2.2 - NATIONAL RESEARCH) saw the investigation of the phenomenon from the point of view of the national strategic framework, the adoption of typical national policies and the most used instruments at national level. The second part of document R1.A3.1 – NATIONAL REPORT instead saw the analysis of the national state through the questionnaires and focus groups developed during the project phases (see deliverables A2.3 SURVEY and A2.4 ONLINE TRANSNATIONAL FOCUS GROUPS). All the aggregated data and considerations have led to the development of this deliverable.

## 2. Aims of the National State of Art and Research Report

**Result 1 (R 1)** is the analysis of the skills gaps of trainers and staff in the field of virtual training and mentorship programs for VET projects, based on best practices (environments, programs, methodologies, and tools) in place in the EU and selected Member States, specifically MS represented by the partnership (Italy, Austria, Slovenia and Spain). R1 will serve to meet the right conditions and pre-requisites for the implementation of the Echoes Toolkit (R2) and the Pilot Course (R3) in the countries of the partnership.

The aim of **the State-of-the-Art** report is, therefore, to provide:

- context analysis, classification and analysis of virtual/online environments for different kind of VET projects,
- trainers/mentors' requirements in terms of skills and competencies, training needs and associated methodologies and tools,
- classification and selection of the training programs and the didactical and technology resources, available systems for the recognition of the competencies acquired by online trainers and mentors and potential for improvement.

This Report is the “**National State of Art and Research**” for Italy, jointly developed by the two Italian partners of the Echoes project, and namely: Ass.For.SEO, Lead Partner, and T2i.

After having presented the methodology followed for the collection of data and information (Chapter 2), an overview of the state of the art on distance/online learning in Italy is presented (Chapter 3). Based on data and information made available by research centers and the main institutional or non-institutional actors implied, national and regional diffusion of the distance and online training in the VET sector, distinguished by the main areas of application, are analyzed and discussed. Some experiences and best practices on distance learning, mainly implemented in Italy in response to the emergency from COVID-19, are listed and commented on. Finally, the chapter contains a focus on the most used platforms for distance learning, and mainly LMS (Learning Management Systems) and LCMS (Learning Content Management Systems).

Results from a survey (questionnaires administered to VET professionals) are presented and discussed as well (Chapter 4). The questionnaire was addressed to a group of selected professionals (teachers, coaches/mentors, tutors, etc.) with the aim to complement data and information collected through the desk research and go in-depth with the identification of the needs and skills gaps in view of the designing of the Toolkit (Result 2) and the Training Course (Result 3) foreseen as main results of Echoes project.

Two Focus Groups with professionals of the VET system have been organized for the same purpose. Results of the focus groups, combined with the results of the desk research and the survey, have offered the ground for the identification of the areas of the “gaps” and “needs” (Chapter 5), and for the User Analysis (Chapter 6).

Finally, through the “Personas Analysis”, some “targets” of the Toolkit and the Training Course have been identified, so to make sure that Result 1 and Result 2 will be useful and enjoyable for our intended users: teachers, coaches/mentors, tutors and other professionals involved in VET courses.

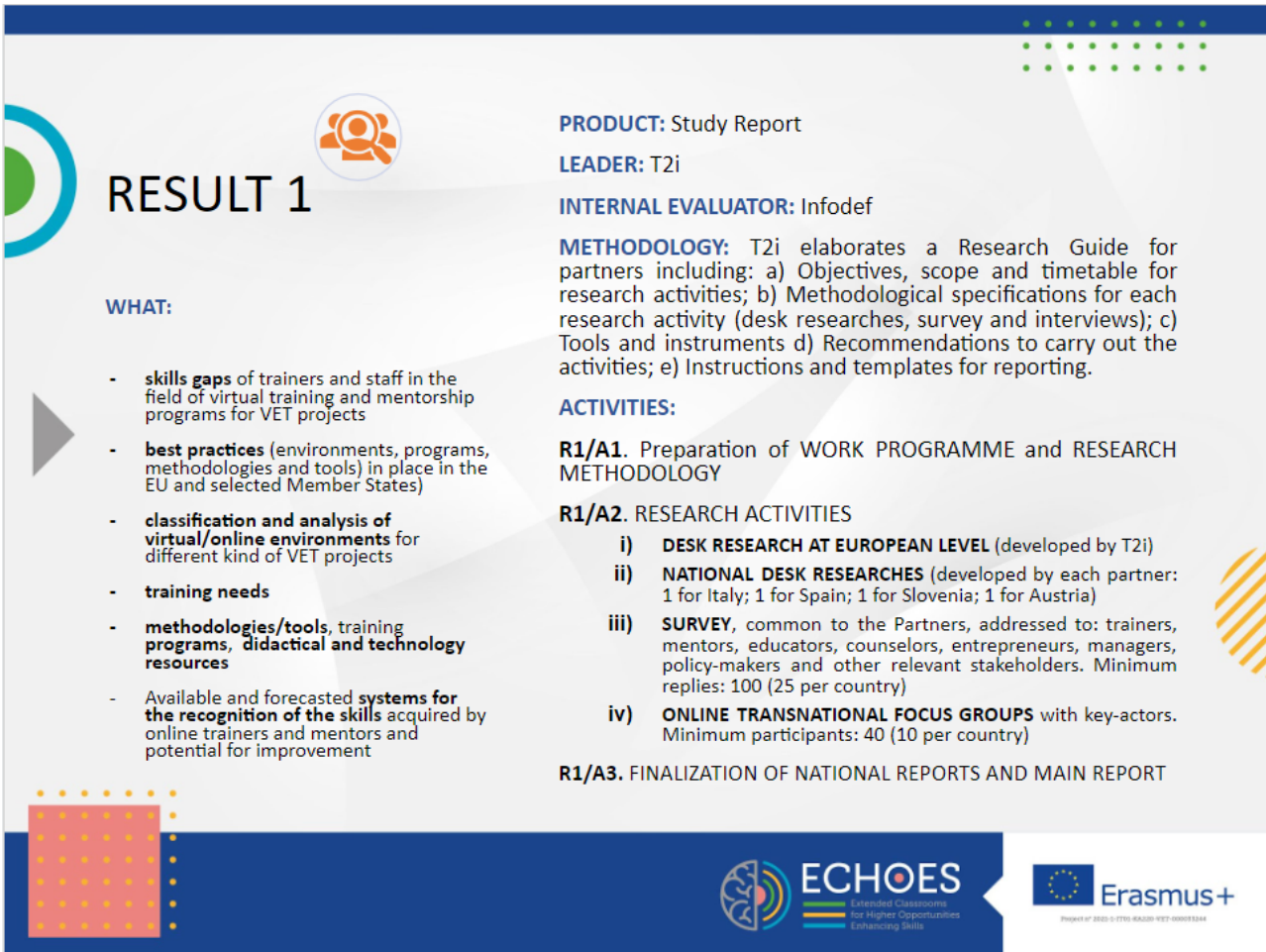
### 3. Methodology

The Report is based on a methodology based on the completion of three main, progressive tasks:

- Desk Research,
- Survey (questionnaires),
- Focus Groups.

All the tasks which form part of the methodology have been conceived by T2i and Ass.For.SEO and shared with the Partners. The same methodology has been adopted by the Echoes Partners for the National Reports related to the countries of the partnership, which are: Austria, Slovenia and Spain.

The methodological workflow for Result 1 and for research activities is described in the following table.



**RESULT 1**

**WHAT:**

- **skills gaps** of trainers and staff in the field of virtual training and mentorship programs for VET projects
- **best practices** (environments, programs, methodologies and tools) in place in the EU and selected Member States)
- **classification and analysis of virtual/online environments** for different kind of VET projects
- **training needs**
- **methodologies/tools, training programs, didactical and technology resources**
- Available and forecasted **systems for the recognition of the skills** acquired by online trainers and mentors and potential for improvement

**PRODUCT:** Study Report

**LEADER:** T2i

**INTERNAL EVALUATOR:** Infodef

**METHODOLOGY:** T2i elaborates a Research Guide for partners including: a) Objectives, scope and timetable for research activities; b) Methodological specifications for each research activity (desk researches, survey and interviews); c) Tools and instruments d) Recommendations to carry out the activities; e) Instructions and templates for reporting.

**ACTIVITIES:**

**R1/A1. Preparation of WORK PROGRAMME and RESEARCH METHODOLOGY**

**R1/A2. RESEARCH ACTIVITIES**

- DESK RESEARCH AT EUROPEAN LEVEL** (developed by T2i)
- NATIONAL DESK RESEARCHES** (developed by each partner: 1 for Italy; 1 for Spain; 1 for Slovenia; 1 for Austria)
- SURVEY**, common to the Partners, addressed to: trainers, mentors, educators, counselors, entrepreneurs, managers, policy-makers and other relevant stakeholders. Minimum replies: 100 (25 per country)
- ONLINE TRANSNATIONAL FOCUS GROUPS** with key-actors. Minimum participants: 40 (10 per country)

**R1/A3. FINALIZATION OF NATIONAL REPORTS AND MAIN REPORT**

**ECHOES**  
Extended Opportunities  
for Higher Opportunities  
Enhancing Skills

**Erasmus+**  
Project n° 2020-0-IT01-REACT-102-000003244

As for the Desk Research, available official data, statistics and reports issued by National/Regional/EU Bodies or Research Centers have been considered for the analysis of the national states of art concerning distance learning in the countries of the partnership.

As for the Survey, a questionnaire (common to the Partners) has been used (Annex I).

In Italy, the questionnaire has been administered to a sample of 105 VET training operators (trainers, mentors, coaches), of which 65 selected by Ass.For.SEO and 40 selected by T2i.

Out of the total number of questionnaires sent, 56 replies were received and analyzed (KPI: 25).

Requirements to be included into the sample were as follows:

- previous experience in professional training (VET and / or WBL), preferably for more than one year;
- previous experience in distance learning, preferably for more than one year;
- experience in distance WBL or training including practical parts (such as practical exercises, laboratory, mentoring, etc.) or experience gained (successfully or not) in WBL or practical training during the period of the pandemic from Covid-19.

The Focus Groups have been selected as a useful methodology to get further information by the “users” (VET trainers, coaches/mentors, and other VET professionals) on their current and future needs with respect to the topics already analyzed with the questionnaire sent to the trainers.

In particular, the main objective of the focus groups was to hear from the voices of those directly involved and to collect further feedbacks to structure the Toolkit (Result 2) and the Training Modules (Result 3), by investigating 4 main areas: “Activity”, “Needs”, “Ambitions”, “Difficulties and Frustrations” experienced by the people involved in providing distance learning.

In fact, the Focus Groups explored the phenomenon of distance learning with a particular focus on VET and WBL, based on a list of questions (Annex II: “Questions for the Focus Group”) prepared in advance.

Information on recurring themes and skill gaps of the participants, in line with the “DigCompEdu”, the European reference framework on the digital skills of teachers and trainers, were collected.

Focus Groups have been implemented based on the methodology and guidelines jointly developed by Ass.For.SEO and T2i (Annex III).

Data and information collected from the Survey and the Focus Groups served to the “Users Analysis”, which finally led to the definition of the “Personas”: prospective users of the Echoes Toolkit (R2) and the Training Course (R3).

## **4. Desk research - State of the art and development of online / distance learning in Spain**

### **4.1. National and regional diffusion of online / remote training and the main areas of application**

At the level of formal education, there is only one centre at national level where Primary and Compulsory Secondary Education is taught completely at a distance. This is CIDEAD (Centro Integrado de Enseñanzas Regladas a Distancia). It is important to specify that when we speak of online Secondary Education, we are not referring to the model offered to young people from 12 to 16 years of age, but to the offer of these studies for adults.

In this case, through the virtual classroom set up in CIDEAD, all the assessment tests are non-face-to-face, both those of a continuous nature during the course and those of a final nature in each subject. It also offers baccalaureate and vocational training, among which distance and online education is more established.

Another of its commitments is to take on non-regulated learning initiatives through open training programmes via the Internet. For example, Aula Mentor, a training system for adults run by the Ministry of Education and Vocational Training in collaboration with the Autonomous Communities and local bodies, which is designed to improve the personal and professional skills of the adult population and in line with their life expectations.

Specifically, in the 2020-2021 academic year, a total of 684,804 students studied the Baccalaureate in Spain, of which 28,920 studied in the distance mode (4.2% of the total).



However, when we talk about distance/online training in Spain, we have to refer to Vocational Training for Employment (which until now did not depend on the Ministry of Education, like the rest of training in the country, but on the Ministry of Employment).

This system responds to the needs of the labour market and is aimed at improving business competitiveness, including different initiatives and programmes that are developed within the framework of the National Employment System, through the State Public Employment Service and the Public Employment Services of the Autonomous Communities.

In it you can find courses for:

- Workers, programmed by their companies.

Training actions that, depending on its needs, the company programmes for its employees. They are financed through reductions in social security contributions.

So far in 2022 in Spain, 59% of the courses offered in this modality are online compared to 39.3% face-to-face and only 1.6% blended.

- Workers.

Training actions that the Public Administrations develop for employed workers, aimed at covering the needs not covered by the training programmed by companies for their workers. May be: specific sectoral training programmes, transversal training programmes or qualification and professional recognition programmes.

- Unemployed people.

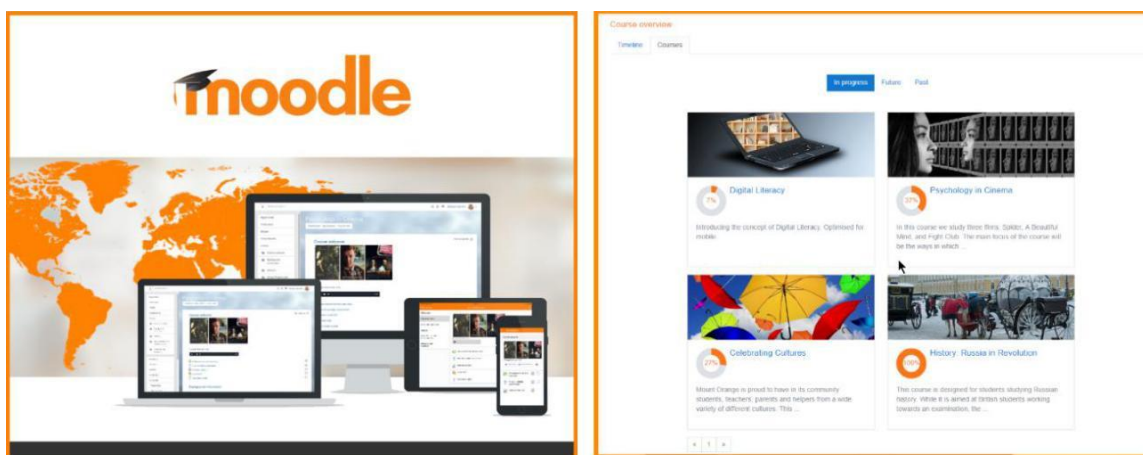
Training actions aimed at unemployed workers to acquire the skills required by the labour market and improve their employability. May be: programmes of the Employment Services aimed at covering the needs detected in the insertion itineraries and in the job offers, specific programmes aimed at unemployed people with special training needs or with difficulties for their insertion or which include hiring commitments.

Also, all of them can be organised by groups (women, young people, migrants, long-term unemployed...). In this case, so far in 2022 in Spain, 88.8% of the courses offered in this modality are online compared to 9.2% face-to-face and only 2% blended.

The VET also has a distance mode (online with face-to-face assessments and in-company internships) which will be analysed in the following appendix.

## 4.2. The most used platforms

### Moodle



Source: <https://stats.moodle.org/?lang=es>

Moodle is generally the most widely used platform for online training. More than 170,000 sites deliver courses through the Moodle platform in more than 200 countries. Spain is currently the second country in terms of the number of institutions using Moodle (more than 12,000), the first country being the United States with more than 13,000 institutions<sup>1</sup>.

<sup>1</sup> Official data obtained from the Statistics page in Moodle.org

## Statistics



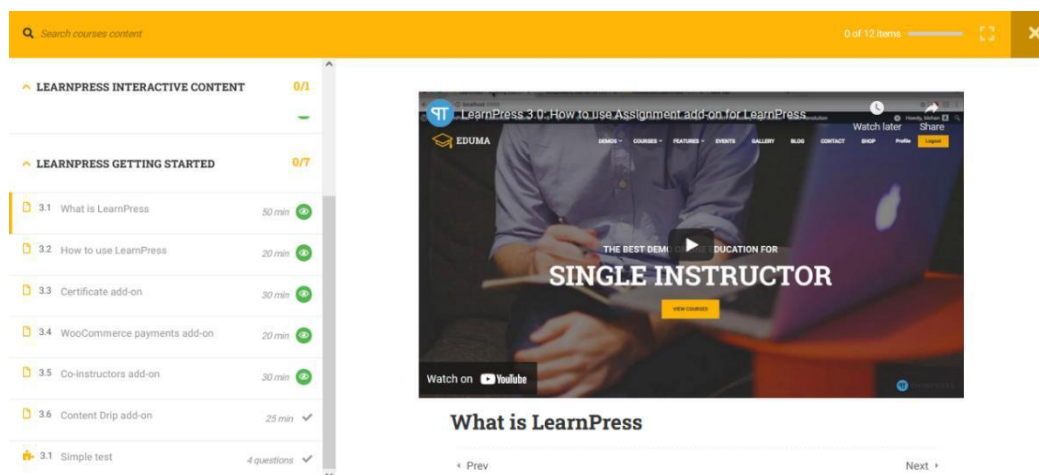
Source: <https://stats.moodle.org/?lang=es>

It is one of the best known of the open source LMS e-learning platforms. Among its most advantageous aspects are its ease of use with a clear and simple interface for both students and teachers.

It offers more than 20 different types of resources to be implemented: chats, questionnaires, surveys, forums, glossaries, assignments, availability of folders and files, access to websites and various documentation available on the Internet, as well as evaluation methods.

In this type of platform, the teacher controls the educational content, as well as the resources carried out by the students (activities, tasks, assignments, etc.). As for the students, this platform allows them to follow their own pace of work and manage their learning. In fact, in most cases, educational institutions use Moodle as a virtual support and complementary to face-to-face courses taught in a physical classroom or simply as a container or repository for downloadable educational materials in face-to-face courses.

## LearnPress (WordPress-specific plugin)



Source: <https://es.wordpress.org/plugins/learnpress/>

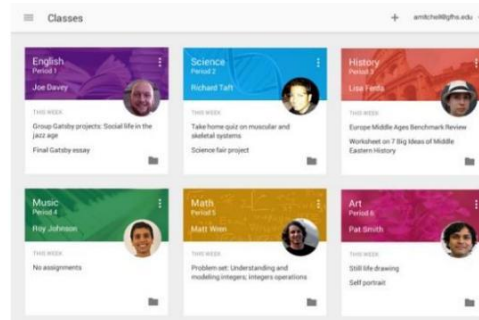
Another alternative is LearnPress, a WordPress-specific functionalities (plugins that can be installed) and allows websites to be used as e-learning sites. They are available on the WordPress website itself, very easy to use and their installation is very simple. It allows to create a course curriculum with lessons and quizzes included which is managed with an easy-to-use interface for users.

This platform includes tools for managing courses, viewing statistics on the number of students, trends, etc. Although it is a free tool, it even allows you to sell educational content with different billing methods. It also facilitates communication with students through forums and other tools and allows the installation of further extensions for specific additional features.

Currently, there are more than 1,400<sup>2</sup> sites using LearnPress in Spain as an online training tool.

---

<sup>2</sup> Official data obtained from WordPress España

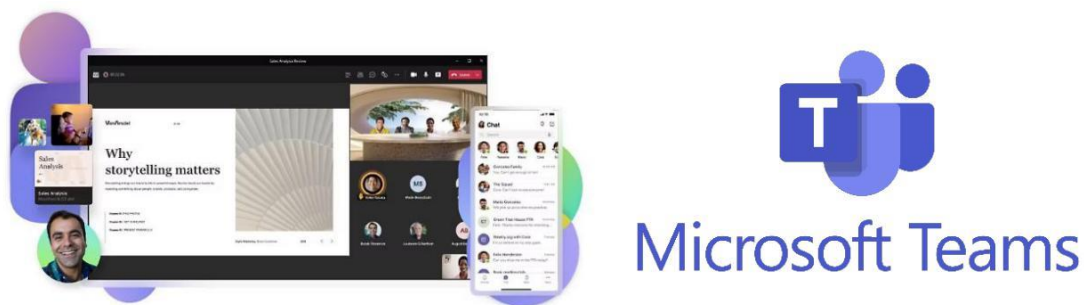


Source: [edu.google.com](https://edu.google.com)

Google classroom was very popular during the COVID-19 in Spain. It is part of G Suite for Education, is free and can be used by training centres, private users with Gmail accounts or non-profit organisations. There are four different profiles in Classroom: teachers, students, tutors and administrators, each with different permissions or types of functions. For example, teachers can create and manage classes, assignments and grades, and tutors can receive a summary of students' work by email.

Thanks to this application, teachers and students can easily keep in touch both inside and outside the school. Classroom saves time and paper, as well as making lessons, distributing assignments, communicating with other users and keeping work organised in a simple way.

It has some limitations, such as the fact that it does not have many customisation options, so your platform will be similar to those of the competition. In addition, the space that Google offers for free is limited and if you need more, you need to pay to contract more GB in the cloud.

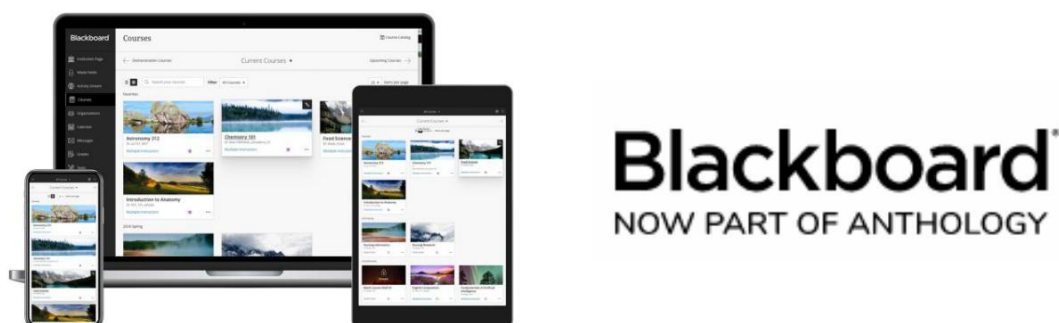


Source: <https://www.microsoft.com/>

Microsoft Teams is the teamwork area of Microsoft 365 that integrates users, content and tools to improve engagement and efficiency. Teams has more than 270 million active monthly users. It expects to add 20 million more people by the second half of 2021.

Teams for education brings together everything you need in the classroom and at school. Video calls, chats, screen sharing, Together mode, Privacy and Security, file sharing, apps and workflows, and a myriad of plugins developed to integrate with it make Microsoft Teams one of the best options to consider.

### **Blackboard**



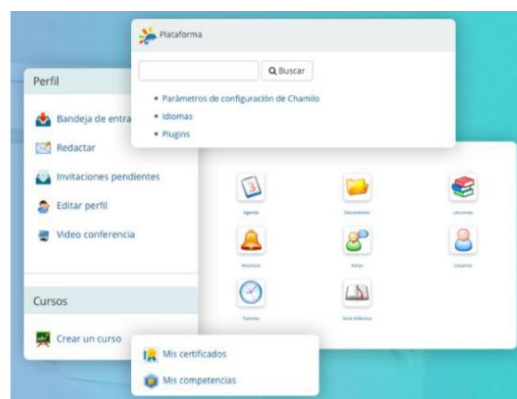
Source: <https://www.blackboard.com/>

In this platform, tools such as agendas, task correction, attendance lists, etc. are very important. It is the main payment platform in Spain.

One of its peculiarities is that it takes advantage of student feedback. Using the collaboration between students, its virtual classrooms facilitate meeting points between students, which enables collaborative learning where the knowledge of each one of them has a positive impact on the common one.

It also includes two very distinctive tools of this company: Blackboard Collaborate (a tool for virtual classes by videoconference) and Blackboard Ally (a tool to facilitate accessibility for students with disabilities). Both tools can also be purchased separately for use in other LMSs such as Moodle or Canvas.

### Chamilo

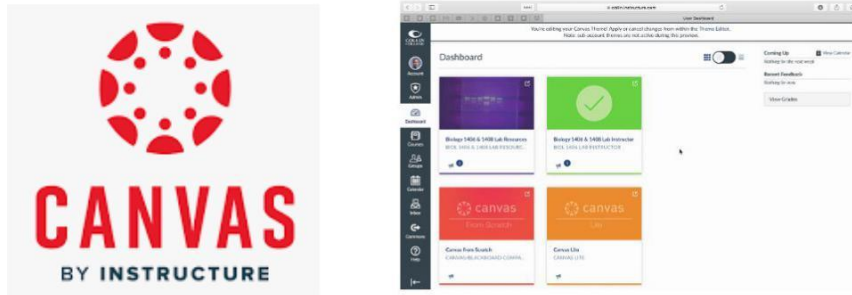


Source: <https://chamilo.org/en/>

Chamilo is an alternative to Moodle, a free software LMS that allows you to create a learning environment from scratch with 3 million users in 45 languages.

In terms of course hosting, Chamilo allows you to create a course catalogue that automatically assigns the corresponding role to the person who registers. Another good first step that can even allow you to create an academic marketplace.

It includes social functions (chat, messaging and work groups) in a more efficient and simpler way than Moodle. Chamilo is suitable for educational institutions and SMEs (consultancies, training departments, etc.) that prefer to have a simple open-source system that is more agile and intuitive than Moodle.



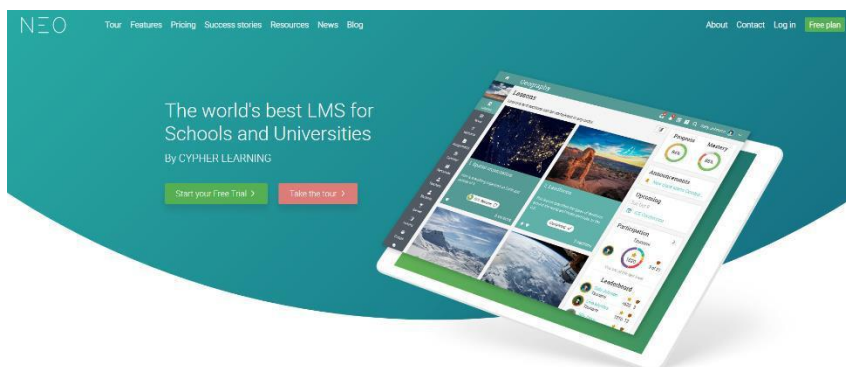
Source: <https://www.instructure.com/es-es/canvas>

It is an open source LMS platform with a quite significant peculiarity that sets it apart from the rest: it works entirely in the cloud, so it does not need to be hosted on any server.

There is a version specially designed for the business sector, Canvas Network, and a free version for teachers.

It also has integration with other platforms such as Google Docs and Dropbox, allowing users to easily import content from these platforms.

## Neo



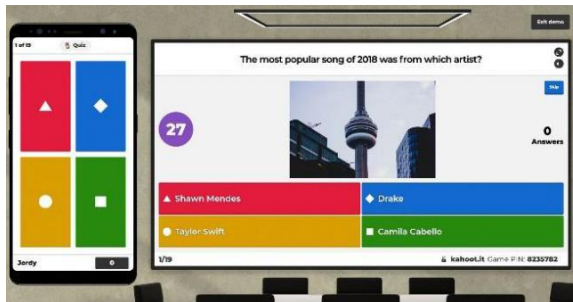
Source: <https://www.cypherlearning.com/neo/tour/create-engaging-classes-and-paths>

NEO LMS is a paid platform designed to be used by all audiences and education professionals. It is used by students at all stages of the education system (from primary school to university). Its easy installation, with no prerequisites or prior knowledge, makes it simple to use.



It incorporates learning activities, whether it is creating online classes (synchronous and asynchronous development of online classes), assessing students, improving collaboration or tracking student performance, including gamification tools.

### Other types of platforms

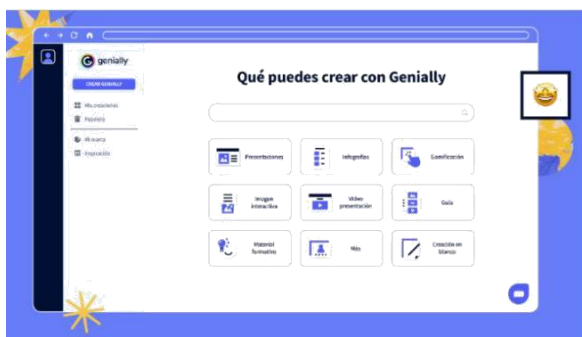


# Kahoot!

Source: <https://kahoot.com/>

Kahoot! is generally used in a variety of educational and work environments. From learning in classrooms, games with friends, social events, and some time ago it has also added the corporate part where companies use the applications to train and encourage the development of their employees. Through games in various applications, concepts are learned and reviewed in an entertaining way. The most common is through test-type questions, as if it were a quiz, although there are also options for debates or discussions.

It already has more than 9 million educators globally and millions of users as students, families or offices.



Source: <https://genial.ly/es/genially-tour/>

Genial.ly, a Spanish interactive content creation tool that requires no previous knowledge.

Its audience is mainly divided into 3 areas: on the one hand, educators, to whom it provides the possibility of creating their own training plans in interactive ways; on the other hand, content creators, who use the Spanish service to differentiate their content from other influencers; and finally, companies that are looking for solutions without having to program, known as no code.

It contains templates for presentations, e-learning content, quizzes, gamification elements, infographics, interactive images, informative videos, etc.

## **5. Online / distance training in vocational training (VET) and work-based learning (WBL) projects Spain**

### **5.1. Dissemination at national / regional level**

It is important to assume that, according to the OECD, Spain has one of the lowest rates of participation in VET. It can be said that the image or prestige of VET in Spain is not high, understood as the only alternative for those young people who did not wish to (or were not suitable for) studying.

This situation is currently changing, 1 out of every 5 Spaniards has a Vocational Training qualification, driven by new national initiatives and reforms such as the new Ley Órganica de Ordenación e Integración de la Formación Profesional, with which, for the first time, there will be a single model that allows for the recognition of competences, professional certification, training cycles, orientation and internationalisation. This reform corresponds to an increasingly common context in which students combine the modalities of this training, access university through these cycles or, being university graduates, access these cycles to specialise professionally.

Within this framework, the distance training in VET has gained more weight in recent years. Last year, more than 101,000 students enrolled in the higher level (20% of enrolment) and more than 42,000 in the intermediate (10.5% of enrolment).

At present, distance learning is available in 247 centres for Intermediate Level courses, while Higher Level courses can be taken in 406 centres out of a total of 3,800 (public and private).

The learner profile in this modality is different from the face-to-face one. Distance VET attracts students over 30 years of age who are studying to change or improve their careers, and although it is implemented online through e-learning platforms, the assessment tests are face-to-face.

Work-based learning is applied in Spain through Dual Vocational Training. In this modality within Vocational Education and Training, theoretical and practical training received in an educational centre is combined with practical activity in a workplace. However, its implementation depends on each Autonomous Community. That is: the decision as to what, when, where and in what modality vocational training cycles are taught is the responsibility of the Autonomous Communities, which leads to great inequality in Spain.

With regard to Dual Vocational Training, 37,841 young people are enrolled in Dual Vocational Training, 23,329 of them men and 14,512 women. By stage, 834 are in Basic Vocational Training, 13,730 in Intermediate Level and 23,277 in Higher Level. This offer combines teaching in the educational centre with practice in the company, and which the new legislation plans to generalise, is carried out in 1,147 educational centres, the majority (73.6%) of which are public.

In 2019-2020, the percentage of students completing this modality represents 1.3% in Basic Vocational Training, 4.9% in Intermediate Level and 8.4% in Higher Level. Its weight is already significant in some autonomous communities, such as the Basque Country and Navarre, where 17.7% and 17%, respectively, of students who complete a Higher Degree do so in Dual mode, as well as in Catalonia, with 14.6%<sup>3</sup>.

The best dissemination of VET, whether face-to-face, distance or dual, is done directly by the VET institutions where the training is provided. This leads to differences not only at national but also at regional and local level.

---

<sup>3</sup> Data obtained from the [Estadística del Alumnado de Formación Profesional. Curso 2020-2021'](#)

This dissemination usually focuses on creating partnerships between local business, municipalities and the VET school.

## 5.2. Experiences and Best Practices

*Tutorial action as a fundamental element in distance VET education -*

[https://www.educa2.madrid.org/web/revistadebates/buenas\\_practicas\\_9/-/visor/las-ensenanzas-a-distancia-en-el-ambito-de-la-fp-en-la-comunidad-de-madrid](https://www.educa2.madrid.org/web/revistadebates/buenas_practicas_9/-/visor/las-ensenanzas-a-distancia-en-el-ambito-de-la-fp-en-la-comunidad-de-madrid)

The centre is open morning and evening from 8.30 am until 9.15 pm. This timetable is intended to meet all the needs of the students. In the mornings and afternoons, face-to-face tutorials will be offered so that students can resolve doubts with the tutoring teachers at the centre.

The organisation and operation of this centre is different from the rest of the secondary schools as it has a large teachers' room where they work at computer workstations, each teacher has a computer and a telephone from where they provide support and monitoring to students from the educational platforms. This way of working is proving to be a great challenge as it completely breaks with the traditional way of working for teachers.

*Dual Vocational Training Programme in the Company -* <https://www.camara.es/fpdual/index.html#>

The Spanish Chamber of Commerce helps to improving employability and reducing youth unemployment. Within the framework of the Operational Programme for Employment, Training and Education (POEFE) of the European Social Fund, it is developing a Dual Vocational Training Programme in the Company to promote the participation of small and medium-sized enterprises in this training modality.

The aim of the programme is to strengthen the quality and extension of the Dual Vocational Training system in Spain by promoting, advising and supporting the companies participating in it, as well as supporting companies that want to participate in Dual Training with maximum quality guarantees.

*Mentoring in Dual Vocational Training: accompanying to help growth -* [https://www.alianzafpdual.es/buenas\\_practicas/colegio-edith-stein/](https://www.alianzafpdual.es/buenas_practicas/colegio-edith-stein/)

Since 2016, the Edith Stein educational centre (Madrid) has been implementing a mentoring programme for vocational training students. Among them are the apprentices of the Higher Technical Training Cycle in Early Childhood Education, in Dual mode, who receive a personalised accompaniment service during their training process.

The figure of the mentor was created by the educational centre to be able to work with the apprentice on the emotional side, their abilities, work concerns and social skills with a view to their training in the company and also their future employment.

Specific measures within respondents' organisations to encourage and/or support the management of e-learning/distance learning were cited:

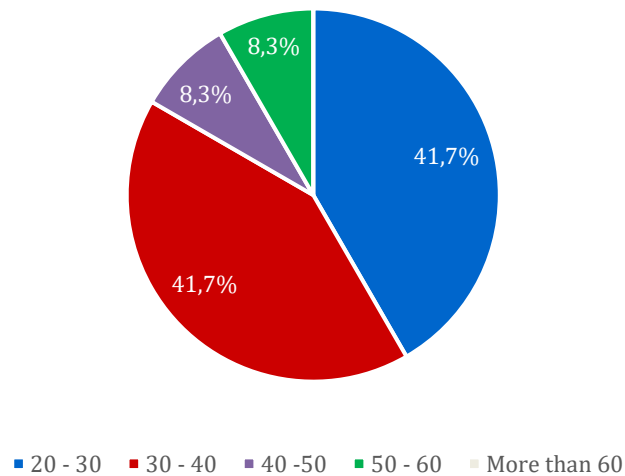
- Although it may seem basic and simple, provide technical support, accounts with subscription services (not the basic ones).
- Provide in-house training on online content development.
- Always offer diversity between training modalities: face-to-face only, online only, blended courses or simply that the same course is offered in different sessions (some for face-to-face and others online). In all cases, documentation and case studies are adapted to each condition.

Some of the distance training courses are carried out through a mobile app where an interactive presentation on the theoretical part appears and you can then take a quiz. This quiz provides a score based on the number of correct answers in the time dedicated and generates a ranking with the rest of the users. At the same time, users can challenge each other to the different quizzes to earn more points. Once the time available to complete the quizzes has expired, an online session is held with the trainer where the contents learned are applied in practical cases.

### 5.3. Competence gap

The profile of the education professionals who participated in the questionnaire, as a sample of the context of the sector in Spain, presents the following characteristics:

### Age

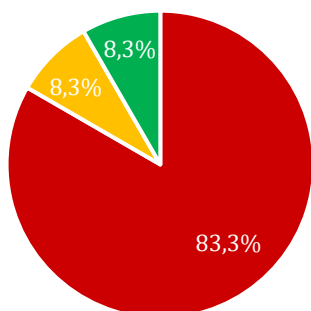


Regarding the age of the participating professionals, the majority of respondents are between 20 and 40 years old, with those over 40 being much less representative.

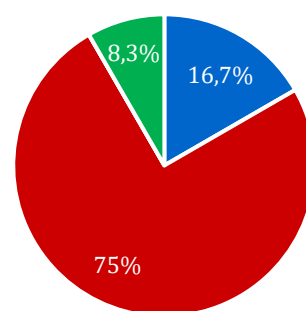
In terms of years of experience in the education sector, the majority of participants have between 1 and 5 years of experience, with far fewer claiming more than 6 years. This is logical when considering that the age profile is of young professionals (between 20 and 40 years old).

In terms of years of experience in the education sector but online, again there is a large majority with between 1 and 5 years of experience, with far fewer claiming to have less than 1 year. This also exemplifies that professionals are willing to make the leap to the online sector, and that many are just at that point.

### Experience in Training



### Experience in Distance-Training



■ Less than 1 year ■ 1 - 5 years ■ 6 - 10 years ■ More than 10 years ■ Less than 1 year ■ 1 - 5 years ■ 6 - 10 years ■ More than 10 years

In Spain, there are guidelines at national level aimed at encouraging and/or supporting the management of online/distance learning and supporting its management. The Sectoral Conference on Education has agreed that all education administrations will use the same reference framework, the same tools and will mutually recognise these certifications. This means that by 2024, Spain will have to certify the digital competences of at least 80% of 700,000 non-university teachers.

The accreditation of teachers' digital competence is an essential element in the transformation of the education system and will be recognised in the same way and will be valid throughout the country. The autonomous communities have one year to draw up their regulations for the accreditation of these competences. These will have different levels, similar to those used for language assessment: A1 and A2 for the initial stage; B1 and B2, the intermediate stage; and C1 and C2 for the advanced stage.

All this has arisen from the effects of COVID-19 on education at all levels.

What is intended to be assessed, and therefore on the basis of which the training needs of teachers will be established, corresponds to the following areas (which are a national adaptation of the European

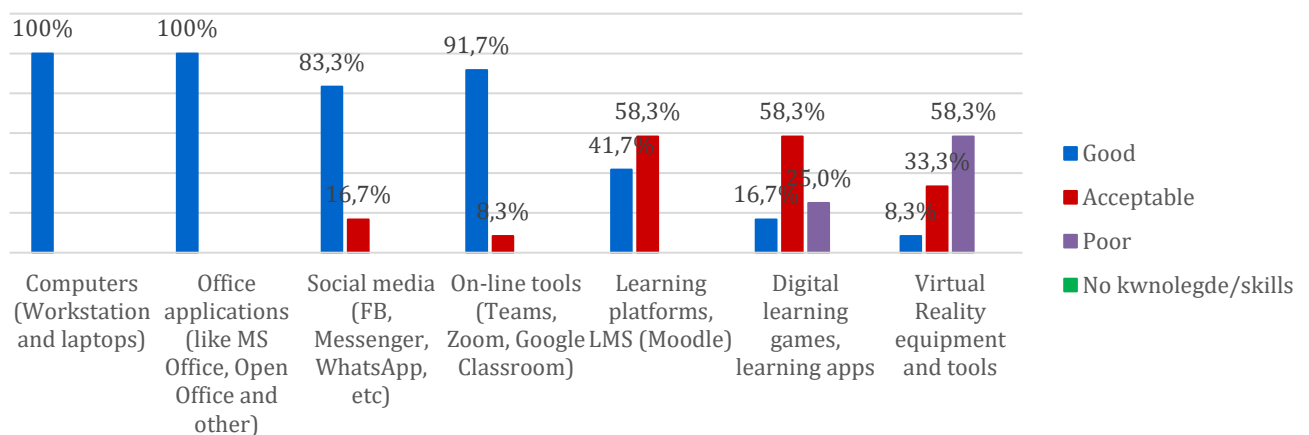
DigComEdu:

- Professional commitment: protection of pupils' well-being and their appropriate intellectual, physical and psychological development, participation in the school, collaboration with families, responsible action in the environment and with their own professional development.
- Digital content: to be able to manage a variety of content in order to effectively identify those that best suit the learning objectives, students and teaching style, structure them, relate them to each other and modify, add and create new digital educational content to support their teaching practice.
- Teaching and learning: design, planning and implementation of the use of digital technologies at each stage of the learning process.
- Assessment and feedback: using digital technologies in the field of assessment must meet the objectives of always respecting the privacy and security of personal data handled in this process in order to guarantee digital rights and personal data protection.

- Empowering learners: to act, in collaboration with schools, administrations and families, to overcome and compensate for existing inequalities (e.g. in access to digital technologies or digital competence) and to ensure accessibility for all learners according to their personal educational needs.
- Developing learners' digital competence: specific pedagogical competences that teachers need for pupils to acquire and develop their digital competence in order to exercise active, responsible and critical citizenship.

According to the results of the questionnaire, in terms of competences, the following aspects stand out:

### Knowledge and skills in the following technologies and tools



Within the knowledge and skills with a good level, we find that 100% of respondents claim to have both Computers and Office applications skills, followed by 91.7% in Online tools and 83.3% in Social media.

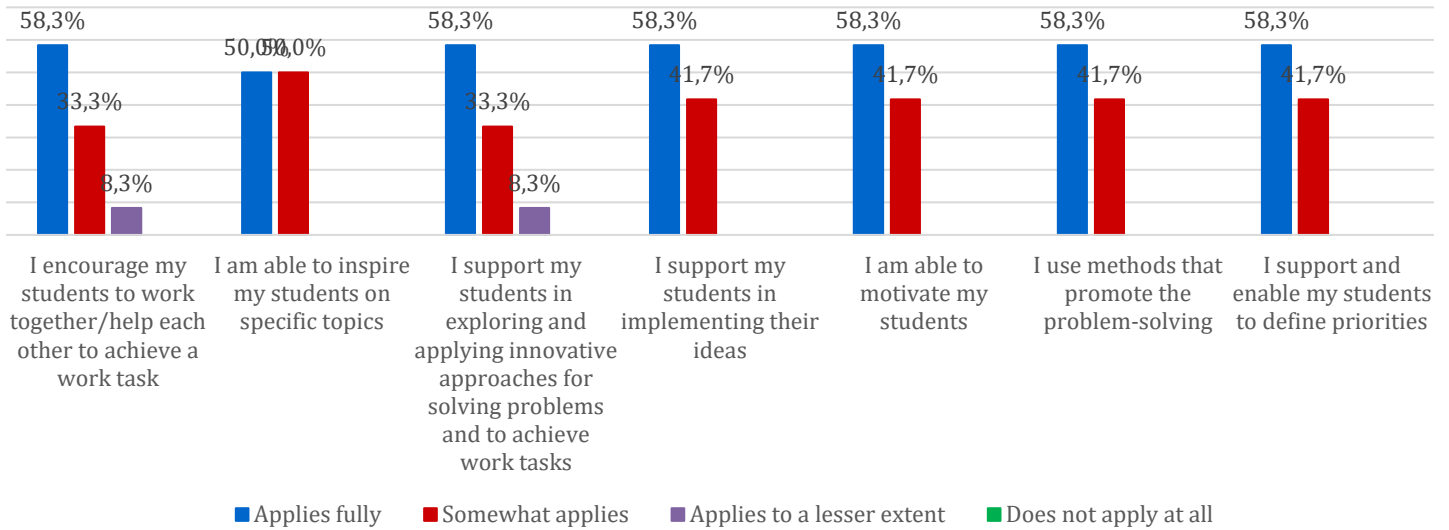
The situation changes in the other categories where only 41.7% say they have a good level in Learning platforms, only 16.7% in Digital learning games and a low 8.3% in Virtual reality equipment.

58.3% say they have an acceptable knowledge of learning platforms and digital learning games.

And a further 58.3% claim to have a poor knowledge of Virtual reality (this being the predominant level in this field), standing out as the most unknown or, worse prepared, field of all.



### About yourself as a teacher/trainer



Regarding respondents as teachers, more than 58% fully affirm their commitment to aspects such as encouraging students to work together, inspiring them on specific issues, supporting them in applying innovative approaches, solving problems and applying their own ideas, motivating them and allowing them to define their priorities.

The lowest figures for this commitment apply to areas such as encouraging students to work together and help each other or to apply innovative approaches. Arguably, it is in these two areas that teachers face the greatest challenge.

In relation with video-conferencing and educational platforms, the following aspects stand out:

Moodle is generally the most widely used platform for online training.

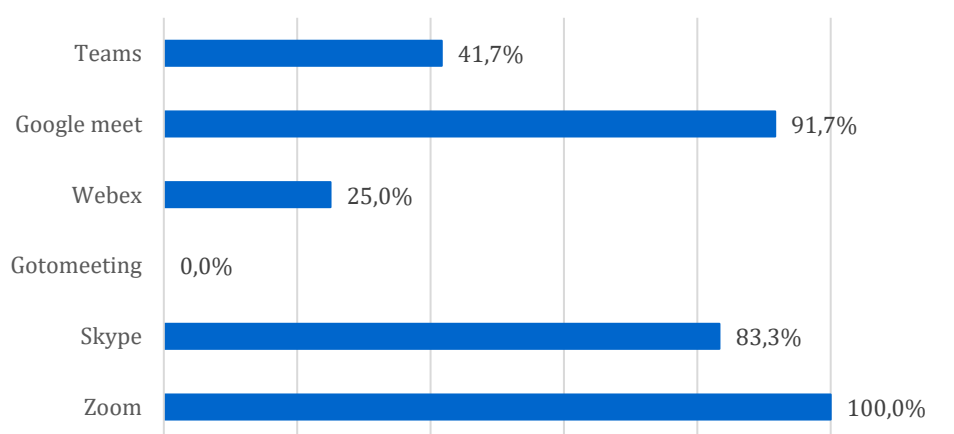
It is one of the best known of the open source LMS e-learning platforms. Among its most advantageous aspects are its ease of use with a clear and simple interface for both students and teachers.

It also features WordPress-specific functionalities (plugins that can be installed: LearnPress) and allows websites to be used as e-learning sites. They are available on the WordPress website itself, very easy to use and their installation is very simple.

Google classroom was very popular during the COVID-19 in Spain. It is part of G Suite for Education, is free and can be used by training centres, private users with Gmail accounts or non-profit organisations. There are four different profiles in Classroom: teachers, students, tutors and administrators, each with different permissions or types of functions. For example, teachers can create and manage classes, assignments and grades, and tutors can receive a summary of students' work by email.

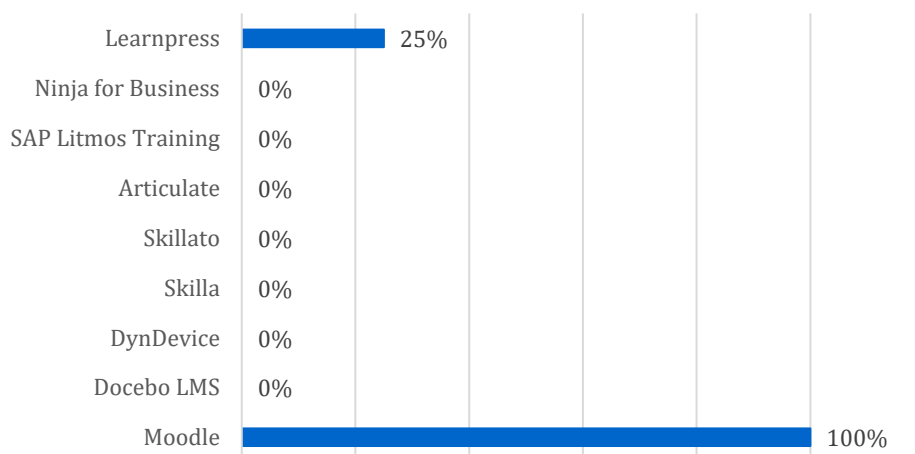
Taking into account the results of our questionnaire among distance/online education professionals:

### Used video conferencing platforms



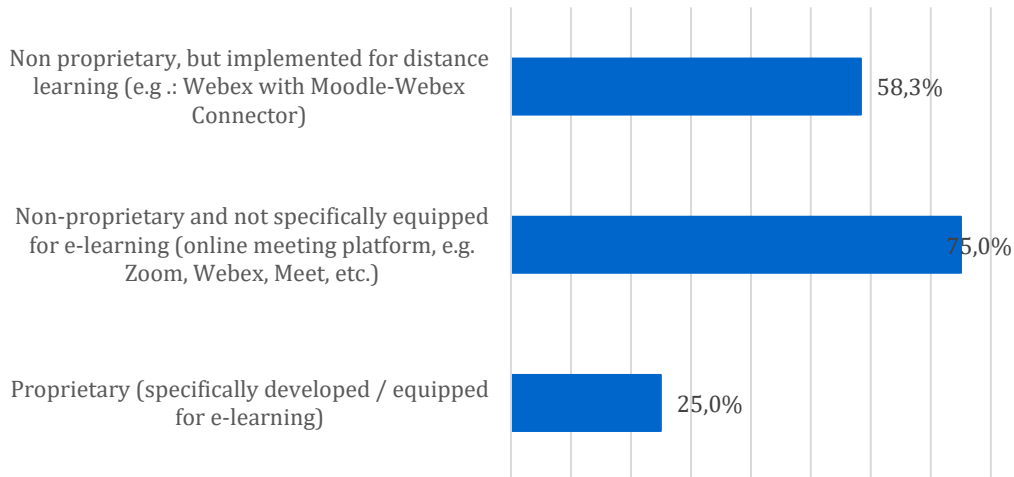
With existing video conferencing platforms: the most used are Zoom, Google meet, Skype and Teams (suggested by several respondents).

### Familiar e-learning platforms



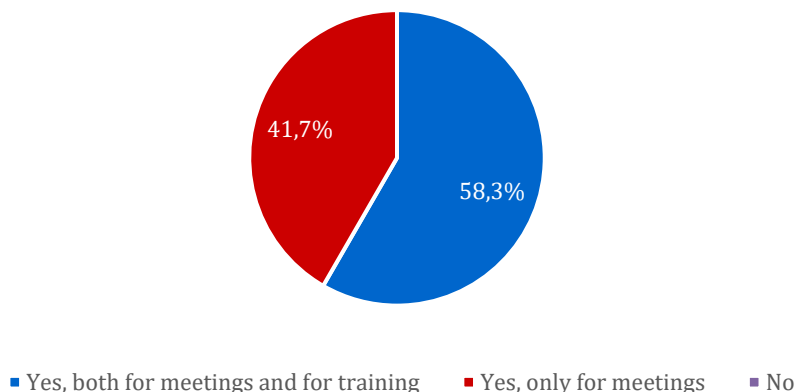
With e-learning platforms, 100% of respondents know and use Moodle. In addition, some respondents suggest the use of Learnpress, a plug-in within Wordpress for the creation of free training content.

### Used distance learning platforms



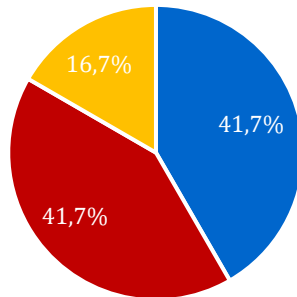
Within the type of distance learning platform 75% claim to know/use non-proprietary and not specifically but implemented for distance learning is also common, equipped for e-learning. The use of non-proprietary although less common (58%).

### Used meeting/distance learning platforms before the pandemic



All respondents were already using platforms before the pandemic, with a majority (58.3%) using them for both training and meetings. Demonstrating that they were integrated into day-to-day operations before covid.

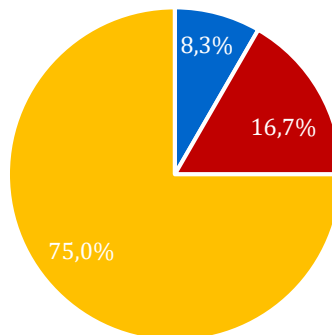
### Percentage of projects including distance/online training



■ Between 50% and 90% ■ Between 20% and 40% ■ Between 10% and 20% ■ Less than 10%

The majority of respondents say that the percentage of online activities in their business is between 50-90% and between 20-40%. This contrasts sharply with the results on knowledge and skills, where platforms were mostly at an acceptable level, reflecting that we use them, they are integrated into our work, but in an efficient way.

### Type of learning working better



■ Online ■ Live ■ Blended ■ I do not find significant differences between the different training methods

It is clear to the respondents that the type of training that works best is blended (75%). Among the reasons given:

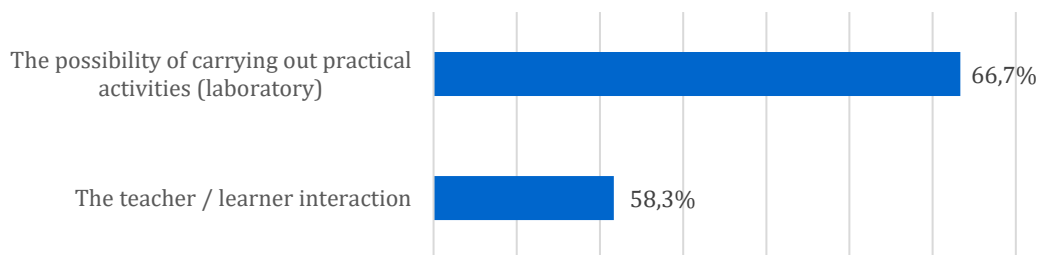
- Because the combination of the two modalities ensures greater flexibility, makes the work/study much more dynamic and offers the opportunity to strengthen digital competences for both trainer and learners.

- Face-to-face helps to create group awareness, but online helps to reach a larger number of learners.
- A hybrid system makes it easier for both teachers and learners. This means that training can be adapted to individual needs.

Among the reasons given by the 16.7% who prefer face-to-face training, they state that:

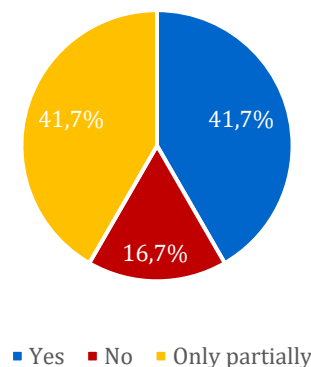
- Dealing with the student and monitoring is more direct, they "put a face" to the teacher.
- Interaction with students is more direct.

### Most wanted aspects of live training in online training



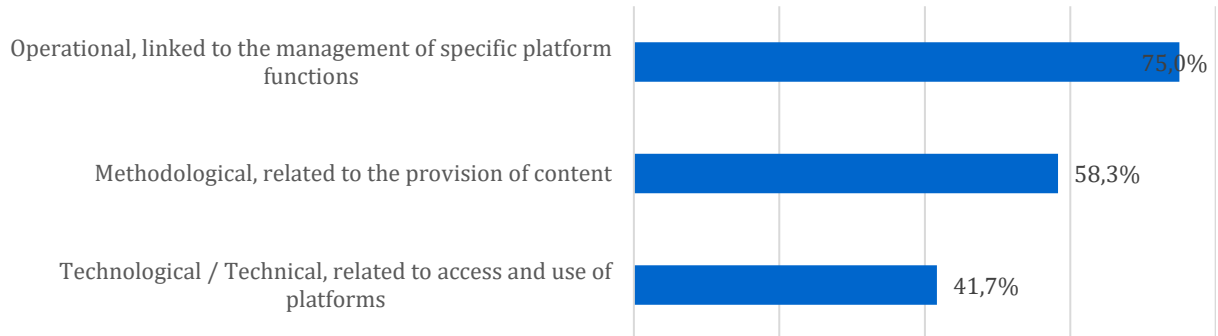
This is consistent with 66.7% stating that the possibility of carrying out practical activities is what they would bring from face-to-face to online training. The learner-teacher interaction is also wanted in a smaller scale.

### Do you have all the necessary skills to effectively exercise your role within distance/online training projects?



41.7% of those surveyed stated that they only partially have the necessary skills to perform their role effectively. Another 41.7% claimed to have them completely.

### Knowledge/skills they need to acquire/improve

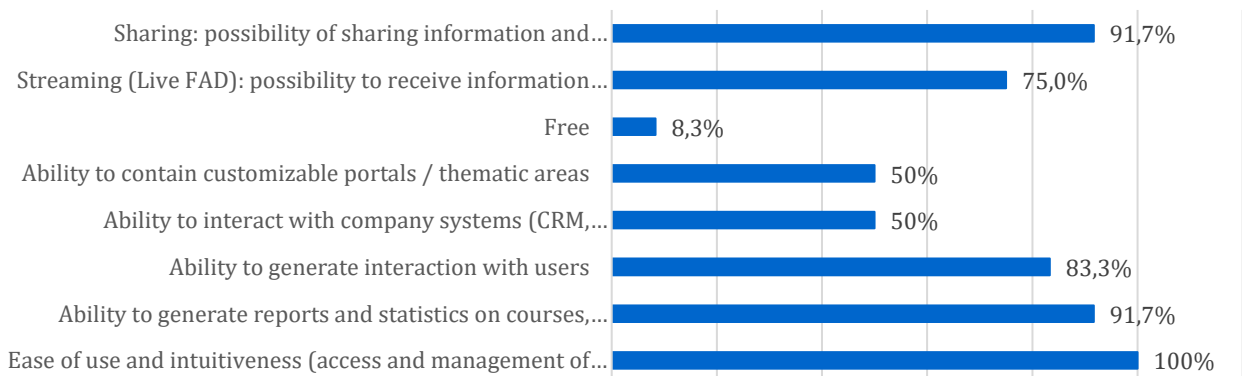


With regard to these skills, 75% stated that they need to acquire or improve operational skills, followed by 58% with methodological skills.

These are broad results for all, so the scope for improvement and teachers' perceptions of their abilities can also be improved.

## 5.4. Constraints and needs in relation to technology, types of activities and target groups

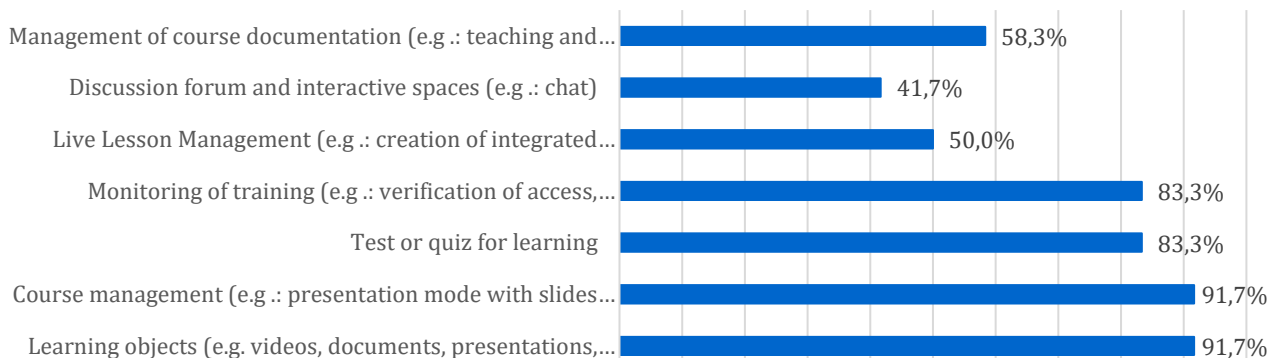
### Characteristics a good distance learning platform should offer



Among the characteristics that a good e-learning platform should offer, 100% of respondents highlighted Ease of use and intuitiveness. It is followed by the Ability to generate reports and Sharing (both with 91.7%).

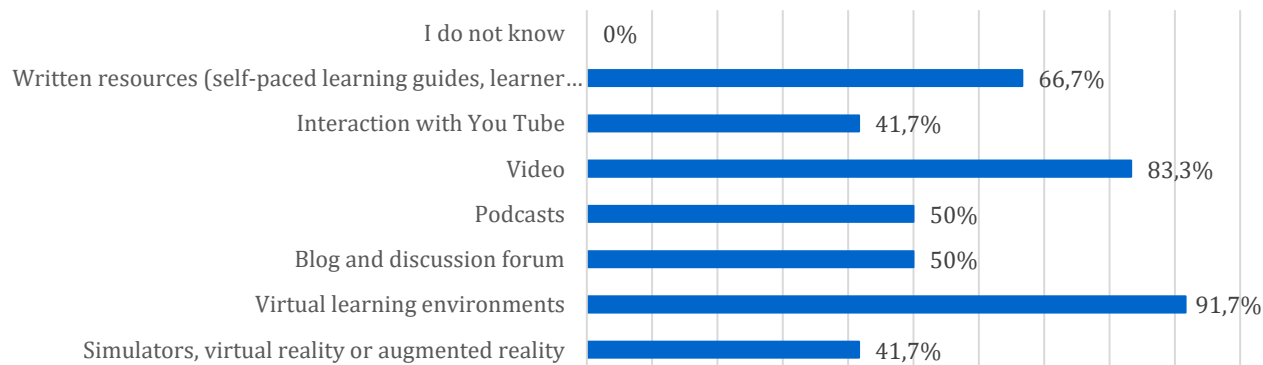
The Ability to interact (83.3%) and Streaming (75%) are also highly valued.

## Features a distance learning platform should offer



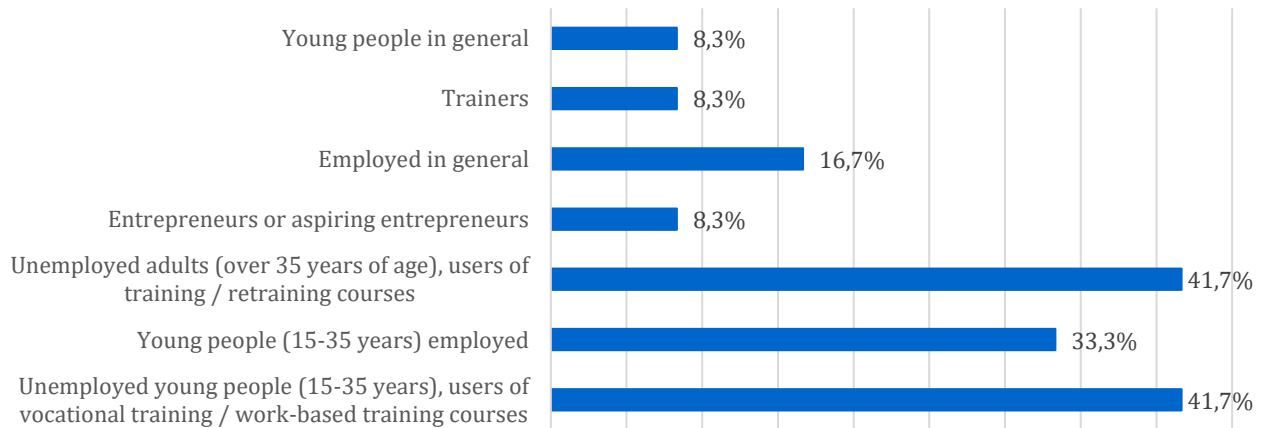
Regarding the features, 91.7% of respondents say that learning objects and course management are the most important. This is followed by learning tests or quizzes and training follow-up with 83.3%.

## Most important tools and resources to develop /include in an online/distance learning platform aimed at users of vocational training and work-based training



Among the tools and resources that should be included in an online VET and WBL platform, 91.7% of respondents highlighted Virtual learning environments, highlighting the practicality of the activities as a necessity, followed by 83.3% pointing to Video and 66.7% pointing to Written resources.

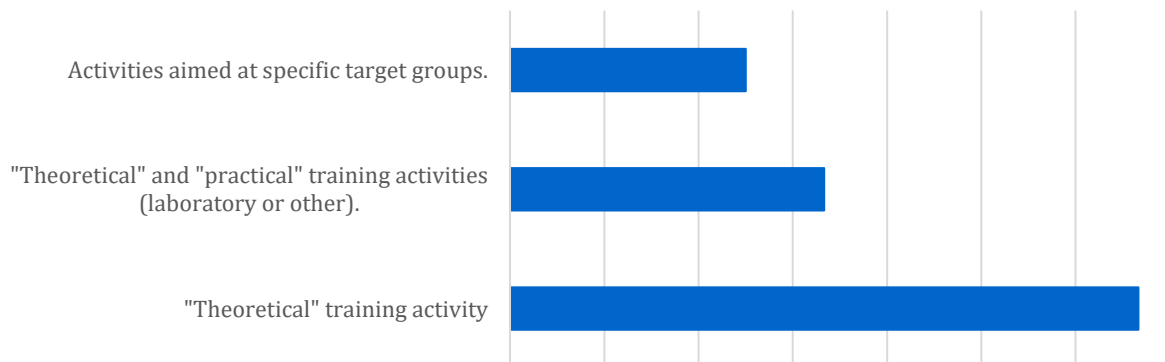
### Target audience for distance/online training



The unemployed gain as the target audience for e-learning, with 41.7% of respondents saying that unemployed young people and unemployed adults are the most frequent users of e-learning.

This is closely followed by the general youth group.

### Types of activities used in online/distance learning

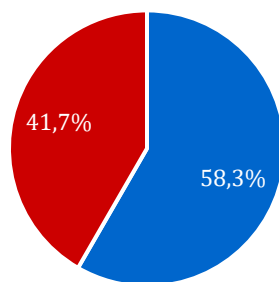


Theoretical training is the most used by 66.7% of the respondents. The fact that only 33.3% corresponds to a combination of theory and practice again shows the difficulty of implementing practical content.

Among the types of activities, the respondents point out: training on new lines of business/new tools in the organisation, training of trainers, training on different subjects at different levels...



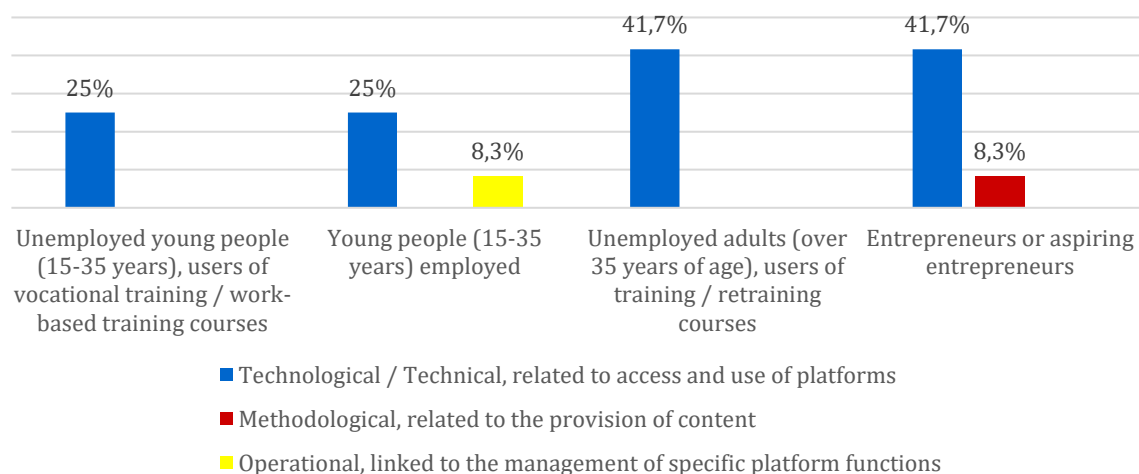
## Encountered difficulties in using distance learning



■ Yes ■ No

58.3% of respondents stated that they had encountered difficulties in using distance/online learning with certain groups.

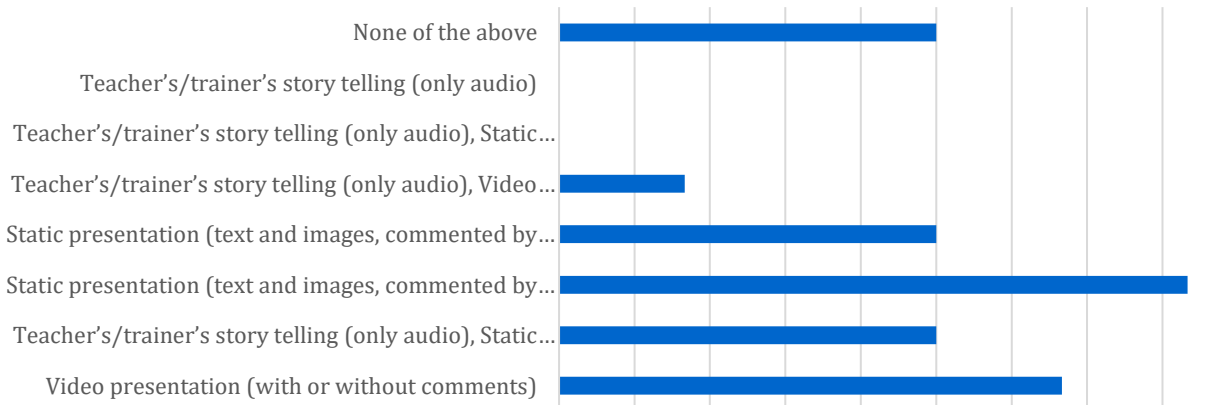
### Types of difficulties per target groups



Technological difficulties are common to all groups, with unemployed adults being the most common.

Methodological ones are also important regarding Entrepreneurs.

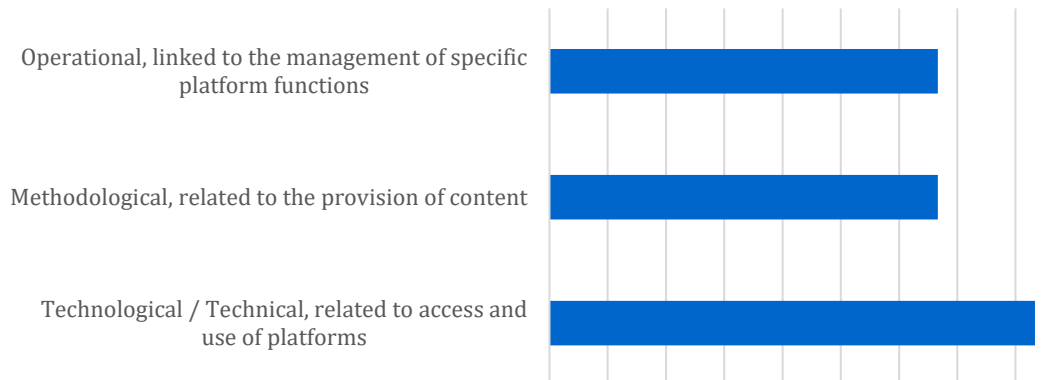
## How to transfer the practical content to the online experience



On how to transfer practical content to the digital sphere, 41.7% of respondents claim to use static presentation with commentary and video presentation, followed by 33.3% who claim to use video presentation.

Story telling doesn't seem an option for them.

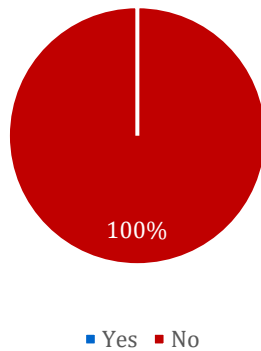
## Types of difficulties when applying practical content



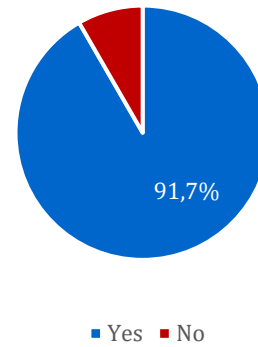
The majority of respondents reported difficulties in adapting practical content to the digital environment.

The most common difficulties encountered (41.7%) are technological, but methodological and operational difficulties are also very common (33.3%).

### Advanced digital tools used for simulating reality in training/learning



### Interest in experiencing digital simulation tools



When it comes to digital tools to simulate reality, it is clear. 100% of respondents say they do not use such tools, but more than 90% are interested in applying them.

## 5.5. Verification of learning and effectiveness of the training path

This is undoubtedly one of the hottest spots when it comes to online/distance learning.

There is still a lack of agile tools to facilitate learning management (and this applies to both online/distance and work-based learning). For example, specific digital tools or functionalities to manage communication with WBL staff or to monitor or assess learning outcomes between learners-WBL entity-company.

Among the lessons learned during COVID, respondents highlighted several facts.

- That distance learning is possible. Nowadays there are a multitude of resources that allow training in many fields and from different learning environments without the need to be present in a room. This opens up a new range of training, not only technical training, but also training in the environment in which it is given, which means that the trainer is constantly learning.
- The importance of digital accessibility. It is not only up to the training provider to have the appropriate means, but also to take into account the support that learners may need (usually technical support).

- Online training is not something to be done in short or free periods of time, it involves the same dedication as face-to-face training (prior preparation, delivery, follow-up, etc.). Therefore, it is very important to know the necessary tools and to manage the time dedicated to it.
- The need to have a non-verbal language that can be transmitted through the screen.
- Before the pandemic, distance learning existed, but it was still underused. The pandemic has created a need for greater use. For a time, we were literally forced to use it in order not to interrupt the flow of education. This has meant, on the one hand, a significant improvement in both online platforms and their accessibility and, on the other hand, an increase in digital skills on the part of educators and students (the latter have extended their digital skills to education).

Now there is no longer an obligation for distance education (as during the hardest period of the pandemic), but we have understood its great potential and are gradually exploring it. It requires digital and creative skills and a willingness to learn - we are only at the beginning!

## 6. Advantages and disadvantages of distance learning

### Advantages

- Flexibility in content

Generally, distance learning (online or otherwise) covers more concrete, specific and innovative topics than formal face-to-face education, as it is quicker and easier to update. The offer is more varied since the material resources required for this type of training are fewer on the part of the training provider, but greater for the learner.

- Flexibility in time

As far as schedules are concerned, asynchronous training gives the learner total freedom to decide when and how much to advance in his or her training. Organisation and continuity are up to the learner, who can follow the training from and when he/she wants.

- Saving time and money on commut to the training centre

For both asynchronous (where the learner chooses when and how much to progress through the lessons) and synchronous (all learners log on at the same time to follow the class) training, there is a saving in travel time (to and from) to a physical education location.

- Personalised pace of study

It is up to the student to advance at a slower or slower pace depending on the content. In this way, it is easier to go back over aspects that have not been clear or directly evaluate aspects that have already been studied previously in order to continue with the rest.

In addition, a class can be interrupted and resumed whenever the student considers it appropriate, without prejudice to the rest of the group.

- No geographical barriers

This type of training is offered regardless of the student's place of residence.

## Disadvantages

- Self-discipline

Flexitime can become as negative as it requires a strong will on the part of the learner to complete the course. Continuity depends on the learner.

- Abuse of screens

Unlike face-to-face education where technological elements such as screens, projectors, computers, etc. are combined with texts, books and other material resources, in distance or online education, the computer screen is the main element.

- Increased reliance on devices

Technical failures are a major drawback of this type of learning, as they affect the pace, progress and predisposition of the student. From complications with our laptop or internet connection, to failures in the platform itself or in the content uploaded by the teacher.

- Digital accessibility

This type of learning depends on the learner's access to an internet connection and the availability of a computer or device from which to follow the class. This can sometimes be a challenge: in rural areas the internet connection may not be stable or sufficient, a computer of one's own may not be affordable in a multi-member family where several members choose distance learning.

- Need for specific devices

And therefore the investment involved, e.g. camcorders, laptops, a sufficiently fast internet connection, printers, etc.

- Slow feedback

In some cases, communication between student and teacher is not instantaneous and communication about mistakes, areas for improvement or doubts can be left to the flexibility with which both parties choose to connect or move forward in the course.

- Less social interaction

The concept of "group" disappears. Students are not direct witnesses of the progress of the other members of the group and this can slow down or hinder communication between them about concepts, doubts or simply their relationship with each other.

- Assessment

Assessment in this type of learning is based more on the knowledge than on the competence of the learner, since for such assessment the monitoring must be very direct.

- Digital skills

It seems the easiest part, but with certain target groups, the use of technological devices and the use of the platforms themselves can be an impediment for those who do not know how they work.

- Difficulty in carrying out practical activities

50% of respondents agree that the possibility of doing practical activities (laboratory) is the aspect of face-to-face training that they would like to transfer to online training, which shows that this type of activity is more difficult to implement in online education.

## 7. Conclusions and recommendations

- The main difficulties faced by online/distance learning professionals are the adaptation of content and practical activities to the digital environment.
- These difficulties are not only methodological, but also operational and technical.
- The groups with the greatest problems in the use of platforms are the unemployed, which may be linked to a lower level of digital skills.
- The combination of face-to-face and online training is the winning combination for most training professionals.
- As main features of the platforms: ease of use, user-friendly interfaces, monitoring of the learner's learning and the possibility of sharing are the most valued.
- Digital reality tools are the least applied, therefore the least mastered by training professionals, but they do arouse interest.
- DigCompEdu can help to clarify the digital competences that educators need to acquire/improve and on which to base also the functionalities for them in e-learning platforms.