



ECHOES: Extended Classrooms for Higher Opportunities Enhancing Skills

R1.A.2.2., R1.A.3.1.

NATIONAL AND RESEARCH REPORT ON DISTANCE AND VIRTUAL LEARNING FOR VET AND WBL PROJECTS – SLOVENIA

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1. Introduction

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 analysed 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 of the art 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 the Art and Research Report

Result 1 (R1) is the analysis of the skills gaps of trainers and staff in the field of virtual training and mentorship programmes for VET projects, based on best practices (environments, programmes, methodologies, and tools) in place in the EU and selected Member States, specifically MS represented by the partnership (Italy,

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Austria, Slovenia, and Spain). R1 will serve to meet the right conditions and prerequisites 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 kinds 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 programmes 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 the Art and Research Report”** for Slovenia, jointly developed by the Slovene partner Primorski tehnološki park d.o.o.

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 Slovenia is presented (**Chapter 3**). Based on

data and information made available by research centres 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 analysed and discussed. Some experiences and best

practices on distance learning, mainly implemented in Slovenia in response to the emergency arising from

the Covid-19 pandemic, are listed and commented on. Finally, the chapter focuses 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 and mentors) are presented and

discussed as well (**Chapter 4**). The questionnaire was addressed to a group of selected professionals (coaches,

mentors, tutors) 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 the main results of the Echoes project.

One Focus Group with mentors was organised for the same purpose. Results of the Focus Group, combined with the results of the desk research and the survey, have offered the ground for the identification of the areas of “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, to ensure that **Result 1** and **Result 2** will be useful and enjoyable for our intended users: coaches, mentors, tutors, and other professionals involved in training/educational courses.

3. Methodology

The Report is based on 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 Primorski tehnološki park d.o.o., Slovenia, and shared with other project 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, Italy, and Spain.

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As with the desk research, available official data, statistics, and reports issued by national, regional, and EU institutions have been considered for the analysis of the national state of the art concerning distance learning in the countries of the partnership.

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

In Slovenia, the questionnaire was administered to a sample of 25 training operators (trainers, mentors, coaches, training assistants, technical staff, and other stakeholders). Twenty-five replies were received and analyzed.

The criteria for inclusion in the sample were as follows:

- previous experience in professional training, 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 elements (such as practical exercises, laboratory, mentoring, etc.) or experience gained (successfully or not) in WBL or practical training during the time of the Covid-19 pandemic.

The **Focus Groups** have been selected as a useful methodology to obtain further information from the “users” (trainers, coaches, mentors, and other 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 the voices of those directly involved and to collect further feedback 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 WBL, based on a list of questions (**Annex II: “Questions for the Focus Group”**) prepared in advance.

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

The Focus Groups were implemented based on the methodology and guidelines (**Annex III**).

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

4. State of the art and development of online/distance learning in Slovenia

4.1. National and regional diffusion of online/distance training and the main areas of application

The vision of a proactive education system, with smarter policy choices, capable of anticipating innovation and supporting the process of digitalisation, has been one of the leading European policies for the last 10 years. Considering the impact on VET, innovation could trigger a virtuous circle leading to the adoption of more and more advanced technologies and methodologies. Innovation, however, needs a new approach to teaching and training through collaborative platforms and new hybrid professional models.

The Covid-19 pandemic has given an unmistakable signal of the confirmation and evolution of the role and perception of digitalisation in education and training systems in Europe.

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In recent years, the European Commission, through its commissions, has supported rather intensive research and development work to promote and accelerate the implementation of the Open Education Strategy.

The aforementioned research is mostly qualitative in nature and addresses individual aspects of open and digital education at the European Union level.

Moreover, the findings are general in nature and do not provide an insight into the state of e-education itself at the European Union level, let alone in individual countries (Bregar and Puhek, 2017).

There is little data on the state of e-learning in the higher education sector at the European level. The Association of European Universities EUA has conducted two surveys for 2013 (Gaebel et al., 2014) and 2014 (Sursock, 2015), respectively. With the first survey, they aimed to obtain data on the status and potential of e-learning development in higher education in Europe and to collect fairly detailed data on MOOCs. For primary and secondary education, the results of surveys on the use of ICT in schools are available for 2013 and 2017 (European Commission, 2013b; European Commission, 2019a).

International institutions such as the OECD, Eurostat, and UNESCO have not yet included data on e-education in their statistical databases, but as part of their research on the information society, they collect various indicators of the information society that simply show the potential for e-education development.

The World Economic Forum (WEF) calculates the so-called Networked Readiness Index based on official data from international statistical institutions. According to this indicator, Slovenia ranked 37th out of 139 countries in 2016 (Baller et al., 2016, p. 171).

The European Commission calculates the so-called Digital Economy and Society Index (DESI index) for the Member States of the European Union, according to which Slovenia ranks 16th among the 28 members of the European Union in 2019 (European Commission, 2019b).

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The review of possible data sources on e-education in Slovenia and the European Union revealed that the most useful data from the statistical survey is the survey on the use of ICT in households and among individuals aged 16–74; it is also used by national statistical offices in the European Union, among others, to collect data on the use of the internet for education. The data collected for all countries in the European Union is published by Eurostat.

The following table shows the results on the use of the internet for education of the population aged 16–74 in Slovenia for 2017.

In addition to the EU-27 we compared the data for Slovenia with Finland, which is considered one of the most successful European countries in the field of e-education development. This implies a standard of excellence and is a good starting point to assess the situation in Slovenia.

International comparison of internet use for education, 2017 (Percentage of all residents aged 16–74):

		Attendance of online courses	Use of online materials for education	Communicating via educational websites or portals with lecturers or students	Internet use for any educational activities
Each individual	EU 28	7	14	8	19
	SLO	5	15	6	18

	FIN	19	28	17	31
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Source: Eurostat, Survey on ICT Usage by Individuals, 2017

The results show that in Slovenia we use the internet for educational activities about as much as the EU-28 average. If we compare use of the internet for educational activities in Slovenia and Finland, it is worrying that Slovenia is lagging behind, especially when it comes to participation in online courses.

In general, educators in Europe agree that it is an educational paradigm that teacher-centredness has survived and that it is time to replace it with the so-called learner-centred paradigm. There is an increasing awareness that the population of learners is heterogeneous, with different prior knowledge, motives, and interests in education, generationally different, and their educational needs and expectations differ. The educational process or the learning process is necessarily designed and implemented in such a way that the learner is an active creator of knowledge and new abilities, and the teacher is a guide and facilitator in this process. Leading concepts that support the implementation of this educational paradigm, they are the personalisation of learning and flexible learning, creative learning, active, independent and authentic learning, collaborative and open learning, and ubiquitous learning. To introduce these concepts into education, a number of methods and approaches are available today, which are mainly based on the technological achievements of the last decade.

Our research of the development of technology-supported education in Slovenia shows that knowledge of new methods and approaches is modest; use, however, is limited to individual cases. The manual "Fundamentals of e-education" from 2010 is also outdated from this point of view. We should promote e-education, which will inform interested users about the most characteristic innovative methods and approaches of technology-supported education that are part of e-education (as well as traditional education) which has emerged in the last decade.

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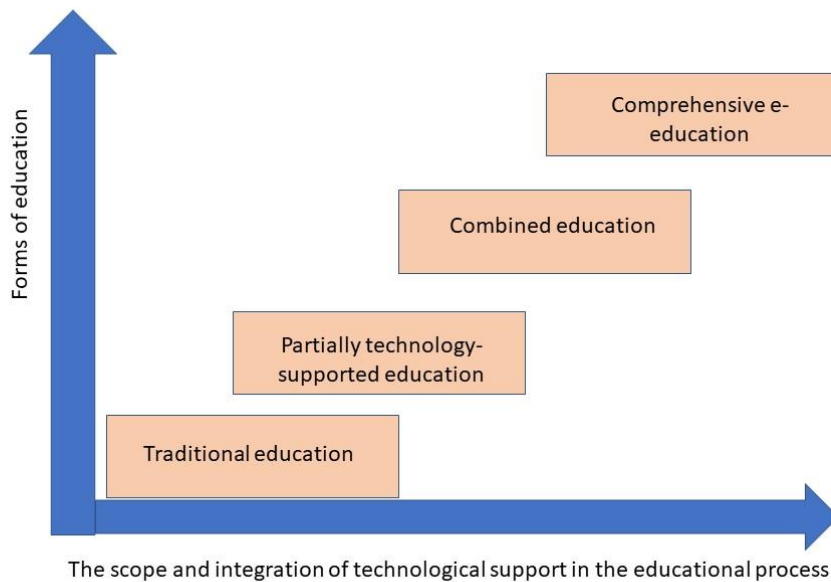
Spatial separation of teacher and participant in the educational process makes possible **greater flexibility of education**. Due to the spatial flexibility flourish of traditional distance learning, under different technological conditions, significantly improved the educational opportunities of important segments of the population (for example employees, people in geographically remote locations, people with special needs).

The physical separation also brought some **disadvantages**, connected in particular with reduced interaction in the educational process. It is precisely these shortcomings that can today be relatively successfully managed using modern technology, namely with various forms of technologically supported synchronous and asynchronous communication.

Holistic e-education, which enables spatially independent implementation of the learning process, is distinguished by another important feature: **innovative forms** of technologically supported communication and **accessibility of new sources of knowledge** enables various, technologically supported learning approaches and methods implementation of modern pedagogical models in pedagogical practice, **oriented to learning and creating new knowledge and abilities**.

An intermediate level between partially technology-supported education and holistic e-education is so-called **combined education**. Such education does not exclude direct (traditional) forms of teaching, although these can only appear as supplementary and to a relatively limited extent.

Figure 1: The extent and degree of integration of technology support at different levels of e-education



Source: Dr. Lea Bregar, mag. Margerita Zagmajster, dr. Marko Roadovan: E-izobraževanje za digitalno družbo, Ljubljana, 2020

The most characteristic advantages of e-learning from the point of view of the participant are:

- greater flexibility in time, place, pace, and content of education (just-in-time learning, just-in-place learning);
- greater interactivity and faster access to knowledge from various sources (synchronous and asynchronous forms of communication, online resources);
- possibilities of adapting learning approaches to individual needs;
- transparency of education conditions;
- development of new knowledge and abilities.

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The most characteristic advantages from the point of view of an educational organisation as a provider of educational services are¹:

- reduction of some cost categories (teaching staff costs, rent costs, costs related to premises);
- possibilities of better-quality services;
- transparency and documentation of programme derivation and consistency of the programme;
- possibility of greater objectification of assessment;
- accessibility of quality learning resources;
- introducing modern pedagogical models and innovating the pedagogical process;
- better opportunities for marketing educational programmes and internationalisation.

E-learning enables companies as users of educational systems the following:

an educational opportunity that would not be feasible under traditional circumstances (for example, due to space limitations, absence from work, etc.);

- cheaper organisation and delivery of education;
- faster delivery of education;
- better use of available technology and available internal and external online information resources;
- improving information literacy and developing other digital capabilities of employees;
- the possibility of quick and simple adaptation of educational content to the needs of the company and, in particular, to the individual (specific) needs of employees.

¹ A systematic review of the benefits of e-learning from an organisational perspective is provided by Allen (2016, pp. 25-27). The advantages of e-learning are discussed in four groups: strategic advantages, tactical advantages, advantages of the training method and infrastructure advantages.

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A fundamental condition for the introduction of e-education is technological infrastructure, which was the first obstacle in the process of introduction of e-learning.

The main obstacles and the cause of many failed attempts are the lack of professional staff trained to work in this form of education, inadequate management and superficial and insufficient knowledge of e-education in general.

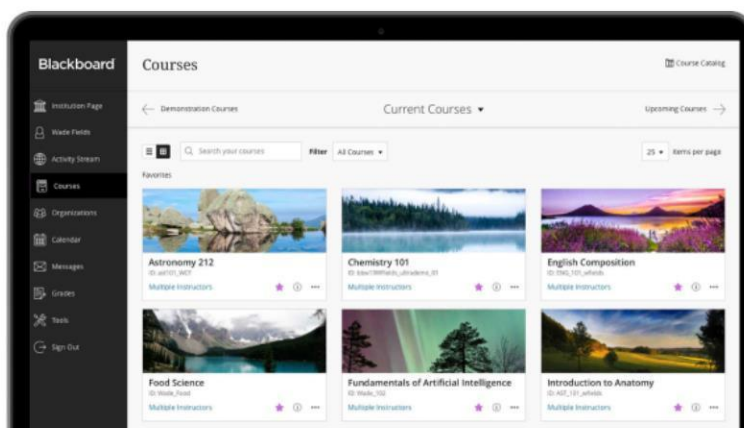
With the support of the Ministry of Education, Culture and Science, Slovenia, DOBA Faculty conducted a situation analysis for digitisation and e-education in higher education in Slovenia in 2017.

The survey, which was methodologically aligned with the EEA surveys, revealed that there is significantly less e-education in Slovenia than in other European countries, depending on whether these forms of education are implemented at the level of individual subjects or entire degree programmes. The smallest gap is seen in the simplest form of e-education, i.e. the combined implementation of individual subjects, followed by the combined implementation of study programmes. The greatest differences are found in the joint derivation (with other organisations) of online degree programmes (Bregar and Puhek, 2017).

ACS data on the supply of adult education programmes confirm Resolution's findings on the modest supply of modern, technology-enhanced forms of education for adults. Adult education programme data available from the ACS show that in 2017/18, less than one tenth of adult education providers offered e-learning programmes, of which e-education accounted for only 3.3% of all education programmes (ACS, 2018)

4.2 The most used platforms

Figure 2: Blackboard Learn



Blackboard Learn is a web-based LMS that is both reliable and powerful. A favourite in the academic field, it provides an excellent experience for both instructors and learners. While reporting and analytics may be relatively basic compared to others on this list, Blackboard Learn has some interesting learning and collaboration tools, such as real-time chat, discussions, forums, and assessments.

For an additional fee, it can be integrated with Blackboard Collaborate, a simple yet effective virtual classroom solution. Blackboard Collaborate comes with video conferencing integration and some excellent engagement tools such as electronic hand-raising, private chat, and an interactive whiteboard. It also boasts polls, breakout groups, session recording, and on-demand webcasting to facilitate VILT sessions.

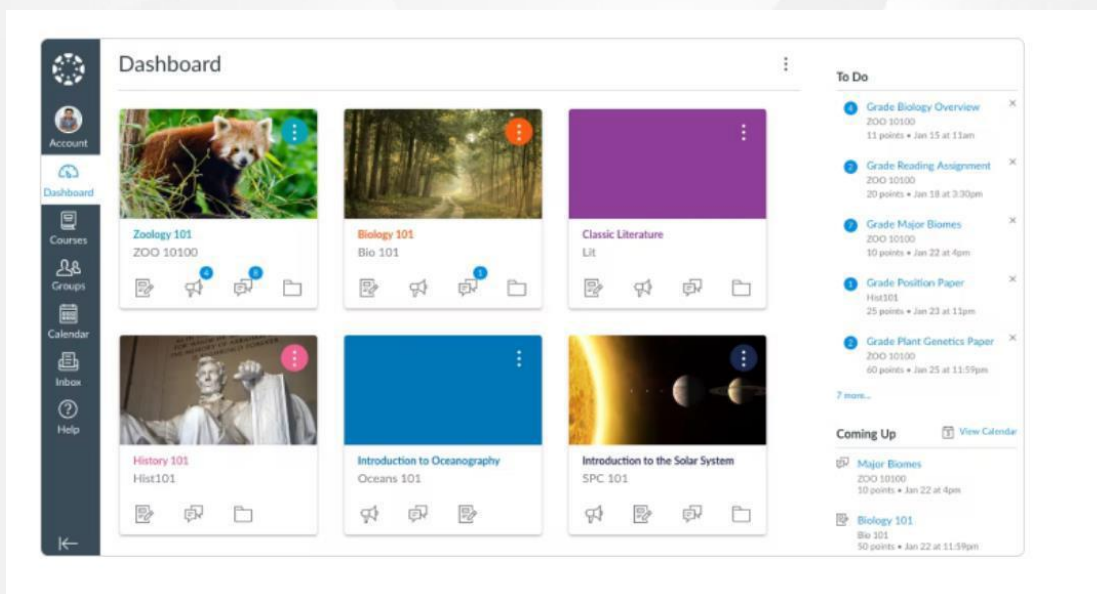
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Key features:

- Communication and collaboration tools such as instant messaging and Experts for directly contacting in-house experts.
- An ILT calendar for scheduling classroom activities.
- A feedback tool for classroom training sessions.
- Reporting and report scheduling functions.
- A built-in content authoring tool.
- Numerous plug-ins to fill in various functionality gaps.
- VILT software Blackboard Collaborate can be integrated for an extra fee.

Canvas

Figure 3: Canvas



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Canvas is one of the longest-standing and most well-respected platforms in the world. It is an instructor-centric LMS that was originally designed to recreate a classroom setting. As such, it comes with some interesting school applications and a community of instructors. However, it can be adapted for a corporate training setting since it has basic reporting, gamification, social learning features, and a built-in authoring tool.

Canvas has a comprehensive library of integrations, including video conferencing tools such as BigBlueButton, Zoom, and Microsoft Teams. Furthermore, the Calendar feature makes it easy for instructors to manage classroom or VILT activities. Despite lacking some more advanced features for corporate training such as customisable user roles and certification, Canvas is a solid LMS and virtual training platform.

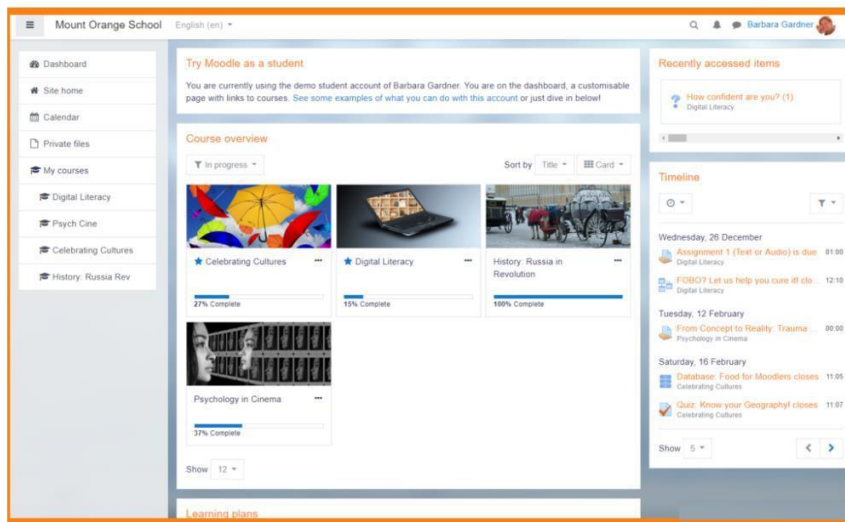
Key features:

- Built-in authoring tool and quiz maker.
- Canvas studio tool for creating interactive videos.
- Reporting and attendance tracking.
- Mobile learning app.
- A wide community of instructors.
- Range of user roles options, including admin, instructor, instructional designer, observer/parent, and student.
- Canvas Catalog allows you to build customized course catalogues and sub-catalogues for different learner audiences.

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Moodle

Figure 4: Moodle



Moodle is a free software package, a learning management system providing a platform for e-learning, and it helps the various educators considerably in conceptualising the various courses, course structures, and curriculum, thus facilitating interaction with online students.

Moodle was devised by Martin Dougiamas and since its inception, its primary agenda has been to contribute suitably to the system of e-learning and facilitate online education and attainment of online degrees.

Moodle actually stands for Modular Object-Oriented Dynamic Learning Environment and statistics reveal that about 14 million consumers are engaged in about 1.4 million courses propagated by this learning management system.

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Microsoft Teams

Figure 5: Microsoft Teams



Microsoft Teams is the ultimate messaging app for organisations—a workspace for real-time collaboration and communication, meetings, file and app sharing, and even the occasional emoji. All in one place, all in the open, all accessible to everyone.

Microsoft Teams is a persistent chat-based collaboration platform complete with document sharing, online meetings, and many more extremely useful features for business communication.

Having an excellent team space is key to being able to make creative decisions and communicate with one another. Shared workspace software makes this much easier to achieve, especially if a particular team is based in a very large company, has many remote employees, or is made up of a significant amount of team members.

Microsoft Teams' features make it stand out from other collaboration software:

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- Teams and channels: Teams is made up of channels, which are conversation boards between teammates.
- Conversations within channels and teams: all team members can view and add to different conversations in the General channel and can use an @ function to invite other members to different conversations, not unlike Slack.
- A chat function: the basic chat function is commonly found within most collaboration apps and can take place between teams, groups, and individuals.
- Document storage in SharePoint: every team that uses Microsoft Teams will have a site in SharePoint Online, which will contain a default document library folder. All files shared across all conversations will automatically save to this folder. Permissions and security options can also be customised for sensitive information.
- Online video calling and screen sharing: users can enjoy seamless and fast video calls to employees within their business or clients outside it. A good video call feature is useful to have on a collaboration platform. Users can also enjoy simple and fast desktop sharing for technical assistance and multi-user real-time collaboration.
- Online meetings: this feature can help enhance communications, company-wide meetings, and even training with an online meetings function that can host up to 10,000 users. Online meetings can include anyone outside or inside a business. This feature also includes a scheduling aid, a note-taking app, file uploading, and in-meeting chat messaging.
- Audio conferencing; this is a feature not found in many collaboration platforms. With audio conferencing, anyone can join an online meeting via phone. With a dial-in number that spans

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hundreds of cities, users can even participate on the go with no internet required. Note that this requires additional licensing.

- Full telephony: Users no longer need to seek VoIP vendors and pay for an expensive a phone system. Microsoft 365 Business Voice can completely replace a business' existing phone system.

Google Classroom

Figure 6: Google Classroom



Google Classroom is a learning management system that allows teachers to engage students and assign projects/classwork. Students are able to turn assignments in on Classroom, so that teachers can assign grades and feedback.

While parents & guardians cannot login to Google Classroom, they have the option to receive emails from Google Classroom. Teachers will send an email invitation from Google Classroom asking parents to opt-in to receive Google Classroom email summaries. Parents can choose to receive either daily (M-F) or weekly summaries. Email summaries include missing work, upcoming work/assignments, class activity such as announcements, assignments, and questions recently posted by teachers.

Skype

Figure 7: Skype



Skype is a remote communication software through video calls, phone calls and text, owned by the American multinational Microsoft. This application is cross-platform and allows users to communicate through computers, mobile phones, tablets, and other devices.

Skype operates through a P2P model through a private VoIP telephony protocol that allows users to communicate with great call quality. Nowadays, Skype has become a reference in the video call sector, and has millions of daily users around the world.

Main features of Skype:

Skype is not limited only to being a video calling service, but includes numerous features among which are:

- Telephony service: includes a paid voice call service over a mobile or fixed network.
- Instant Messaging: allows users to chat and send files such as audios, images and emojis as well as other applications such as WhatsApp, Telegram or Messenger, which Microsoft removed after the acquisition of Skype.
- Conference calls: Skype allows users to hold voice conferences between several users at once, which can start from the beginning or be added later.
- Video calls: if the user has a webcam and microphone, they can participate in video calls and in the same way hold video conferences with several participants.
- SMS messaging: for a payment, Skype also allows users to send text messages to other mobile devices.

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Zoom

Figure 8: Zoom



Zoom is a cloud-based video conferencing platform that can be used for video conferencing meetings, audio conferencing, webinars, meeting recordings, and live chat.

According to our research, Zoom is the most popular video conferencing solution for companies with 500 employees or fewer, and the second-most popular solution for companies with more than 500 employees, after Skype for Business. According to Zoom's S-1 filing in early 2019, more than half of Fortune 500 companies are using Zoom, and it earned an average NPS of more than 70 in 2018.

Zoom Meeting: what is a Zoom Meeting? Zoom Meetings are the foundation of Zoom, and the term refers to video conferencing meetings using the platform that allow remote and co-located meeting attendees to communicate frictionlessly. As a Zoom account is not a prerequisite to attend a Zoom meeting, users can even meet with clients or conduct interviews with remote candidates virtually.

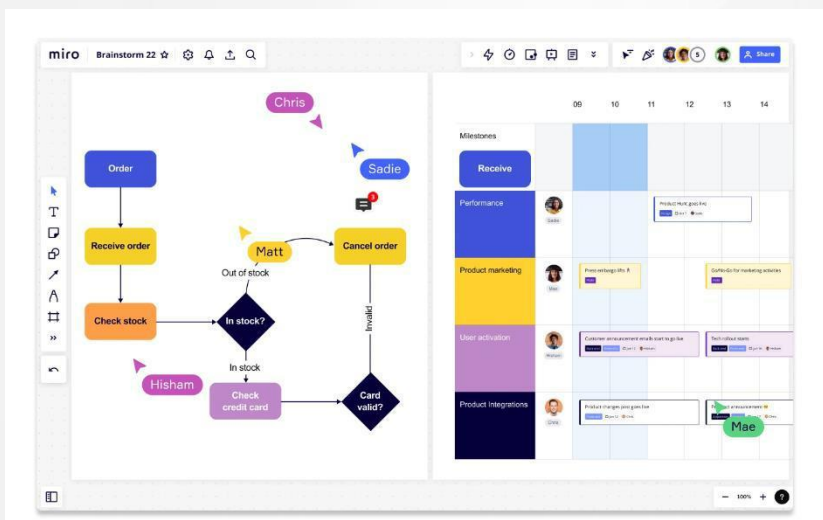
A "Zoom Meeting" simply refers to a meeting hosted using Zoom, and attendees can join the meeting in-person, via webcam or video conferencing camera, or via phone.

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Zoom Room: a Zoom Room is the physical hardware setup that lets companies launch Zoom Meetings from their conference rooms. Zoom Rooms are a software-defined video conferencing hardware system for a conference room that allow users to schedule, launch, and run Zoom Meetings with the push of a button. Zoom Rooms require an additional subscription on top of a Zoom subscription and are an ideal solution for larger companies with many employees holding Zoom meetings on a regular basis.

Miro

Figure 9: Miro



Miro is a visual platform that allows teams to connect, collaborate, and create together. Miro is an online collaborative whiteboard platform that enables distributed teams to work effectively together, from brainstorming with digital sticky notes to planning and managing agile workflows (<https://miro.com>).

4.3. Comparison between platforms

Learning platforms enable different learning experiences and support participant's different learning approaches. The most importance consideration when deciding on which platform to use is which learning

approaches and methods will best help participants achieve the set learning goals, taking into account their characteristics and needs.

The primary role is to support the learner by:

- ensuring participants' enrolment and access to the e-education programme;
- automatic collection and analysis of data and reporting on the performance of participants in learning;
- enabling optimal learning by directing the individual participant to the learning events that are most suitable for him/her based on the analytics of learning achievements and activities;
- providing feedback.

Everyone involved in the development or implementation of an e-learning programme has predefined rights regarding which programme functions they have access to or which functions they can use. Assigning rights to individual actors depends on the concept of the implementation model of the e-learning programme. The rights, together with the user's name and password for access, are assigned to them by the computer administrator according to their role and tasks in the development or execution of the programme. In this way, the security and privacy of the internet services are guaranteed.

4.4. Distinguishing features of VET in Slovenia

Slovenia has a strong VET tradition; participation at the upper secondary level is the highest in the EU. The VET system in Slovenia is attractive, flexible, and offers a variety of learning modes and progression opportunities for learners; the share of early leavers is kept low. The importance of raising adult skills levels

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is growing, as is the need to focus on strengthening digital skills and broadening opportunities for upskilling and reskilling.

Slovenia is responding to challenges, including those posed by the COVID-19 pandemic, with a focus on modernising vocational education. Its basic goal is adapting education to the digital and sustainable transition and increasing the resilience of the education system.

Vocational education and training (VET) play a prominent role in Slovenia. VET attractiveness is high, with the Slovenian education/VET system offering progression opportunities both horizontally and vertically; possibilities for work-based learning such as through intercompany training centres or recently reintroduced apprenticeships in upper secondary three-year VET, and comprehensive policies for scholarships. Slovenia has the highest share of VET learners in upper secondary education in the EU-27, and among the lowest rates of early school leavers. Furthermore, the importance of raising adults' skills levels is becoming more widely accepted. Along with facing the challenges of an ageing population and steadily decreasing participation in lifelong learning in the past decade, more than a quarter of workers are at high risk of seeing their job automated. A need to focus developments on strengthening digital skills and broadening opportunities for upskilling and reskilling is on the rise.

VET in Slovenia, the attractiveness of which is slightly increasing (70.4% of VET students in 2017), is characterised by the following main features:

Occupational standards form the basis for competence-based VET programmes implemented by schools and for the National Vocational Qualifications as a system of validation of non-formal and informal learning.

Both main types of upper-secondary programmes, vocational and technical programmes, are offered in all professional fields. All programmes combine general subjects with vocational modules that integrate theoretical and practical learning, and permeability between levels and programme types is high.

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VET schools support students to complete their studies with a partly external final examination, the maturation examination, and to continue their studies in higher vocational programmes, taking place at the same VET school centres.

Work-based learning represents an integral part of all type of programmes. Students are trained in modern intercompany training centres and/or companies, and in eight (pilot) VET programmes also in apprenticeship form.

VET schools are open for local initiatives and they can adapt 20% of the curricula (open curricula) to the local company's need

CVET is not state regulated, but the first (pilot) VET programme was accepted by the counselling body of the ministry responsible for education in late 2018.

Improving VET response to labour market needs has been at the heart of the development of competence-based curricula since 2006. The implementation period has brought changes in school curriculum planning, school-company cooperation culture, didactic and student assessment approaches, and VET attractiveness. Significant efforts were made through investing in new training facilities (intercompany training centres) and reinforcing in-company work-based learning (WBL). The quality of WBL and competence-based assessment remain a challenge. Development of career guidance services and promoting more flexible and individualised paths are current development priorities.

Offering a new way to enter the labour market and to reinforce the competences required in working life are the main reasons for reintroducing the apprenticeship system and accredited CVET programmes.

With the adoption of the new Apprenticeship Act in 2017, a current pilot implementation of the apprenticeship path in eight vocational programmes (ISCED 353) has started. Along with companies and

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schools, chambers also have a significant role in assessing the suitability of training places, approving apprenticeship agreements, and monitoring companies. Companies are supported to train apprentices.

Another response to labour market needs is the development of accredited CVET programmes up-skilling specific vocational competencies. This has the aim of offering training to employees in SMEs, to develop their competences and to offer new areas of specialisation.

In recent years, significant effort has been put into developing examination materials for the theoretical and practical part of vocational examinations. Greater involvement of employers in vocational examinations remains a priority.

External factors influencing VET:

Demographics: Population in 2018: 2,066,880. It has increased by 0.4% since 2013 due to positive net migration and natural growth. The population is ageing. The old-age dependency ratio is expected to increase from 27 in 2015 to 55 in 2060.

Demographic changes have an impact on VET. In response to the ageing population, the government adopted an active ageing strategy and measures to provide comprehensive support to companies for the active ageing of employees aimed at increasing the vocational competences of the adult population. The country has two minority communities, Italian and Hungarian. Members of the Italian community have the option to learn in their native language and learn Slovene as a second language. A VET school in the Obalno-kraška region offers 12 different VET programmes taught in Italian. The Hungarian community has a bilingual VET school in the Pomurska region, offering 15 different VET programmes.

Economics: most companies are micro- and small-sized.

Main economic sectors:

- manufacturing (automobile, metal industry electronics, pharmaceuticals and chemicals, etc.);
- service sector;

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- construction.

Exports comprise mainly motor vehicles, electrical equipment, pharmaceutical products and preparations, machinery, equipment, and basic metals.

Labour market: the process of deregulation started in 2010, when there were 323 regulated professions.

Deregulation means to withdraw the regulation of the profession or to renew the regulation. In 2014, it became one of the key governmental projects with cross-sectoral status. Deregulation was done mostly in fields such as tourism, funeral and cemetery activity, construction, geodetic survey, chimney sweeping services, veterinary services, trade, driving schools, social assistance, sales and commercial management.

The aim is to ease entry conditions and access to the labour market and to minimise the administrative burden for immigrants in acquiring work permits. The number of regulated professions is currently down to 215.

Total unemployment (2018): 4.8% (6.0% in the EU-28); it has increased by 1.1 percentage points since 2008.

Unemployment is distributed unevenly between those with low- and high-level qualifications, with unskilled workers being the most vulnerable to unemployment. The gap was biggest in 2013.

Since 2013, the share of unemployed people with low- and medium-level qualifications decreased due to economic recovery and more employment opportunities in the manufacturing sector.

The lowest unemployment rate is among people with high-level qualifications (ISCED 5-8).

The employment rate of 20 to 34-year-old VET graduates increased from 77.4% in 2014 to 86.2% in 2018.

The increase (+8.8 pp) in employment of 2034-year-old VET graduates in 2014–18 was higher compared to the increase in employment of all ISCED level 20–34-year-old graduates (+8.5 pp) in the same period in Slovenia.

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Share of high-, medium- and low-level qualifications: the share of the population aged up to 64 with higher education (32.5%) was historically higher in Slovenia than in most EU Member States. The share of those with low-level or no qualifications (11.9%) was among the lowest in the EU in 2017.

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VET learners by level

Share of learners in VET by level in 2017

Lower secondary	Upper secondary	Post-secondary
not applicable	70.9%	not applicable

Traditionally, there are more males in VET than females. Males prefer professions in fields such as science and engineering, manufacturing, and construction, while females more often enrol in programmes from fields such as education, social sciences, business and law, health and welfare, humanities and the arts, and services.

Figure 10: Young people, enrolled in VET, number and structure, by sex, in %, academic year 2017/18

	Total, number	Structure of enrolment by sex, in %	
		Men	Women
Fields of education - TOTAL	47 724	58.2	41.8
Education	2 709	10.7	89.3
Humanities and Arts	2 865	37.6	62.4
Social sciences, business and law	5 570	37.5	62.5
Science	3 089	95.6	4.4
Engineering, manufacturing and construction	17 456	90.2	9.8
Agriculture	2 582	48.1	51.9
Health and Welfare	5 861	26.1	73.9
Services	7 592	37.5	62.5

Early leavers from education and training: the share of early leavers from education and training decreased from 5.3% in 2009 to 4.2% in 2018. This is lower than the national target for 2020 of not more than 10% and significantly lower than the EU-28 average of 10.6%.

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Although the national 2020 target set in 2013 is 19%, participation in lifelong learning in Slovenia has decreased from 18.5% in 2010 to 11.4% in 2018. However, it remains slightly above the EU-28 average.

In the structure of enrolments in VET, almost three quarters fall in the age group 19 or less, and one fifth in the age group 20–24, while the shares for other age groups are much lower.

In Slovenia, distance education was introduced as a response to the Covid-19 pandemic in March 2020. School and company responses were the subject of two evaluations prepared by the National Education Institute (NEI) and the Institute of the RS for VET (CPI).

Analysis of distance education during the Covid-19 pandemic

In July 2020, the NEI presented interim research results on distance education during the pandemic, the goal of which was to determine how teachers, students and headmasters faced and experienced distance education. The NEI analysed the approaches used by teachers, use of ICT, realisation of learning aims, didactic strategies, teaching methods, etc. Primary and upper secondary school teachers (7 414), students (24 684), and headmasters (422) participated in the research.

The results show that students found distance learning more demanding than classroom learning, but also more interesting and creative. They liked being able to schedule work during the day and not performing in front of their classmates. Over 30% of students estimated that it was easier to learn this way. The negative aspects were lack of social contact with classmates and teachers and lack of teacher's explanations. Some students reported difficulties using a computer, and about 20% had to share a computer with family members.

Teachers viewed distance teaching as demanding and stressful, but they managed to achieve the set goals. Some 60% of teachers thought that with distance teaching the quality had declined a little, while 10% found that it had declined a lot. The prevalent approach was a combination of video conferences and guided learning through written instructions. The teachers rarely encouraged teamwork or work in pairs – an area

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with room for improvement. Assessment was mainly done through video conferences, while upper secondary students had to answer complex questions, prepare a research report, etc. The data are used as the basis for planning support for schools, but also for future developments in education.

Evaluation of the realisation of work-based learning in the academic year 2019/20 including the period of distance education

The CPI prepared an evaluation of the implementation of work-based learning (WBL) in the period of distance education. The participating 548 class teachers from all types of VET schools reported the following:

- 70% reported that work-based learning (WBL) in the academic year 2019/20 was either fully or mostly realised; 15.4% reported WBL as not realised and transferred to holidays or the next year, or recognised as completed;
- obstacles in implementing WBL included employer unavailability due to the pandemic, and low motivation of students;
- solutions found: WBL as distance education, WBL implemented in school workshops, postponing WBL to June or to the holidays;
- additional teacher training is required in the fields of monitoring student progress and assessment, exchange of good practices, use of ICT, and distance training;
- some teachers expressed concern about how to educate and train students for the profession properly, if the implementation of WBL was impaired or not implemented in the next academic year.

4.5. Experiences and Best Practices in Distance and Online Learning in Slovenia

DOBA, University: <https://www.doba.si/>

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DOBA is a private educational institution. Studying at the DOBA faculty is an established, tested, and the only internationally accredited online study in Slovenia. It has been operating online for 24 years. Educational institutions have recently been grappling with the challenges of digitising education, as the pandemic has accelerated the current trend toward online learning. While others are still getting used to the new system, DOBA has been running proven and modern online degree programmes for 24 years. With more than 5,500 graduates and two international accreditations, it is considered the best quality online study in Southeastern Europe. They implement the most sophisticated model of e-learning education in a virtual learning environment where you can access all content and use communication tools. A unique advantage of their distance learning programme is the comprehensive support, from tutors to study advisors to programme managers, as well as the constant technical support.

Study programmes at the faculty: Management in Modern Business, Applied Psychology, Marketing, Social Media and Public Relations, Business and Management in Tourism, Management in Social and Educational Services, International Economics, Psychology, Sales and Marketing, Management of Smart Cities, Innovative Management in Social and Educational Services, Innovation and Sustainable Management in the Digital Society.

ERUDIO, educational centre: www.erudio.si

ERUDIO enables the implementation of secondary (gymnasium), higher education and international school in an online form (from different fields). It is a private educational centre.

4.6. Competence gap

Primorski tehnološki Park d.o.o. offers different types of "educational" programmes in the field of entrepreneurship.

They can be divided into the following groups:

1. Individual mentoring programme (1:1) for potential entrepreneurs, startups, scale-ups and other companies at various stages of growth;
2. Entrepreneurial academies/schools for potential entrepreneurs, startups, scale-ups and other companies at various stages of growth;
3. Entrepreneurship workshops for elementary and secondary school students (fostering entrepreneurial skills among young people).

	Individual mentoring programme (1:1) for potential entrepreneurs, startups, scale-ups and other companies at various stages of growth	Entrepreneurial academies/schools for potential entrepreneurs, startups, scale-ups and other companies at various stages of growth	Entrepreneurship workshops for elementary and secondary school students (fostering entrepreneurial skills among young people)
Entrepreneurial /business mentors:	Mentors, specialising in working with potential entrepreneurs (beginners) with business ideas. Mentors	Mentors, specialising in working with potential entrepreneurs (beginners) with business ideas. Mentors	Mentors, specialising in working with potential entrepreneurs (beginners) with a talent for working with very young



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	specialising in	specialising in	people.
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	startups (in different stages of growth), Mentors specialising in scale-ups (different stages of growth).	startups (in different stages of growth), Mentors specialising in scale-ups (different stages of growth).	
Mentees:	Potential entrepreneurs (beginners) with business ideas. Startups (in different stages of growth). Scale-ups (different stages of growth). Other companies.	Potencial entrepreneurs (beginners) with business ideas. Startups (in different stages of growth). Scale-ups (different stages of growth). Other companies.	Young students who want to acquire basic knowledge about entrepreneurship and improve their entrepreneurial soft skills, such as negotiation skills, public speaking, teamwork, etc. ○ elementary students

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			(aged 12– 14), ○ secondary students (aged of 15– 18).
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Primorski tehnološki park distributed the questionnaires to the entrepreneurial mentors (as listed in the table). The mentors act as external experts within the entrepreneurial community of the Technology Park. All mentors are company/startup/scale-up founders or heads of specific departments in companies. Some entrepreneurial mentors work only in one category (as indicated in the table), while others perform their mentoring activities in different categories, adapting the scope of mentoring to the needs of the target groups.

Categories of mentors who returned the questionnaire:

- Mentors specialising in working with potential entrepreneurs (beginners) with business ideas: 7
- Mentors specialising in working with startups (in different stages of growth): 16
- Mentors specialising in working with scale-ups (different stages of growth): 2
- Total: 25

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Primorski tehnološki park uses the words "entrepreneurial/business mentoring" in the questionnaire instead of the words "training, education, ..." and the words "entrepreneurial/business mentor" instead of the words "tutor, teacher, lecturer, ...".

Entrepreneurial mentors provide one of the types of education (i.e. entrepreneurial education) at different levels (as described in the table) as they provide knowledge, experience, and good practices to the above-mentioned mentees. Primorski tehnološki park believes that entrepreneurial mentors who share their knowledge on a weekly/monthly basis within the entrepreneurial community can also contribute to more effective learning and training processes.

The experience of Primorski tehnološki park teaches us that various types of entrepreneurship training contribute not only to the creation of new companies and to the growth and development of existing ones. Participants in this training acquire skills that increase their employment opportunities. Entrepreneurial skills are beneficial not only for the person who decides to follow an entrepreneurial path, but for every person who wants to be more employable in business and in the public sector. Primorski tehnološki park has some good practices on this topic. People who originally wanted to start their own start-up have realised through the process of entrepreneurial education that this path may not be right for them, that their business was not successful for various reasons, but they have gained so much useful knowledge during the education process that these people have become “desirable employees” for employers. It is not unusual that a large and successful company has approached us and hired someone who has gone through our entrepreneurial education process.

4.7. Verification of learning and effectiveness of the training path

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Valuation methods that have been refined over all these years cannot simply be transferred to the online platforms. Valuation as we know it from classical approaches does not come into play in online situations. We do not believe that it is necessary to invent techniques (applications) that would replace live assessment criteria.

The method of assessment needs to change. Traditional assessment (writing a test, asking questions) is a surviving concept. It makes no sense to invent apps to prevent students from breaking the rules on assessment. We live in a society where we have all the information at our fingertips. Memorisation is not required. The subject of the assessment could be project assignments that assess understanding of a particular topic.

4.8. Advantages and disadvantages of distance learning

Advantages:

Flexibility

The first advantage of e-learning is flexibility in terms of time and place. Learning content is usually made available in short modules and can be paused at any time. Whether you log on while commuting, at work, or during your free time, the learning material can be easily made part of your daily routine. Even if you miss a live online workshop, written summaries or a video of the session are usually available to be downloaded.

Availability

The organisation of teaching content at universities is almost unimaginable without platforms such as Moodle and Blackboard, but online courses also save vast amounts of time in the private sector.

Without physical limitations, anyone with internet access can simultaneously access learning opportunities

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– provided that the servers are stable enough.

Efficiency

Since e-learning packages adapt to the individual learner, the time required to complete a course is significantly reduced. Conventional courses are designed to meet the needs of the entire group, but rarely does a single person need everything that is offered to the group. And, of course, there is no need to travel to the course.

Low cost

An e-learning package can be reused as often as the user wishes without additional costs. In addition, there are numerous free courses offers as well as “freemium access”. Since e-learning usually allows more course participants at the same time, it is often less expensive than conventional learning offerings.

Mobile

E-learning takes place wherever you want! All you need is an internet connection. Learning materials, tutorials, transcripts – everything is stored in digital cyberspace and cannot be lost with a good backup.

Disadvantages:**Internet connection**

There can be problems with high-speed internet, insufficient data volume, or connection problems that cannot be fixed straight away.

Discipline

If you can learn anytime and anywhere, it is so easy to procrastinate. For many, learning in a separate environment is an important factor in discipline as well as the fact that being in the same room with other people that are learning with you awakens ambition and openness to new ideas.

Distraction

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There is much more to discover on the internet than just the learning material. Moreover, you are usually online in your email account or social media at the same time. In addition, partners, roommates and children tend to disturb and make noise at home. It requires a lot of planning and concentration to stay focused in such an environment.

Social isolation

Working at home, learning at home, living at home – the social aspects of life are still important for children to gain social intelligence and develop healthy relationship patterns.

Practical knowledge

While teaching theoretical knowledge online is feasible, many people still find the training of practical skills unsatisfactory. For example, during an online dance lesson, your arm position can not be corrected, and steps while dancing can only be observed to a limited extent and movement sequences can only be controlled inaccurately.

5. Survey administered to professionals

Total 25 professional training operators – mentors, selected by Primorski tehnološki park, received the questionnaire (Annex I). Total 25 questionnaires were duly completed.

Who filled out the questionnaire: The mentors listed above.

Average age of participants in the questionnaire:

20–30 (10%),

30–40 (80%),

40–50 (10%),

50–60 (/),

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60+ (/).

The role of the questionnaire respondents within their organisations (companies):

80% – CEO,

20% – heads of certain departments within the company (marketing manager, financial manager, sales manager, etc.).

Average time of cooperation with Primorski tehnološki park community and involvement in the mentoring process:

6–10 years (90%)

1–5 years (10%)

Average duration of remote mentoring experience:

1–5 years (100%).

All mentors emphasised that online mentoring occurred at an accelerated rate during Covid. Before that, only occasionally, minimally. Prior to the Covid measures, mentors most frequently used Skype (not for mentoring, but for their internal meetings). The Zoom platform was less popular.

Knowledge and skills in the following technologies and tools:

	Good	Acceptable	Poor	No knowledge/skills
Computers (Workstation and laptops)	100% (all answers)			
Office applications (such as MS Office, Open Office and	100% (all)			

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other)				
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Social media (FB, Messenger, WhatsApp, etc.)	100% (all)			
Online tools (Teams, Zoom, Google Classroom)	100% (all)			
Learning platforms, LMS (Moodle)	100% (all)			
Digital learning games, learning apps	100% (all)			
Virtual Reality equipment and tools	2% Among the mentors who completed the survey, there are also two who were the founders of "Creative solutions d.o.o."	98% All other mentors are familiar with the field of virtual		

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	company (Marko Fornazarič and Andrej Peršolja). The company no longer operates, as the two entrepreneurs founded a new company, while the previous company dealt with virtual reality (VR).	reality through visits to various business fairs, where virtual reality is also increasingly being used, and through companies that are directly involved with VR.		
Others	/			

Most of the business mentors come from companies that work in the fields of IT technology (programming, application development, etc.).

Figure 11: Levels of personal commitment to mentoring:

	Applies fully	Somewhat applies	Applies to a lesser extent	Does not apply at all
I encourage my students to work together/help each other to achieve a work task	100 (all respondents)			



I am able to inspire my students on specific topics	100% (all)			
I support my students in exploring and applying innovative approaches for solving problems and to achieve work tasks	100% (all)			
I support my students in implementing their ideas	100% (all)			
I am able to motivate my students	100% (all)			
I use methods that	100% (all)			

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promote problem-solving				
I support and enable my students to define priorities	100% (all)			

This section was solved in an adapted way: student = mentee / encouraging cooperation between students = encouraging mentees to socialise with each other and help each other (in this way, we ensure that the entrepreneurial community of the Technology Park grows, not only in terms of quantity, but also quality).

Why is "Applies fully" 100%? Primorski tehnološki park has been working very systematically with mentors for many years. They are carefully selected according to the individual needs of the mentees. The Primorski tehnološki park staff are trained coordinators who match a specific mentor with specific knowledge and skills with a mentee who has a specific business problem. For this reason, the mentoring relationships are very effective (as indicated in the table). In addition, the team at Primorski tehnološki park regularly reviews the work of mentors with mentees so that quality is not compromised. The main principle of our work is to create a mentoring community between mentors, mentees, companies and potential entrepreneurs, which can only be based on effective work.

Which video conferencing platform is the most used among mentors:

Zoom (90%). Microsoft Teams (9%)

Skype (1%).

Figure 12: Which e-learning platform are mentors familiar with:

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Moodle	Yes (100% of respondents)
Docebo LMS	Yes (100% of respondents)
DynDevice	Yes (100% of respondents)
Skilla	Yes (100% of respondents)
Skillato	Yes (100% of respondents)

Articulate	Yes (100% of respondents)
SAP Litmos Training	Yes (100% of respondents)
Ninja for Business	Yes (100% of respondents)

They are aware of all the platforms, but they do not use them.

Which distance e-learning platforms are the most used among mentors:

Zoom (90%) Microsoft Teams (9%)

Skype (1%)

Did you use meeting/distance learning platforms even before the Covid-19 pandemic:

Yes (100%)

95% (only for meetings)

5% (for meetings and training – mentoring)

Remote mentoring is used as an exception (in case of illness, transportation problems, time constraints, etc.)

and not as a rule.

What is the percentage of those that include distance/online mentoring (compare to the number of projects):

100% (all) – during the time of the Covid-19 pandemic

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Before the time of the Covid-19 pandemic: online mentoring only as a plan B (in case of illness, transportation problems, time constraints, etc.).

After the Covid-19 pandemic: online mentoring only as a plan B (in case of illness, transportation problems, time constraints, etc.).

The modern entrepreneurial community strengthens its ties with personal connections and informal engagements that accompany formal relationships (picnics, sports activities, etc.). As mentioned above, online versions are used in exceptional cases (in case of time constraints, due to transportation problems, dangerous conditions on the street, illness, etc.). Both mentors and mentees from our environment are very skilled in using online tools (or they are able to quickly learn to use online tools they may not yet be familiar with). However, they want real human contact, an exchange of views even during breaks (over a coffee, a cigarette) or over a beer after the formal training is over. How to accommodate this aspect on online platforms is a challenge. Many good business ideas, good practices and new businesses are created precisely during informal networking.

Do you think online training (remote), live training (in the physical classroom or face-to-face), or a combination of the previous two (blended) works better?

100% of mentors answered: online mentoring only as a plan B (in case of illness, transportation problems, time constraints, etc.) = combination.

Why: The modern entrepreneurial community strengthens its ties through personal connections and informal engagements that accompany formal relationships (picnics, sports activities, etc.). As mentioned above, online versions are used in exceptional cases (in case of time constraints, due to transportation problems, dangerous conditions on the street, illness, etc.). Both mentors and mentees from our environment are very skilled in using online tools (or they are able to quickly learn to use online tools they may not yet be familiar with). But they want real human contact, an exchange of views even during breaks

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(over a coffee, a cigarette) or take a beer after the formal training is over. How to accommodate this aspect on online platforms is a challenge. Many good business ideas, good practices and new businesses are created precisely during informal networking.

What aspects of live training would you like to bring to online training:

100% of respondents: Practical activities: real human contact, an exchange of views even during breaks (over a coffee, a cigarette) or over a beer after the formal training is over. How to accommodate this aspect on online platforms is a challenge. Many good business ideas, good practices and new businesses are created precisely during informal networking.

Do you think you have all the necessary skills to effectively exercise your role within activities/projects that include distance/online training?

100% of respondents: Yes/have the ability to quickly learn to use online tools they may not yet be familiar with.

Which of the following knowledge/skills do you feel you need to acquire/improve in the field of distance/online training?

100% of respondents: Methodological (raising motivation at online meetings, lectures + how to involve real human contact, an exchange of views even during breaks (over a coffee, a cigarette) or to go for a beer after the formal training is over. A lot of good business ideas, a lot of good practices and new businesses are created precisely during informal networking).

Are there public guidelines in your country/region aimed at encouraging and/or supporting the management of online/distance learning and supporting its management:

100% of respondents: "I don't know".

Are there specific measures within your organization to encourage and / or support the management of online / distance training?

No (100% of respondents).

Considering the type of business you are engaged in, what, in your opinion, are the **characteristics** that a good distance learning platform should offer [rank in order of importance]:

Average answers:

Ease of use and intuitiveness (access and management of features)	7
Ability to generate reports and statistics on courses, contents, materials and learners (percentage of courses completed, tests passed, material downloaded, etc.)	6
Ability to generate interaction with users	1
Ability to interact with company systems (CRM, Calendars, touch points)	5
Ability to contain customisable portals / thematic areas	4
Free	8 (not so important)
Streaming (Live FAD): possibility to receive information with multimedia contents (PowerPoint presentations, enriched with Flash animations and transitions, 3D objects and video streaming, etc.)	3
Sharing: possibility of sharing information and multimedia contents	2

Considering the type of business, you are engaged in, what features do you think a distance learning platform should offer? [in order of importance]:

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Average answers:

Learning objects (e.g. videos, documents, presentations, tests, questionnaires, etc.)	1
This represents a base, material for the transfer of knowledge, good practices, advice.	

Course management (e.g. presentation mode with slides or documents)	2
This represents a base, material for the transfer of knowledge, good practices, advice.	
Test or quiz for learning Not really necessary in our field.	7
Monitoring of training (e.g. verification of access, permanence and use of content by learners) Not really necessary in our field.	6
Live Lesson Management (e.g. creation of integrated paths between e-learning and live lessons) Because of the direct interaction, immediate questions, and answers.	3
Discussion forum and interactive spaces (e.g. chat) Partial replacement of live interactions.	4
Management of course documentation (e.g. teaching and in-depth materials; other documentation, including administrative) Not really necessary in our field.	5

What are the tools and resources that you think are most important to develop and to include in an online/distance learning platform aimed at users of vocational training and work-based training [rank in order of importance]:

Average answers:

Simulators, virtual reality, or augmented reality	6
Virtual learning environments	1
Blog and discussion forum	4
Podcasts	3

Video	2
Interaction with YouTube	5
Written resources (self-paced learning guides, learner notes)	7

TARGET GROUPS AND TYPE OF ACTIVITIES

What is the target audience for which you use distance / online training most often:

Most often answers:

- potential entrepreneurs (beginners) with business ideas: 25–35 years (students, unemployed

people with business ideas)

- CEO of startups (in different stages of growth): 25–40 years
- scale-ups (different stages of growth): 35–42 years
- other companies: 40–45 years
- young students who want to acquire basic knowledge about entrepreneurship and improve their entrepreneurial soft skills, such as negotiation skills, public speaking, teamwork, etc.:
 - elementary students (aged 12–14),
 - secondary students (aged 15–18).

*** online mentoring only as a plan B (in case of illness, transportation problems, time constraints, pandemic, etc.) = combination.

What are the types of activities for which you use distance learning most often:

Most frequent answers:

- Individual mentoring programme (1:1) for potential entrepreneurs, startups, scale-ups and other companies at various stages of growth;

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- Entrepreneurial academies/schools for potential entrepreneurs, startups, scale-ups and other companies at various stages of growth;
- Entrepreneurship workshops for elementary and secondary school students (fostering entrepreneurial skills among young people).
- online mentoring only as a plan B (in case of illness, transportation problems, time constraints, pandemic, etc.) = combination.

If you use / have used distance learning for different target groups, have users encountered difficulties in using it:

Most often answers:

- Technically no problem.
- The problem is motivation, time endurance, and concentration.

If you use / have used distance learning for practical training (laboratory, practice, exercises, work-based learning), how did you manage to transfer the content to the online experience:

Average answers:

Video presentation (with or without comments)	Yes, without problems (share screen)
Teacher's/trainer's story telling (only audio), Static presentation (text and images, commented by teacher/trainer), Video presentation (with or without comments)	sending only audio – yes, without problems (via WeTransfer, ...) Yes, without problems (share screen)
Static presentation (text and images, commented by teacher/trainer), Video presentation (with or without comments)	without problems (share screen)
Static presentation (text and images, commented by	without problems (share screen)

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teacher/trainer)	
Teacher's/trainer's storytelling (only audio), Video presentation (with or without comments)	without problems (share screen) sending only audio – yes, without problems (via WeTransfer, ...)
Teacher's/trainer's storytelling (only audio), Static presentation (text and images, commented by teacher/trainer)	without problems (share screen) sending only audio – yes, without problems (via WeTransfer, ...)
Teacher's/trainer's storytelling (only audio)	sending only audio – yes, without problems (via WeTransfer, ...)

In the event that you use / have used distance learning for practical training (laboratory or other), have you encountered difficulties in the provision an /or use by users: Common answers:

- Methodological difficulties: the problem is motivation, time endurance and concentration + how to involve real human contact, an exchange of views even during breaks (over a coffee, a cigarette) or over a beer after the formal training is over. Many good business ideas, good practices and new businesses are created precisely during informal networking.

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

- Sometimes, in cases of: Entrepreneurship workshops for elementary and secondary school students (fostering entrepreneurial skills among young people).

Would you be interested in experiencing digital simulation tools:

- Yes, 100% of respondents.

6. Gaps and Needs emerging from the desk research and the survey

6.1. Area of “Needs” and “Gaps”

Based on the results of the Desk research and the questionnaires administered to the mentors, the following “Needs” and “Gaps” related to distance and virtual learning for VET and WBL projects in Slovenia have been identified.



Figure 13: Gaps and Needs Table

Area	Tasks	Needs	Desired state	Description of the gaps
Area 1: Professional Engagement				
	Organizational communication	Course documentation management	Complete and simple management of training documentation	Since videoconferencing tools, not customized for training, are the most used in distance courses, the document flow is managed offline.
		Digital technologies as a tool for communication with students	Better distance communication process and more interesting physical educational process	A communication platform that contains different options and applications - all in one to make the lectures more interesting and practical: a platform that contains different options and applications, allows for a lot of interaction, practice, and group work.



	Professional Collaboration	Exchanging experiences with other mentors	Keep in step with the times and teach in a way that's relevant to modern society and its needs	Only a few innovative practices are used within education process, additional training of mentors, lecturers is needed.
	Digital Continuous Professional Development	Keeping young people motivated	The use of different digital tools in order to motivate the students	The digital tools such as VR, AR should be used in the educational process resulting in the enrichment of the lectures. Psychological approaches to maintain motivation are needed.
Area 2: Digital Resources				
	Selecting digital resources	Access and use of platforms	Ease of use and intuitiveness	Only a few professionals have good or acceptable knowledge of learning platforms.
		Access and use of platforms and applications	Ease of use	The platforms are dispersed, applications are difficult to find (on Web) or mentor needs a lot of time to search.



<p>Creating and modifying digital content</p>	<p>Use of educational objects</p>	<p>Availability of effective Learning Objects to facilitate, evaluate and verify the study process or create a course in a digital/virtual environment</p>	<p>Lack of knowledge about available Learning Objects.</p>
<p>Managing, protecting and sharing digital resources</p>	<p>Effective streaming sessions (Live Distance Learning)</p>	<p>Possibility to receive information with multimedia contents, such as: audio, video, images, text, etc.</p>	<p>It is not possible or rather difficult to receive multimedia content during streaming sessions.</p>
<p>Managing, protecting and sharing digital resources</p>	<p>Improve content sharing</p>	<p>Ability to share information and multimedia content during and outside of live lessons or webinars</p>	<p>Since most of the courses are carried out through videoconferencing systems, it is quite difficult to share information or multimedia content.</p>



Area 3: Teaching and Learning				
	Guidance	Interaction with users	Interactive lesson	The interaction is limited to simple tools typical of videoconferencing platforms, such as: raising of hands, chat, etc.
		Management of live lessons	Easy management of live training sessions	Since video conferencing tools, not customized for training, are most used in remote training courses, managing training sessions is quite difficult.
		Management of live lessons	Easy management of live training sessions	The need for a lot of digital and technical equipment not only on the part of the provider (educational institution), but also on the part of the audience.
Area 4: Assessments				



	Assessment strategies	Training monitoring	Complete and simple training monitoring (process and learnings)	Since video conferencing tools, not customized for training, are most used in distance courses, training monitoring is quite difficult and very often managed offline.
	Feedback and Planning	Design, planning and implementation of the use of digital resources in the different phases of the learning process	Effectively orchestrate the use of digital resources at different stages and settings of the learning process	Lack of knowledge of educational resources (provided or not by platforms) specific to distance learning.
Area 5: Empowering Learners				
	Actively engaging learners	Interaction with students and their active involvement in a subject	Use of digital resources to enhance interaction with students, individually and	Lack of knowledge of teaching resources (provided or not by the platforms) specific to distance learning.



			collectively, inside and outside the learning session	
Area 6: Facilitating Learners' Digital Competence				
	Digital content creation	Practical activities, laboratories and Work Based Learning (WBL)	Effective use of simulators, virtual reality and augmented reality in Virtual Learning Environments (VLE)	Only a few professionals have good or acceptable knowledge of digital learning games or apps and virtual reality.

6.2. Preliminary definition of the “Personas”

Proceeding from the identification of the “Needs” and “Gaps”, the “Personas” methodology has been used to group and classify them in relation to characteristics, attributes, and behaviour of VET professionals.

This is the first step in the analysis of user personas who are meant to represent a collection of people that fit these categories, and represents the featured users (in general, but in a quantifiable way) of the “Toolkit” (**Result 2**) and the “Training Course” (**Result 3**).

Once a first version of the “personas” has been produced, then the analysis is completed with the results of the Focus Group.

From the answers received, we structured two examples of “**Personas**”:



PERSONA 1



Name: Matej
Sex: M
Age: 38
Profession: CEO of a company / startup mentor

Activity Matej (male) is 38 years old. He's the CEO of a high-growth company (scale-up). He's an active startup mentor in the entrepreneurial community of Primorski tehnološki Park and gives various lectures at startup academies and similar trainings. His company works in the field of IT technologies, so online tools are very familiar to him. If he doesn't know certain online tools, he's able to learn them quickly. Matej has been working as a startup mentor and lecturer since 2014. He's a young father and very busy as he manages a company with ten employees. He started online teaching/mentoring during the Covid period. For various practical reasons, such as lack of time, physical distance, etc., he still uses the online method of teaching entrepreneurship from time to time. Most commonly, he uses tools such as: Zoom, Skype, Microsoft Teams, Moodle and Miro (online whiteboard platform). He also often teaches hybrid. He may not need so many virtual tools to teach entrepreneurship as the practical nature of entrepreneurship is different from practical nature of chemistry or physics, but he still uses videos, photos, graphics, etc. Recently, Matej was on a study visit to Norway where he attended a conference on virtuality. The conference was about the inclusion of virtuality in all areas of society, including teaching. He found it very interesting how a modern way of teaching history was presented at the conference: students were transported to the time of a certain part of history (e.g., ancient Greece) with the help of VR. In this way, we can solve the problem of motivation to sit in an online lecture.

Goals and Ambitions Provide high quality knowledge on entrepreneurship, regardless of format (live/online). He's happy to continue to keep in step with the times and teach in a way that's relevant to modern society and its needs.

Needs + Difficulties and frustrations Matej is a busy entrepreneur who's to take care of 10 employees. He's also a young father who's building a new house in his spare time. At the same time, he wants to be an active member of the local entrepreneurial community, to which he'd like to contribute with his knowledge and experience. Due to the lack of time, he wishes that he doesn't have to search for suitable platforms and that he doesn't have to search for different applications to combine in a lecture (to make the lecture more interesting and practical), but he wishes that there's a platform that's easy to access, simple, and most importantly, a platform that contains different options and applications - all in one. This would save him a lot of time. After all, he doesn't have the time to sit down at the computer and search "all day" for suitable platforms and applications.



PERSONA 2

Name: Teja
Sex: F
Age: 36
Profession: teacher / mentor

Activity Teja (female) is 36 years old. She's a teacher of ("classis") economic and finance at the Vocational School of Economics in Nova Gorica. Besides her main profession (teacher), she also teaches modern entrepreneurial skills (lean methodology). For the last 5 years she's been working in collaboration with Primorski Tehnološki Park, which supports her work. He leads entrepreneurship courses for high school students "after school" (at the Vocational School of Economics in Nova Gorica). Here the work is interactive and practical, because the students work in groups, they've to go into the field to research the market etc. During the measures due to the Covid pandemic, she got into trouble. Although she's adept at using online tools herself, she prefers to avoid them. She's willing to use them for the benefit of society. Her biggest challenge has been to keep young people motivated. He believes that with the virtual reality, the motivation of the participants would be increased and the lectures would be enriched. She doesn't know virtual reality from a technical point of view, but is willing to learn it.

Goals and Ambitions To contribute to the promotion of entrepreneurial skills among young people. If she needs to use online tools, she'll be happy to receive additional training. She also wants to learn psychological approaches to maintain motivation, cooperation and interactivity in online training.

Needs + Difficulties and frustrations She needs an online platform that allows for a lot of interaction, practice, and group work. She wants a platform that includes a lot of VR. She sees the problem in the fact that this requires a lot of computer equipment not only on the part of the provider (educational institution), but also on the part of the audience. In Slovenia we don't have big problems with internet access and fortunately there are very few young people who don't have a computer. The problem would be to add/buy different software/hardware that would enable VR effects.





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7. User “Personas” analysis

7.1. Focus Groups

The main objective of the **Focus Groups** was to obtain information on current and future needs with respect to the topics already analysed with the questionnaire sent to the trainers.

In particular, the goal was to hear from those directly involved and to collect further feedback to structure the Toolkit (**Result 2**) and the Training Modules (**Result 3**), by investigating 4 main areas:

- Activity;
- Needs;
- Ambitions;
- Difficulties;
- Frustrations experienced by the people involved (mentors) in providing distance learning.

Starting from the results of the Desk Research and the Survey, the focus of the Focus Groups was on recurring themes and skill gaps of the training professionals, in line with the “DigCompEdu”, the European reference framework on the digital skills of teachers and trainers.

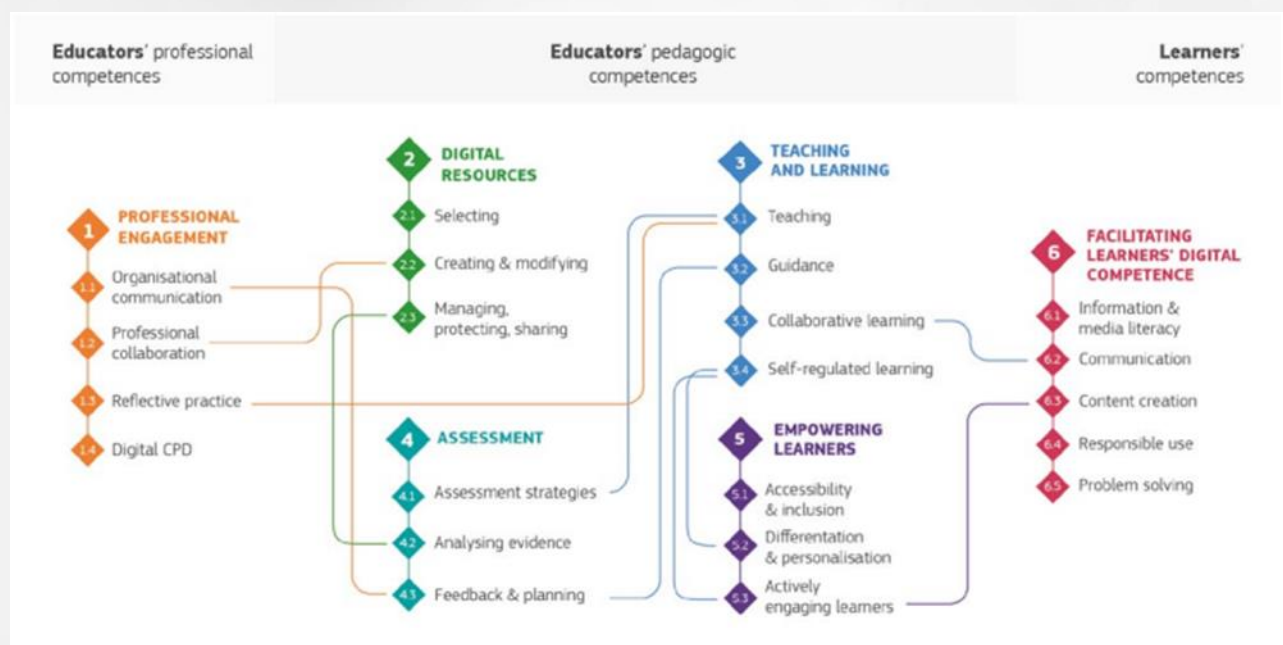
One Focus Group was held in Slovenia, based on the methodology shared with the project partners. The following specific goals were set for the Focus Groups:

- to complement the area of “Needs” and “Gaps”;
- to investigate the areas of “Difficulties” and “Frustrations” experienced by the training professionals when distance learning is concerned.

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The Focus Group Report has been elaborated with the answers given by the participants. The questions posed to participants have been elaborated by considering the structure of “DigCompEdu”, and namely the following scheme:

Figure 14: The structure of “DigCompEdu”



Source: European Framework for the Digital Competence of Educators – DigCompEdu, JRC Science for Policy Report, 2017. EUR 28775 EN

8. Conclusions and recommendations

Area of “Needs”:

- Internet connection stability (so that it does not fail in the middle of the lecture)
- Stability of the platform operation (so that it does not freeze or crash in the middle of the lecture)
- Simplicity of platforms (clear and simple for users on both sides – lecturers and the audience)
- A platform that not only offers different apps and features, but also provides guidance on how to use a particular feature within the app (e.g. the platform tells you how to upload a video if you do not know how to do it)
- More transparency about what kind of platforms exist (there are too many of them and it takes too much time to study them all or get to know them all)
- There should be instructors who teach online teachers new psychological approaches (how to maintain high levels of motivation) to how to teach online. We make a mistake when we try to transfer live lecture to an online format. We do not regard it as a transfer. An online lecture should be delivered in a different way to appeal to the audience (different gestures, different facial expressions, different rhetoric, different way of public speaking). A trainer may be very charismatic (when he/she lectures live), but when he/she performs in an online lecture, a different dynamic is created here and the same trainer doesn't radiate the same charisma.
- Workshops would be needed, organised for both trainers and listeners, presenting the available platforms and how they work.
- It would be necessary to carry out a campaign to spread the culture of online education.

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- Stronger implementation of the effects of VR.
- Development of VR to a level where an average person with average computer skills can use it.

Area of “Difficulties and frustrations”:

- Most platforms are not free.
- Too many platforms (it takes too long to find a suitable one)
- To stay up to date, platforms need to be regularly monitored, and there is insufficient time for that.
- Knowledge of platforms is not mutual. The instructor may know a particular platform, but the learner does not.
- Adequate hardware (the instructor or the institution he/she teaches for may have it, but not the audience). A camera on a laptop may not be enough to create a comprehensive experience. The problem is the lack of technology (equipment) among the audience, the kind of equipment that would digitally bring the online experience as close as possible to the live experience. Most of them only have a computer and the internet.
- The questionability of recording due to the protection of personal data. If recording is not allowed, the material will remain inaccessible in the long run.

Evaluation of the learning acquired:

- Valuation methods that have been refined over all these years cannot simply be transferred to the online platforms. Valuation as we know it from classical approaches does not come into play in online situations. We do not believe that it is necessary to invent techniques (applications) that would replace live assessment criteria.

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- The method of assessment needs to change. Traditional assessment (writing a test, asking questions) is a surviving concept. It makes no sense to invent apps to prevent students from breaking the rules on assessment. We live in a society where we have all the information at our fingertips. Memorisation is not required. The subject of the assessment could be project assignments that assess understanding of a particular topic.

Enhancement of students' potential:

- Ensuring interactivity
- Audience members who find themselves in the same online workshop differ from each other in terms of knowledge and mastery of the platforms.
- Hybrid workshops (disparity; online participants are at a disadvantage)
- The instructor does not know exactly what is happening behind the camera on the other side.
- Motivation of the audience to sit at the computer for entire lecture
- Live teaching and live motivation techniques have been refined over decades. We cannot simply transfer these techniques to an online format. It would be necessary to develop new techniques specifically tailored to online teaching. We do not know what kind of rhetoric and what kind of public speaking is appropriate for online teaching.
- VR, games (gambling), avatars
- In 2022, a VR conference was organised in Norway. All areas of society in which VR can be involved were presented, including teaching. They presented modern methods for teaching academic subjects such as history, physics, chemistry, medicine and physiotherapy (students learn about history in such a way that they find themselves in the era of history they are studying through VR effects / students

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learn about medical problems by finding themselves in a hospital room with a patient through VR effects, etc.). Also, in entrepreneurship VR effects could be used to put entrepreneurs in a situation where they are to present themselves in front of investors and make a successful deal. In this way, learners could practice before the real gig to make the real deal. Similarly, potential entrepreneurs could use VR applications to learn sales strategies with different customers (by going into virtual reality with potential customers).