

REPORT FROM INTERVIEWS

WITH VET WORKERS, NGO STAFF AND E-LEARNING EXPERTS

TRANSNATIONAL INTERVIEW REPORT





DIGITAL FACILITATOR TRAINER ROLE

TRANSNATIONAL INTERVIEW REPORT

Cooperation for innovation and exchange of good practices VET – Vocational Education and Training

"DigiFacT"

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Activity Primary Research - Interviews

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Background

The following research aims at stabilizing the level of digitalization and competencies of VET educators. This quantitative research is developed as part of the DigiFacT project, an initiative of three organizations from Spain (Femxa Formación S.L.U.), Romania (TEAM4Excellence) and Turkey (Osmaniye II Milli Egitm Mudurlugu) to improve the digital competencies of VET educators.

DigiFacT is a project cofounded by the Erasmus+ programme of the European Union, that will create and design the new figure of the Digital Facilitator Trainer for VET educators, which objective is using digital technologies and open pedagogies to support the development of digital competences of educators from vocational education and training. This innovative learning methodology for teaching and learning digital will focus in 3 fields: Artificial Intelligence (AI), Gamification and Data Analytics.

DigiFacT addresses a huge gap in the VET community in Europe, the lack of digital learning resources in teaching, essential to help educators to develop their own digital skills, with the ultimate purpose of engaging their students and provide them with the key knowledge and skills in the digital era.

The following report is one of the pillars of the transnational research that the DigiFacT consortium is developing to design a digital platform and the role of the Digital Facilitator Trainer (DFT) based on the real needs of educators in the VET community in the three countries. Together with desk research of best practices and tools available, quantitative research of the needs and gaps of VET students and teachers/trainers, this transnational research lays the foundation for what will later become Instructional Design Guidelines for the construction of the DigiFacT digital platform and the DFT. The current research is based on individual interviews with key personnel of vocational education and trainer providers.

Methodology

Vocational education and training (VET) educators require professional as well as pedagogical knowledge to prepare students for the job market. At the same time, teacher's education and training programmes should aim to develop innovative teaching and learning approaches and digital skills. Therefore, teachers' training needs should be assessed to make sure they are equipped with the right tools for the labour market's demands.

Aim

This research aims to analyse the level of digital competences of VET teachers in order to find the gaps in the educators' competences.

Objectives

To achieve the aim of the study, the research team set out the following specific objectives:

- 1) To assess the educators' technical and pedagogical skills when implementing digital instruments in teaching.
- 2) To evaluate the teachers' ability to engage through digital tools with the students.

To analyse the three key skills mentioned above (the educators' professional and pedagogical competencies, and the learners' competences in using digital tools), ten interview questions were designed using the six areas outlined in the European Framework for the Digital Competence of Educators (DigCompEdu) as a base.

Area 1 is related to the professional environment of the educators, their use of digital tools when interacting with colleagues, learners, and parents.

Area 2 focuses on the competencies needed to effectively and responsibly use and create digital resources in the classroom.

Area 3 targets the teacher's ability to adopt innovative pedagogical practices.

Area 4 looks at the use of digital technologies as a tool to assess and improve the learners' performance.

Area 5 puts the focus on the inclusivity and accessibility of the technology used.

Area 6 details the competencies required to empower learners to use digital technologies safely and responsibly.

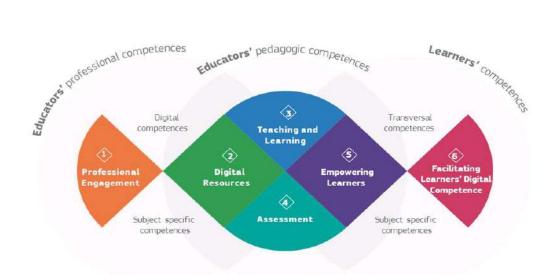


Figure 1: DigCompEdu areas and scope

Semi-structured interviews were conducted to analyse VET educators' competences in these six main areas. In order to better guide the answers of the interviewees, three domains of digital technologies were chosen:

- Data analysis tools (to track students' academic performance),
- Gamification (to increase students' engagement during classes), and
- Artificial Intelligence (to facilitate the teacher's tasks and individualise learning)

The interviews were designed to allow for the generalisability and transferability of the research. Although the methodology utilises restricted numbers of samples, the sample selection envisages interviewees covering several VET education areas across the three countries, including professionals with expertise in VET education, combining formal and non-formal education towards employment.

The following report portrays an accurate enough picture of the gaps found in VET educators' digital competences, as we gathered this information directly from the educators themselves.

Interview phases

The phases that were followed during the research were:

Phase I: Design of qualitative research tool: semi-structured interviews

Based in the previous research developed during the DigiFacT project and other relevant publications, and primarily, the Digital Competence Framework for Educators (DigCompEdu), the research staff of TEAM4Excellence (T4E) designed the interview questions. This phase included the following:

Researching the level of digital competences of VET teachers, assessing the educators'
technical and pedagogical skills when implementing digital instruments in teaching and
evaluating the teachers' ability to engage through digital tools with the students are
complex research tasks. To design meaningful qualitative research, the researchers
consulted several reports and publications from relevant institutions, successful projects
about the object of study, relevant news and blog posts, manuals about methodology on
quantitative research in education.

- Designing the interview questions to analyse the level of digital competences of VET teachers, specifically in the data analysis, gamification and artificial intelligence domains, using the DigCompEdu framework as a starting point.
- Translating the interview questions in project partner languages.

Phase II: Fieldwork

Upon completion of Phase I, each partner organisation carried out the following:

- Contacted potential interviewees and provided them with general information about the
 project and interview. Also, interviewers emphasized the confidentiality and anonymity of
 the interviews. The initial approach message (example included at (Appendix 1) was sent
 over email or via other online communication channels (e.g. WhatsApp, Telegram,
 Messenger, etc.).
- Provided the interview areas and questions to those interested to participate in the interview. This was done so interviewees could get acquainted with the interview themes.
- Scheduled the interview at a date/time convenient for both interviewer and interviewee

The minimum number of interviews is 3 (three) per organization, 9 (nine) surveys in total. OMEM completed 5, while FEMXA and T4E carried out 3 interviews. Each interview took approximately 30 minutes. During the interview, the interviewer took notes. The transcripts of the interviews were anonymised with the acronym of the organisation and interview number (e.g. T4E-1) and provided to T4E to carry out the analysis of data and the final report on the interviews.

Phase III: Analysis phase

The analysis phase included the following:

- Recollection of the anonymised partial transcript data obtained during the interviews.
- Analysis of the data considering the objective of the research that has been already set. For
 this to be possible, the analysis attended to the classification system in areas that allows
 identifying each specific interview question with an already set general researching theme
 (Areas 1 to 6).
- Organizing and presenting the results in a clear, concise and coherent way.
- Drawing conclusions based on the results of data interpretation.

Phase III: Final Document elaboration

This phase included the completion of the final Report on the survey. The deliverable of this phase is the current Report from interviews with vet workers, NGO staff and e-learning associations

Interview plan

Upon completion of the design phase, the research team can focus on the fieldwork, which is primarily based on the guidelines set out in the interview plan, below.

First, as an introduction, the moderator should give the interviewee an overview of the topic and explain how the activity will be developed. The goal is to make participants comfortable with the topic of discussion.

Example:

Welcome and thanks for your participation. My name is ____ and I will be the moderator of today's discussion. The goal of this meeting is for us to better know your capabilities and limitations when using digital tools in the classroom. The following questions will allow you to share your past

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experiences using digital technologies with students. The information you facilitate us today will be used to learn how to better support VET educators' when developing their digital competences. Your responses will remain anonymous and no names will be mentioned in the report.

The questions listed down below do not need to be asked following the same order, but they should be sequenced from more general to specific. The moderator should take notes and, if necessary, ask the interviewee to explain further or give examples.

The last question should help guide the reflection of the participant, for example: "Of all the digital skills we discussed, which do you think is the most important one?"

The following questions are categorized in six areas. Each area corresponds to the aforementioned DigCompEdu domains.

Interview areas and questions

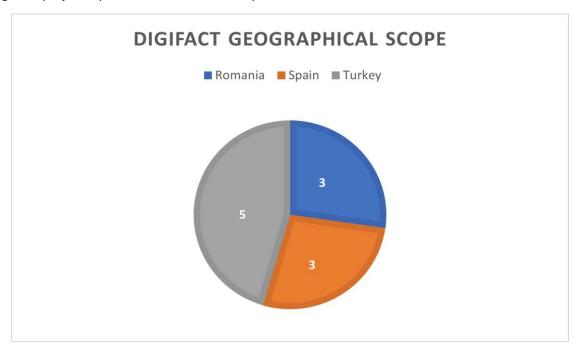
To understand the methodological structure of the interviews here we include the different interview areas and corresponding questions:

INTERVIEW: ASSESSMENT TOOL TO DETERMINE GAPS IN DIGITALIZATION IN VET		
AREA 1 Professional Engagement	Educators' digital competence is expressed in their ability to use digital technologies not only to enhance teaching, but also for their professional interactions with colleagues, learners, parents and other interested parties, for their individual professional development and for the collective good and continuous innovation in the organisation and the teaching profession. This is the focus of Area 1.	
	QUESTION 1. Which digital tools do you use to contact and collaborate with colleagues, learners, and parents? How do you use them?	
	QUESTION 2. How do you seek information to develop your awareness of the latest digital trends in your field of education? What sources of information do you use?	
AREA 2 Digital Resources	Educators are currently confronted with a wealth of digital (educational) resources they can use for teaching. One of the key competences any educator needs to develop is to come to terms with this variety, to effectively identify resources that best fit their learning objectives, learner group and teaching style, to structure the wealth of materials, establish connections and to modify, add on to and develop themselves digital resources to support their teaching.	
	QUESTION 3. Which aspects do you take into consideration when selecting a specific digital tool (e.g. the learning objective, the context, the learners' group)?	
AREA 3 Teaching and Learning	Digital technologies can enhance and improve teaching and learning strategies in many different ways. However, whatever pedagogic strategy or approach is chosen, the educator's specific digital competence lies in effectively orchestrating the use of digital technologies in the different phases and settings of the learning process. The fundamental competence in this area is Teaching. This competence refers to designing, planning and	

	implementing the use of digital technologies in the different stages of the
	learning process.
	QUESTION 4. How do you design, plan and implement new digital technologies that help learners self-regulate their own learning? Are you using artificial intelligence, for example?
	QUESTION 5. How do you adopt a learner-centered approach? Are you using gamification, for example?
	QUESTION 6. How do you encourage learners to employ digital technologies for collaborative knowledge sharing (e.g. using blogs, wikis)?
AREA 4 Assessment	Assessment can be a facilitator or bottleneck to innovation in education. When integrating digital technologies into learning and teaching, we must consider how digital technologies can enhance existing assessment strategies. At the same time, we must also consider how they can be used to create or to facilitate innovative assessment approaches. Digitally-competent educators should be able to use digital technologies within assessment with those two objectives in mind.
	QUESTION 7. How do you store and manage data (i.e. on students' academic progress, timetables)?
	QUESTION 8. Do you perform data analysis? How do you use data to inform your decision-making?
AREA 5 Empowering learners	One of the key strengths of digital technologies in education is their potential for supporting learner-centred pedagogic strategies and boosting the active involvement of learners in the learning process and their ownership of it. Thus, digital technologies can be used to facilitate learners' active engagement, e.g. when exploring a topic, experimenting with different options or solutions, understanding connections, coming up with creative solutions or creating an artefact and reflecting on it.
	QUESTION 9. How do you identify learners' different needs and abilities (considering physical or cognitive constraints) when implementing digital instruments?
AREA 6 Facilitating Learners' Digital Competence	Digital competence is one of the transversal competences educators need to instil in learners. Whereas fostering other transversal competences is only part of educators' digital competence in as far as digital technologies are used to do so, the ability to facilitate learners' digital competence is an integral part of educators' digital competence.
	QUESTION 10. How do you foster learners' information and media literacy (i.e. encourage learners to express themselves through digital means while avoiding possible dangers like cyberbullying or digital addiction)?

Description of the population object of the research

The interview to assess the gaps in digital competences of VET educators was completed for a total of 11 educators in vocational education and training from the three countries that partner in the DigiFacT project: Spain, Romania, and Turkey.



The data gathered shows the multiple approaches and digital tools that the trainers who provide vocational education and training have in the three countries.

Regarding the job position, the participants were mostly teachers, trainers, mentors, and coaches that develop the role of educators in different fields of VET, and directly teach students.

According to the graphic, Turkey, Romania and Spain provided an array of responses that will successfully determine the best practices and tools to be used in the digital era with VET students. Turkey gathered responses from 5 educators, while Romania and Spain invited 3 participants each.

At a wider glance, there are major differences found in the type of digital tools used by the participants to the interviews according to the institutions or organisation they are working in: schools/universities, e-learning associations or non-governmental organisations.

Interview Results

The interviews identified gaps in the competences of VET educators with particular emphasis on Data Analyses, Artificial Intelligence and Gamification in Turkey, Spain and Romania.

AREA 1. Professional Engagement

Educators' digital competence is expressed in their ability to use digital technologies not only to enhance teaching, but also for their professional interactions with colleagues, learners, parents, and other interested parties, for their individual professional development and for the collective good and continuous innovation in the organisation and the teaching profession. This is the focus of Area 1.

QUESTION 1. Which digital tools do you use to contact and collaborate with colleagues, learners, and parents? How do you use them?

OMEM-1: Computer, Tablet and Phone. I use it often.

OMEM-2: WhatsApp, Telegram and social media networks.

OMEM-3: Telegram, WhatsApp, email, social media networks.

OMEM-4: I use media such as WhatsApp and Telegram, which are social media tools that we can transmit directly with phone calls or with which we can transmit audio, documents and images. I send all kinds of documents, information and visuals that we want to convey to my colleagues, parents and students through these tools, and I get their opinions and ideas or let them be informed.

OMEM-5: Computer, Tablet and Phone. I use it constantly.

T4E-1: As a trainer for the Institute of National Administration, I engage with colleagues, admin staff, learners, parents via email, on WhatsApp groups and in the forums of the Moodle platform which we use as a support for delivering training courses.

I am a member of many professional organisations (e.g. Chartered Management Institute from the UK and Project Management Institute from the US) and these organisations have a large pool of members which I can engage with using the dedicated communication channels which they provide (e.g. email, online membership accounts, web and mobile apps).

T4E-2: As a teacher, I use mostly WhatsApp - the most accessible tool for everybody (students, teachers, and parents) and Google Classroom – used to share materials with the students, and for students to upload their work - but it requires a good Internet connection and a computer, which is not the case for all students.

T4E-3: We use social media (e.g. Facebook) to communicate with our current and past learners. For example, during one of the courses, our participants felt the need to create a Facebook Group dedicated to professional communication in a specific field and we post there information for professional development.

FEMXA-1: I normally use Skype, Teams, Whatsapp and Gmail to contact the different roles involved in the teaching and learning process. I also use different e-learning platforms, such as Moodle.

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FEMXA-2: Depending on the centre or educational project where I am teaching, there are different tools available or in use. But mainly, I implement virtual platforms based on Moodle.

The type of use is based on displaying materials, tasks and so on. Although Moodle has a messaging part, I do not use it much. In terms of communication, I mainly use the forum.

For direct communication, Teams is more agile, as it allows more fluid and direct communication, when necessary, as well as workgroups, for example, for both colleagues and students.

WhatsApp groups are also a support tool, especially for contacting families or organizing activities with pupils outside the classroom (excursions, outdoor activities, timetable changes, etc.), as well as for contact between teachers.

Collaborative tools such as Drive, or cloud services are useful for sharing documents, forms, and other types of information of the source, with colleagues and students.

The ClassRoom platform is sometimes a more attractive option than Moodle itself, especially if Moodle is not customized for a specific educational environment. But it requires a greater investment of work and dedication on the teacher part, sometimes duplicating efforts between the two platforms.

FEMXA-3: Microsoft Teams is, in my opinion, a very useful tool that brings together, in a common space, the collaborative applications needed for teamwork and meetings. Some of the other tools I have used are BigBlueBottom, Zoom, Meets, GotoMeeting, etc.

Summary of key findings Q1

The most used tool to communicate in this digital era is WhatsApp, with both students and professionals. Social media also plays an important part in the communication, through Facebook groups with other individuals interested in a certain subject. The educators who use Moodle mentioned it as a tool for communication in the form of forums. Other tools mentioned: e-mail, Telegram, Skype, Microsoft Teams.

QUESTION 2. How do you seek information to develop your awareness of the latest digital trends in your field of education? What sources of information do you use?

OMEM-1: I get information from the websites of our Ministry, other official institutions, professional organisations and universities.

OMEM-2: YouTube videos, google research, Eba platform

OMEM-3: Information about preparing digital content, enriching the content and faster, cheaper and useful communication applications. By participating in distance education courses via the Internet, watching course videos on platforms such as Youtube, and following courses and seminars opened through the Ministry of National Education.

OMEM-4: I follow information and technology sites and their social media accounts. In addition, I search for the information I need through search engines and benefit from the relevant sites.

OMEM-5: I get information from the web pages of the Turkish National Agency, the Information and Communication Technologies Authority, the Ministry of National Education and other official institutions, professional organizations and universities.

T4E-1: Membership associations; Magazines of sectoral and professional associations; Academic articles; Participating in online and face to face conferences

T4E-2: I search in Google specific questions about digital technologies; Google Scholar - to use science-based resources for the classroom.

T4E-3: By engaging with different Erasmus+ project partners; Participating in topical Erasmus+ courses; Simply discussing with fellow trainers; Getting training and job shadowing opportunities from our training institution

FEMXA-1: I try to keep up to date with all the latest news through the professional groups I follow on social networks, through the different courses/webinars I do, both online and in-person to recycle knowledge and keep up to date, and by searching the Internet for what I need to find out or learn.

FEMXA-2: I normally research on the internet for new digital trends and approaches depending on the specific needs that I faced when teaching. I research in multiple spaces and internet blogs, but above all in social media. In services such as YouTube, Twitter, Instagram and above all Tik-Tok, I have recently found many tools that facilitate the use of new technologies in education here.

I combine my autonomous research with more classical approaches, such as attending conferences, congresses, talks and, above all, being enrolled in courses, masters, degrees and so on. Here, I can learn about other types of tools used by other teachers that can be useful in our day-to-day teaching and learning process.

FEMXA-3: On a recurrent basis, I read blogs and news items relating to my specific field in education, as well as LinkedIn contacts.

Summary of key findings Q2

Participants get their information from official sources, such as websites of the ministries, academic articles, conferences. Other sources of information can be found on social media: YouTube, Facebook, LinkedIn.

AREA 2. Digital Resources

Educators are currently confronted with a wealth of digital (educational) resources they can use for teaching. One of the key competencies any educator needs to develop is to come to terms with this variety, to effectively identify resources that best fit their learning objectives, learner group and teaching style, to structure the wealth of materials, establish connections and to modify, add on to and develop themselves digital resources to support their teaching.

QUESTION 3. Which aspects do you take into consideration when selecting a specific digital tool (e.g., the learning objective, the context, the learners' group)?

OMEM-1: Reliability, competence, learning objectives, etc.

OMEM-2: I consider all these examples. Most importantly, I attach importance to the fact that it is easy to understand by the student.

OMEM-3: I take into account the student group, and learning objectives, and learning facilitators.

OMEM-4: I make sure that it is a digital tool that everyone can easily access. For example, I recommend them to download and use the z-book application on the computer so that they can benefit from the digital version of the book I have studied in my own classes. However, since not everyone has a computer at home, I suggest a mobile library application that can work on any smart mobile phone that has an alternative, helping everyone reach it. Another advantage of this is that not every student or person can use a computer, but it is more advantageous since there is no problem in using a mobile phone.

OMEM-5: Usability, Cost, Reliability, proficiency, learning objectives, etc.

T4E-1: The criteria I consider when selecting the digital tools are:

- Off-the-shelf solutions
- Tried and tested solutions
- Reliable solutions
- I tend to keep the number of tools to a minimum (too many would confuse people)
- Free apps (or at least cheaper solutions)

T4E-2: Because most of the classes happen online now, I take into consideration the digital tools my students have access to. I work with underprivileged students as well, and for them, it is more complicated to have access to a computer, so I take this into consideration. Do they have access to a computer? Access to Internet? It is easier for them to use WhatsApp in these conditions or Google Classroom? I ask myself that.

For school face to face, I have access to more tools that I use regularly in my work with students, such as 3D printing. I teach mechatronic and ask the students if their personal computers can run some programs, we need them to do the assignment, then I give them the program.

T4E-3: The criteria I consider when selecting the digital tools:

- Target group: Age is important and I need to adapt. For example, older folks may be less
 interested in games, or younger people may not have the patience to follow a long route
 while using digital tools
- Digital skills. For example, I will not use the same digital tools with a group of digital geeks and a group of digitally unskilled people. In my experience, failing to adapt may result in boredom or in spending a lot of time managing the digital solutions, rather than focusing on the course content
- English level. Many apps are in English and as a trainer, you may be limited in choosing digital tools. You cannot use a digital tool available only in English with non-English speakers.
- Learning objectives. It depends if the objective is to develop digital skills or other skills. For digital skills, developing digital tools may become a purpose in itself, but for other types of courses, it may be just a means. It also depends on what you want to develop by the end of the course: knowledge, skills, attitudes. For example, you may use more digital collaboration tools to improve attitude, but specific software to develop skills.

- Level of the course. Any course may be for beginners, intermediate and advanced participants. The more advanced the group is, the more complex the course will be. As a result, you may use more/advanced tools while working with pros.
- Context. The duration of the course is also important. There is no point in delving into a lot of digital tools if the benefit for learners will be for a very short period. For short courses, I prefer very-well known digital tools.

At times I ask participants what tools they use, so we can choose the one which is preferred by most (it saves time and gives people the freedom to choose and an "impression" that their voice/preferences are heard).

FEMXA-1: I really believe that to make the most effective use of a particular tool and to get the most out of it, it is very important to take all these aspects into account: the context regarding the learners' characteristics and the teaching environment, the pedagogical learning objectives and the specific functions we want to support with a digital tool. In a course of young people, for example, you could certainly use social media, and in a group of older people, other types of tools could be more effective.

In a group with people who do not have technological training or access to it, it will also be more complicated to use certain tools.

FEMXA-2: The key factor is to examine the need the tool must cover, and choose the digital tool in consequence.

The first aspect to consider is that it should be free, I have never used paid tools, maybe for free periods, but never subscriptions or licensing. Not only for me but especially for the students, because not everyone has access to free tools and the school cannot always offer them. The second aspect is simplicity, that it is easy to use, both for me and for those who are going to use it. Thirdly, that it meets the pedagogical needs that exist at the time. Thirdly, that it makes my work easier, and it saves me hours of teaching or tutoring. Fourthly, that it provides the necessary resources for the student to have the possibility of autonomous learning, meaning that the student has the possibility to learn or work without supervision, using the digital tools selected when needed. Fifthly, when necessary, that the tool provides the means to expand the knowledge of the student on the subject in question, this also individualizes the learning process. Providing the solution for the need to expand their knowledge of those students who are more curious or advanced. Sixth, but not less important, it should be a motivation or challenge for the student. New technologies are usually an extra motivation because they are eye-catching, new, and innovative.

FEMXA-3: In addition to the examples given: the learning objective, the context, the learners' group, I highly value the easy access and simplicity to learn the use of the tool.

Summary of key findings Q3

Respondents take into consideration the learning objective, the context, the accessibility of the tool (paid or free), the accessibility of the students (access to computer or smartphone). Other relevant aspects are the language of the tool and particularities of the target group (e.g. age).

AREA 3. Teaching and Learning

Digital technologies can enhance and improve teaching and learning strategies in many ways. However, whatever pedagogic strategy or approach is chosen, the educator's specific digital DigiFacT - 2020-1-TR01-KA226-VET-097638

competence lies in effectively orchestrating the use of digital technologies in the different phases and settings of the learning process. The fundamental competence in this area is Teaching. This competence refers to designing, planning, and implementing the use of digital technologies in the different stages of the learning process.

QUESTION 4. How do you design, plan, and implement new digital technologies that help learners self-regulate their own learning? Are you using artificial intelligence, for example?

OMEM-1: According to students' perception, comprehension and learning abilities. I use artificial intelligence where possible.

OMEM-2: I can't use artificial intelligence

OMEM-3: I do not use artificial intelligence, but I focus on the importance of artificial intelligence, the development of digital technology and in which areas we can use it. I give information about the applications prepared in accordance with the content of the courses.

OMEM-4: Rather than designing it myself, I research and use the applications and contents that were previously planned and designed by some publishers, and use the materials that I think will be most appropriate for students, and I advise students to use them as well. Games etc. in applications also mentioned as artificial intelligence. I use.

OMEM-5: According to students' perception, comprehension and learning abilities. Where possible, I use the Siri artificial intelligence application.

T4E-1: I am very lucky to train in a well-established public training institution, where systems and tools are in place to help trainers. This is very important – to have the organizational capabilities to support you as a trainer.

Although we are not using artifficial intelligence in our organisation, I know organisations who are using chatbots which learn on a specific topic and can respond to various questions from participants. The same goes for using large databases which use artificial intelligence to provide answers to various enquiries.

T4E-2: I adapt the tools to the students' needs and access because they are highly digitalised.

I choose to show them the most interesting bits of my work, and then I give them tasks based on what they saw, from which they can get immediate results, and gradually raise the difficulty.

I allow students to help and compete with each other and with themselves with these tasks I give them. For the students that want to learn more, I have materials prepared and other extracurricular activities (e.g. participation in international competition).

Artificial intelligence is not used in the school I teach, but we are currently trying to develop some programs with the robotics club I manage. Out of all 3, gamification, data analysis and artificial intelligence, I think the last one is the most important in education, but it is crucial to be understood before we start using it.

T4E-3: I do not know how to produce artificial intelligence apps and it is unlikely that a regular trainer will know how to do it. Sometimes we are using apps which involve artificial intelligence which we may not be aware of.

What we, as trainers, could do is use tools which incorporate artificial intelligence. For example, many of the materials used by trainers are in English. It is then useful to use artificial intelligence software (e.g. DeepL, Google Translate, etc.) while developing the course and to recommend it to your course participants so they can read supplementarily.

FEMXA-1: As a language teacher, I create content in different applications which I then integrate into the courses, such as Quizlet. With this app, the student learns the vocabulary of the lesson at their own pace and can see their own progress and the terms they have already learnt, with the app emphasising those they have yet to learn.

In addition, the Moodle platforms themselves, through their monitoring reports, also serve as guides for the student, both to know how they are progressing and to see all the tasks they must carry out and organise their learning.

I also use two artificial intelligence tools, "Write and Improve" and "Speak and Improve", both by Cambridge, which correct students' writing and speaking and are already being used in official exams.

Also in language learning, I recommend my students to speak with Siri, Alexa, or Google, as they are Als that allow communication in the language of choice.

FEMXA-2: This area is directly related to the scaffolding theory of Bruner and Vigotsky. The theory says that the learner is offered an initial aid, which is then modified and varied according to the progress and evolution within the learning process, until the aid or support disappears due to lack of need. This would be the correct method of implementation of some tools.

Offering questionnaires or self-assessments, with different conditions for their completion (time, failures, difficulty, etc.) can also be a motivating element as well as support within the teaching-learning process.

Regarding artificial intelligence, I have never implemented it in my teaching or have I the knowledge to do so.

FEMXA-3: When implementing any new method into my teaching I inform myself, watch tutorials and read referents in the field of education and the subject in question. I believe having the most knowledge and information about a specific tool, teaching method or digital resource before implementing it, is the best way to later use them properly and teach students how to use them.

I do not use Artificial Intelligence in my classes.

Summary of key findings Q4

Artificial intelligence is used at a small scale in the participants' educational route. It is implemented through usage of Siri, Alexa and Cambridge tools, participanting directly to the learning process. Artificial intelligence is also indirectly incorporated through other commonly used tools such as DeepL, Google Translate.

In terms of designing, planning and implementing new digital tools, participants first research what has been done in the field and start building from there.

QUESTION 5. How do you adopt a learner-centered approach? Are you using gamification, for example?

OMEM-1: I use animations suitable for real-life practice.

OMEM-2: Yes I'm using. I am trying to make applications with games especially in programming lessons.

OMEM-3: I don't use gamification. I focus on enabling students to use the opportunities they have available.

OMEM-4: Of course, all kinds of participation by students in learning both facilitate their learning and ensure that what they learn is more permanent and practical. For example, in English classes, I try to help students both understand sentence constructions better and make the words more memorable by having dialogues, role-play exercises or solving puzzles in order to use the words they learn. I think that the acquisitions gained by just listening are not very permanent and are easily forgotten.

OMEM-5: I use it occasionally.

T4E-1: In my experience, I came to learn that having a learner-centred approach is very important in the learning process. In fact, training is not about the trainer delivering learning materials, but about the trainee getting the desired knowledge, skills and attitudes (i.e. achieving the learning outcomes).

From this perspective, I try to find the right digital tools and the associated training methods to meet trainees' expectations, learning needs and styles. People have different learning styles and it is always good to give them a questionnaire to assess their learning styles during the first session (or even before that), so you can adapt your training to the learning styles of the group you work with. However, we are not using gamification per se.

T4E-2: It is difficult because some students are not interested in robotics, and the number of hours allocated in the school schedule is not enough to motivate them to get engaged with the course.

In other classes, everyone is motivated, and it is easier to work with them and show them the beauty of the field.

T4E-3: From my experience, I came to learn that most people like to do things during training, rather than listening to long lectures from the trainer. Also, people like to be involved, share their ideas and experiences, which foster their engagement during the courses and improves the entire learning experience.

Regarding gamification, I am tempted to say that I am not using it too much. But gamification is not (only) about gaming, but about setting up a game scene inside your course. It is about storytelling and designing a scenario which flows throughout the course. This can link the course modules among each other and can help trainees maintain their interest and motivation throughout the course.

FEMXA-1: I try through surveys to get to know the students and find out a little about their tastes and preferences so that I can then adapt the activities as much as possible.

I make a lot of use of board games, cards, and applications that students can use on their mobiles, giving a more playable touch to the training.

FEMXA-2: I see this aspect related to the added motivation offered by implementing a digital tool. I believe a tool or platform that allows you to focus on your own progress and improvement, without DigiFacT - 2020-1-TR01-KA226-VET-097638

comparing yourself to the rest of the students, is more useful than centring the gamification experience in competition. Setting small goals, stages, or levels, conditioned by having overcome the previous ones, can also be a way of individualizing teaching, as well as motivating students.

Whenever possible, I prefer to use gamification, for example, a Kahoot rather than a Moodle quiz, because of its usability compared to the "test" feeling.

FEMXA-3: I normally implement small role-playing and gamification experiences. Especially, in the first session with new students, I try to get the students to introduce themselves and explain their likes and needs to make the training more "ad hoc", and using gamification is a great choice to achieve this.

Summary of key findings Q5

Gamification is used in various forms by the participants. Some have it in mind when building a training as a sequence of stories, some use tools to implement it. In terms of tools and methods, they use animated videos, Kahoots, puzzles, role plays, mobile apps.

QUESTION 6. How do you encourage learners to employ digital technologies for collaborative knowledge sharing (e.g., using blogs, wikis)?

OMEM-1: By establishing communication groups.

OMEM-2: Yes I do.

OMEM-3: I do not use.

OMEM-4: By establishing WhatsApp groups in which grade students are included, I enable them to share information, documents and ideas. Or "Zoom" etc. I show that they can study together by using video and audio communication tools.

OMEM-5: By establishing social media communication groups.

T4E-1: I personally know how to use a lot of these knowledge-sharing tools. I use many of them for internal organizational purposes. However, when using these for VET training I need to adapt to the digital tools of the training organization (provider).

Since we are using Moodle as an online learning platform, the primary knowledge sharing platform is this one. Here is where I share the course content and other resources. Also, I encourage course participants to share their (topical) content.

T4E-2: Difficult, as the learning system is mostly individualistic. In class, students mostly use WhatsApp to work together, sometimes Facebook.

I manage a robotic club as an extracurricular activity, and there I can provide the students with teamwork tasks. Firstly, they work individually on the tasks related to their expertise, but in the end, they come together and combine the results of their work.

T4E-3: A way to encourage learners to use collaborative learning sharing is to assign them tasks which involve these. For example, our participants are asked to answer forum questions and to comment on each other's posts and I provide them Google Docs and Google Spreadsheets to fill in together (the entire cohort or in groups).

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FEMXA-1: Showing them examples of pages already created and encouraging them to do the same. Also explaining the advantages of doing so for their future careers.

FEMXA-2: As mentioned in the question, writing a wiki, for example, seems very useful to me. Not presenting the subject notes from the beginning and, instead, encouraging students to search for information and write them themselves. And later providing the more extensive notes that we, the teachers, have prepared for them. The task of creating a simple web page (or a blog) or an account on social media that disseminates the topic to be covered, is usually another good method of collaborative work among a group of students. Besides the topic itself, they also learn other transversal skills (teamwork, communication, divulgation skills, etc.) and digital skills.

FEMXA-3: I try to show students how the specific technology works, so they lose the fear of the unknown. Later, I implement practical exercises that are simple but with great creative freedom, to encourage the students to keep learning and improving in the use of digital means that they knew little about.

Summary of key findings Q6

Participants encourage collaborative work through setting up communication channels, such as WhatsApp groups, Moodle forums, shared Google docs. Learning via Zoom is also an opportunity for students to work together.

Allowing students to research on a specific topic together is a great way to engage with the subject and to work with others before the teacher offers his notes.

AREA 4. Assessment

Assessment can be a facilitator or bottleneck to innovation in education. When integrating digital technologies into learning and teaching, we must consider how digital technologies can enhance existing assessment strategies. At the same time, we must also consider how they can be used to create or to facilitate innovative assessment approaches. Digitally competent educators should be able to use digital technologies within assessment with those two objectives in mind.

QUESTION 7. How do you store and manage data (i.e., on students' academic progress, timetables)?

OMEM-1: I save it digitally.

OMEM-2: On my own computer.

OMEM-3: I store digital data on special computers and disks.

OMEM-4: I manage students' academic progress and personal information via e-school. I also store our personal data on computers, portable and external memories, and cloud-based environments.

OMEM-5: I store it in Google Drive, icloud and Digital media.

T4E-1: Moodle (which we use for online training) provides storage and data management for everything relating to digital training, including:

- Course content
- Data about each participant (hours spent online, materials studied, etc.)



- Aggregated data for entire cohorts
- Assessments (qualitative e.g. essays and quantitative e.g. quizzes)
- Course feedback (satisfaction survey from participants)

The best part is that I do not need to manually store all these data because the platform saves everything automatically.

T4E-2: I use Excel tables to keep track of attendance. This gives me a picture of the progress of each student and the whole class (not two classes are the same, the progress is measured according to that).

There is not an online gradebook with all the grades of the students, they are given directly to students.

T4E-3: We are using mainly Excel, because it is very easy to use and accessible. We can use pivot tables in Excel to carry out more complex data management task. We are also testing Power BI as a data management and presentation platform. However, we did not implement that in our organisation.

In addition, we store some data collected from students directly in the collection tools, e.g. Google Forms, Survey Monkey, Mailchimp, Doodle, Mentimeter.

FEMXA-1: Through different tools. Some on paper and some in the Google package.

FEMXA-2: Normally with Excel, with many sections and different weightings for each one of them, according to the importance that each one has in the learning programme to be developed. I also consult the Moodle statistics. In collaborative work, for example, establishing Google Drive as a working method, it already has an analytical extension, which gives us the % contribution of each of the students on the work done. As well as the opportunity to see the specific contribution of the student to each section.

FEMXA-3: I simply use excel sheets for collecting the data, and when needed I store more information in the cloud.

Summary of key findings Q7

Most of the participants use Excel to store the data. However, where the opportunity for an e-portal is being given, participants choose to use it. With Moodle, participants can track very easily the progress of a course. Other tools to collect and store data: Google Forms, Doodle, Mentimeter, MailChimp.

QUESTION 8. Do you perform data analysis? How do you use data to inform your decision-making?

OMEM-1: I use the data that emerges during the learning and teaching process while planning the future.

OMEM-2: I only do it in practical classes.

OMEM-3: I do from time to time. I get simple statistical data using simple programs.

OMEM-4: I only use charts to check whether my students fulfill their homework and responsibilities, and I make evaluations based on these data at the end of the semester.

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OMEM-5: Yeah. I use the Microsoft Excel program to analyze the data that emerged during the learning and teaching process.

T4E-1: Yes, I carry out such analyses on a regular basis, for each course and more courses together:

- Student assessment data to issue final grades and certificates
- Data about questions answered correctly or not, to be able to modify questions (if too easy, too complicated for example)
- Course feedback to see what I can improve as a trainer and what we can improve as an organization.

T4E-2: I look at the table to see the big picture of the level of the class to then adapt my grading system to the level of the class.

I make statistics on the level and the evolution of students over time.

T4E-3: We use the PDCA cycle and we employ data analysis to inform decisions regarding changes in the administrative and educational processes. From excel databases for example, we segment data by various criteria and analyse the information. In most cases draw graphs or charts to make sense of data and to help us present data to our management. We also discuss the results of data analyses with the people/students involved, so we can find causes of underperformance, for example.

FEMXA-1: If the course is in Moodle, I try to analyse the data in the monitoring report, so that I know which students need more reinforcement or extra motivation. I also congratulate the work of those who are more autonomous and have managed the course in a better way.

FEMXA-2: I believe that establishing the weighting of each of the sections is the fundamental basis not only of a good evaluation but also as a form of motivation. We must present "the rules of the game" before starting, i.e., explain clearly and precisely how the specific evaluation of the course of the project is going to be carried out. In my opinion, this is also the way to make the evaluation as objective as possible. As it is based on a multitude of sections and considerations, it also frees the student from having to "gamble" in the dreaded exams.

FEMXA-3: Yes, with reports that are downloaded directly from the e-learning platforms, I make decisions based on pre-established criteria. Normally this includes the progress, hours on the platform, exam performance, etc.

Summary of key findings Q8

Participants perform analysis of data in Excel, or analyse the results generated from Moodle or other e-learning platforms used. The results are reflected upon or even discussed with other teachers and students in order to find solutions to any problem that might arise.

AREA 5. Empowering learners

One of the key strengths of digital technologies in education is their potential for supporting learner-centred pedagogic strategies and boosting the active involvement of learners in the learning process and their ownership of it. Thus, digital technologies can be used to facilitate learners' active engagement, e.g., when exploring a topic, experimenting with different options or solutions, understanding connections, coming up with creative solutions or creating an artefact and reflecting on it.

QUESTION 9. How do you identify learners' different needs and abilities (considering physical or cognitive constraints) when implementing digital instruments?

OMEM-1: The way students use digital tools.

OMEM-2: Usually by asking the student.

OMEM-3: I determine their access to digital technology and the applications they can use, by asking and learning, by looking at their approach to problems.

OMEM-4: I determine them according to their knowledge and skills in using communication tools and their economic situation.

OMEM-5: According to the student group's ability to use digital tools.

T4E-1: First of all, the course registration process collects some basic data about each participant. Based on these data, the trainer can adjust his/her course. Google Forms is a simple way to collect such data.

Where appropriate, I ask participants about their level of confidence with various digital tools, to know which tools to use and to what extent.

Besides pre-registration, I also ask the participants how they feel, what are their expectations and fears related to the course, as well as any difficulty they may encounter (technical, schedule, disability, impairment, etc.).

Based on the info collected, I try to adjust my course delivery. To improve participants' experience, I even do some "default" enhancements of the course, e.g.:

- Subtitled video lectures
- Audio lectures (podcast)
- The Moodle platform is not using lots of resources from users' devices, so technical issues are kept to a minimum
- I try to make the courses digestible for people with ADHD by making them shorter, presented attractively, etc.

T4E- 2: I let the students choose the tools they want and can use. I do not work with students with physical and cognitive constraints.

T4E-3: In the digital environment, I sent them various surveys and questionnaires to fill in before the courses. I also do short polls during classes and I ask them directly during synchronous classes. I also give them individual and group tasks during the courses to assess their abilities.

FEMXA-1: Through observation and day-to-day work.

FEMXA-2: This will depend very much on the type of learners; a group of digital natives is not the same as others who have had to learn to adapt to the new minimums required by society and the work environment. As well as the age of the students, the degree of motivation towards the teaching done so far. Every tool used should be presented and practised in class or generate a complete and easy-to-use manual. Many of them are known to the students, but even if they have already used them, they only know a minimum percentage of the tools' full potential. We must show them all the possibilities offered by this tool.

Of course, I believe that we should encourage the use of digital technologies among our students. Both during the teaching-learning process, as well as in its use as a future work tool, are currently present in almost all sectors.

FEMXA-3: Focusing on the progress of each student individually, identifying those who need improvement or reinforcement.

Summary of key findings Q9

The needs and abilities of learners are identified through observation or conversation. On top of that, different surveys of finding the needs before the courses are implemented.

AREA 6. Facilitating Learners' Digital Competence

Digital competence is one of the transversal competencies that educators need to instil in learners. Whereas fostering other transversal competencies is only part of educators' digital competence in as far as digital technologies are used to do so, the ability to facilitate learners' digital competence is an integral part of educators' digital competence.

QUESTION 10. How do you foster learners' information and media literacy (i.e., encourage learners to express themselves through digital means while avoiding possible dangers like cyberbullying or digital addiction)?

OMEM-1: By enabling students to use the information technologies to be used in the lessons themselves.

OMEM-2: I usually make presentations to students at the beginning of the year about digital addiction and cyberbullying.

OMEM-3: I express it by introducing the professions worked in the digital field, explaining the professional competencies, informing about possible future needs, and also informing about digital security.

OMEM-4: I advise them to learn web design, programming languages, learn to use ready-made package programs, have knowledge about artificial intelligence and improve themselves on that subject.

OMEM-5: I encourage Conscious Internet Use and recommend them to use the BTK website.

T4E-1: I relate this question to privacy and security during online courses. From this perspective, I distinguish two areas: the first one related to the privacy and security of the digital tools and the second one related to the team dynamics during the course. I address these as follows:

Privacy and security of the digital tools:

- Moodle is safe
- We have settings in the platform to help that (e.g. user name, passwords, registration to course, swearwords blocked)

It is hard to find the line on what a teacher can do when a student is cyberbullied or gossiped about. I try to conciliate the situation, by encouraging the bullied one to talk with other students about their feelings. I also involve the parents depending on the situation.

T4E-2: I establish limits, rules on what can be shared in the Whatsapp group.

T4E-3: I take good care of team dynamics, to make sure things go smoothly among course participants and with us as trainers and admin staff. Some examples include:

- We set up course rules at the beginning of the course
- I create an environment where people introduce themselves, to build a relationship of mutual respect and trust
- Each participant has avatars and personal profiles
- We put people to work in groups
- We have disciplinary procedures
- We monitor the platforms and digital tools to screen for any violation

Nevertheless, my learners are mostly adults, which means that they are not in the primary risk group (kids and teenagers).

FEMXA-1: I encourage students to take advantage of digital media, as they are a great source of immediate information, but always stressing the importance of knowing how to filter sources and emphasising that they should always speak with respect and tolerance, as this will be the personal and professional brand that they will build for their future.

I also insist on the fact that it's important to disconnect as well, and that spending too much time online is not healthy at all.

FEMXA-2: I believe that one thing is the use of technologies in the educational environment, and another is their use in day-to-day life or especially during leisure time. In the virtual classroom environment, bullying does not occur, as it is fully monitored by the teacher throughout the whole process. Another type of situation is the possible damaging social interactions, especially in social media and other forms of public or social exposure.

I think it is more dangerous not to know how to express oneself without digital media, than the lack of expression in them. In the era of information and communication, it is sometimes more costly to carry out physical and personal communication in a satisfactory way, than through digital means, where you can engage in social exchanges at a distance, in the "security" of your own home or safe environment.

Digital addiction is not likely to occur in the learning or educational environment. So, it would be a separate matter to address the risks of online exposure, where cyberbullying or other high-risk issues can occur. As well as technological addiction to gaming platforms or uncontrolled consumption of certain content on the internet, which has nothing to do with education. Though, we can use the educational environment to address these other issues that do take place in the lives of many students of younger ages.

FEMXA-3: Encouraging respect for classmates regardless of their ideas and raising awareness of the dangers of the digital world by watching videos on the subject.

Summary of key findings Q10

When it comes to learners expressing themselves online, all participants encourage them to learn as much as possible about cybersecurity, but also to promote a respectful behaviour. Online platforms,

such as Moodle, or even WhatsApp groups, can be managed to avoid conflicts and educate the members through set rules.

Conclusions

The aim of the research was to determine the level digital competencies of VET educators and their gaps in digitalization in the three countries of the DigiFact consortium: Spain, Romania, and Turkey. After analysing the results obtained from the interview conducted with 11 participants, we can draw the following conclusions:

- There are different approaches to choosing and implementing digital tools according to the country. On top of that, the occupation of the participants and their place of work limits their abilities to implement innovative tools: teachers who work in schools find themselves in the situation of not being able to use very innovative practices, because they must adapt to many students. On the other side, professionals working in different associations and organisations have a wider option of teaching approaches and can easily implement digital tools.
- Participants concluded that the students have the most important part in the process and, unfortunately, only a small part of them have the technical skills and devices to embrace the innovative learning techniques.
- Furthermore, the lack of a pedagogical framework to use, with specific steps, makes it
 difficult for both teachers and professionals to militate for introducing AI, gamification, and
 data analysis as a regular in their area of work. Taking into consideration the dynamics of
 education these days, there is a must to have skills to create and adapt the online materials
 to an offline context, providing a full experience for the learners.

To conclude, training for educators in the three areas is a need that we managed to identify throughout the interviews. In a dynamic educational context as the one we are experimenting now, educators should have the skills and be confident to embrace innovation and, with help from their students, to reach the objectives they set.

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Appendix 1

Subject: DigiFacT Project - Invitation to Interview

Dear Y,

As part of our Digital Facilitator Trainer Role (DigiFacT) project, we have undertaken the initial research to design the role of the Digital Facilitator Trainer. The purpose of the research is to analyse the level of digital competences of VET teachers in order to find the gaps in the educators' competences. More relevant information regarding the project is available on the project website: www.digifactproject.com

The project has reached the interviewing phase, where we are keen to discuss with VET professionals, with regard to the digital competences of educators regarding their knowledge, technical skills and pedagogical skills in the digital environment and in particular with Data Analysis, Artificial Intelligence and Gamification. By taking part in this interview, you will help us gather data of sufficient quality and quantity to define the competence map of the Digital Facilitator Trainer.

In case you are interested in taking part in this, please respond to this email and we will revert with the interview areas and orientation questions. Then, we will schedule the interview at your earliest convenience.

As a token of our appreciation for participating in the interview, you will receive a certificate of recognition and updates regarding the outcomes of our project.

Should you have any enquiry, please do not hesitate to contact us.

Thank you for your contribution and I look forward to hearing from you.

Kind regards,

Name and Surname

For and on behalf of Organisation...