

Digital
Facilitator
Trainer Role 

TRANSNATIONAL RESEARCH
**THE NEEDS AND GAPS IN
DIGITAL COMPETENCIES
OF VET EDUCATORS**

ASSESSMENT REPORT



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



Digital Facilitator Trainer Role

ASSESSMENT REPORT

Cooperation for innovation and exchange of good practices

VET – Vocational Education and Training

“DigiFact”

Information

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Introduction

The following research aims to assess 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 (T4Excellence) and Turkey (Osmaniye MEM) 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 have a special focus in 3 fields: [Artificial Intelligence \(AI\)](#), [gamification](#) and [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, individual interviews with key personnel of vocational education and trainer providers, this transnational research lays the foundation for what will later become the Instructional Design Guidelines and competence Map for educators and the DFT figure of DigiFacT.



Methodology

The research about the actual level of the digital competencies of VET educators in the three countries of reach of the partner organizations: Spain (FEMXA), Turkey (OMEM) and Romania (T4E), has been developed using an online survey as the data collection technic. This online questionnaire has been designed to analyze what is exactly the level of digital competences and what are the areas were VET educators find more difficulties. Also, with a particular emphasis in Gamification, Data Analyses, and AI, as these are the areas that our Digital Facilitator Trainer and hosting platform will focus on.

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. The objectives of the quantitative research that were followed during the design phase of the survey questions were to:

- Obtain the overall knowledge VET educators have regarding the utilization of different digital tool and processes in their teaching in the three different countries of the partners organizations: Spain, Romania, and Turkey.
- Analyze the level of technical and pedagogical ability of VET educators when using digital resources to satisfactory engage with students and enrich their teaching techniques.
- Obtain a closer analysis on the skills and knowledge of VET educators regarding Data Analysis, Gamification and Artificial Intelligence applied to education.

The phases that were followed during the research were:

Phase I: Design of the quantitative research tool

Based in the previous research developed during the DigiFacT project and other relevant publications, and primarily, the Digital Competence Framework for Educators (DigCompEdu)¹, the researching team of Femxa S.LU. designed the survey questions. The questions are divided in blocks, each one corresponding to the following research questions:

- What is the general level of competencies and experience of VET educators using digital tools?
- What are the technical and pedagogical skills of educators using digital tools in the five designated categories?
- What is the level of knowledge and experience educators have regarding GA, DA and AI?
- What is the level of skills of educators in the use of digital tools and platforms that use GA, DA, IA?

At the same time, these are aligned with the objectives of the research priory described.

The technique implemented for the collection of the data was an online survey elaborated using the Microsoft Forms tool. The questionnaire was made available in the three national languages of the DigiFacT consortium: Spain, Turkey, and Romania.

¹ Punie, Y., editor(s), Redecker, C., European Framework for the Digital Competence of Educators: DigCompEdu.



Phase II: Field work

The online survey was disseminated by the consortium organizations for the period of a month. The original target group was set at 75 individuals corresponding to the population we wanted to assess, educators of the vocational education and training systems of the three European countries. The results of the dissemination gathered the responses of a total of 121 educators.

Phase III: Analysis phase

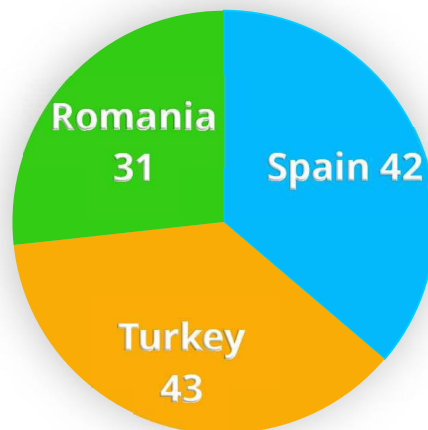
The statistical analysis of the results gathered was developed in the following steps: *Collection of the data* obtain with the survey; *Disposition and organization of the data* in a common spreadsheet; Statistical *analysis of the data* considering the objective of the research. For this to be possible the analysis attends to the classification system in blocks that allows to identify each specific survey question with the corresponding research questions and those with the consequent general objectives of the quantitative research (block 1, block 2, block 3 or block 4); *Organization and presentation of the results* in a visual and graphical format; *Drawing conclusions* based on the results of data interpretation; *elaboration of the research report*.



Description of the population object of the research

The survey to assess the gaps in digital competences of VET educators was completed for a total of 121 educators in vocational education and training from the three countries that partner in the DigiFact project: Spain, Romania, and Turkey.

DigiFact GEOGRAPHICAL SCOPE



The participants recorded their type of institution and job positions. The data gathered shows the multiple types and nomenclature that the institutions that 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.

In addition to educators, we gathered the responses of some key individuals that also developed management and coordination tasks in VET institutions and organizations, that in addition to their experience and education as VET teachers, can add the valuable perspective of someone that has to manage educators, funds, and resources for the VET centers.

Lastly, we assessed a group composed by different roles and occupies an important place in the everyday functioning of the VET providers, this category includes technicians, administrative staff, and other similar roles.

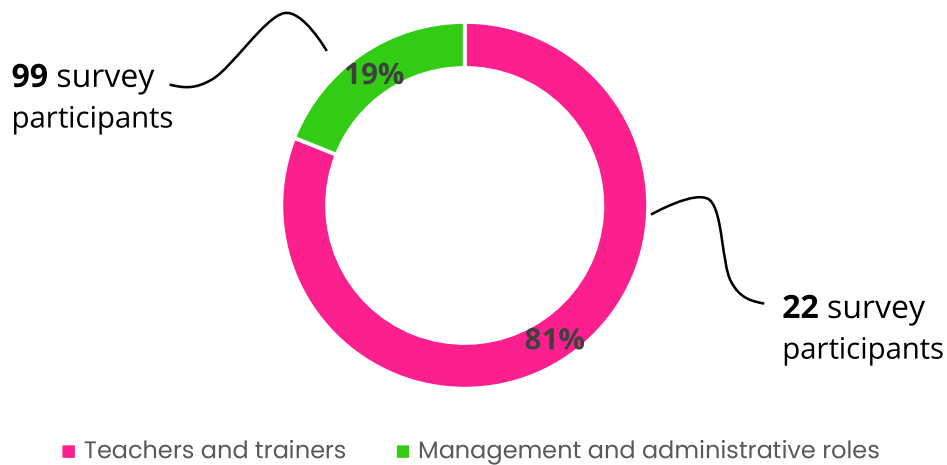
As it is possible to appreciate in the following graphic, the predominant position is educator, being the job positions of the 81% of people surveyed. Also, the proportion of educators, managers and other staff roles are similar in the three countries where the research was developed.



PARTICIPANTS' JOB POSITIONS



The differences in responses due to the job position were measured considering two groups, the first one formed by the educators and the second group by the managers, coordinators and other staff that took the survey. The results lead to the affirmation that no major differences are found in the level of competencies and knowledge about digital tools between the groups.





General level of digitalization of VET educators

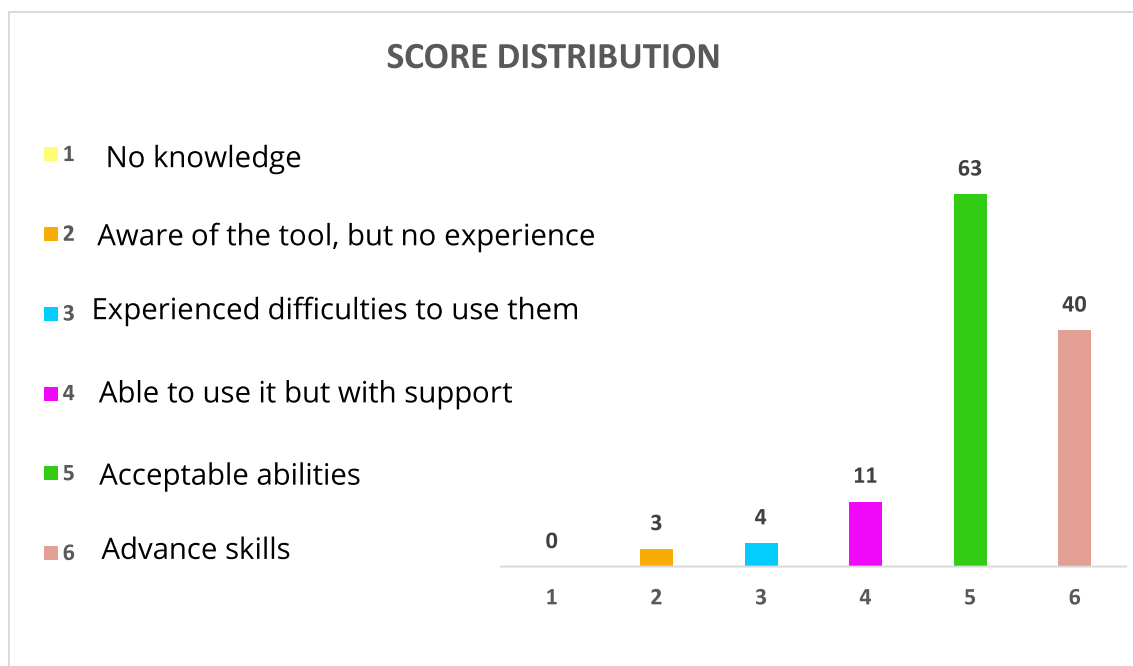
One of the first thing we aimed to assess through this quantitative research tool, was the level of experience and technical and pedagogical competencies that the educators of the three countries had. With this goal, we question 121 educators of vocational education and training about their level of knowledge regarding the use of tools and resources of 4 categories:

- Communication through digital means with students and colleagues.
- Usage of digital tools for organizational purposes including task management and storage.
- Ability to implement digital resources to facilitate collaborative and flip classroom teaching.
- Usage of digital media tools to creatively present ideas and activities to students.
- Evaluation of students using digital means

Communication using digital platforms and tools

The level of competencies of educators regarding their ability to use different online platforms such as Zoom or MS Teams to communicate with students and other educators was high, 85% of the participants stated that they have an acceptable (5) or advance skills (6) to use these tools regularly in their classes.

The use of digital tools for communication was the category regarding digitalization that presented the highest number of participants with a good level of usage and skills. Due to the COVID-19 Pandemic educators had to adapt to a new reality of distance teaching and learning, many VET providers had to drastically change their approach, as the entire education sector, to teaching through digital means. Nowadays e-learning is still an option that, for convenience and good results, many institutions and students choose. Nevertheless, the level of competencies can still be object of improvement.



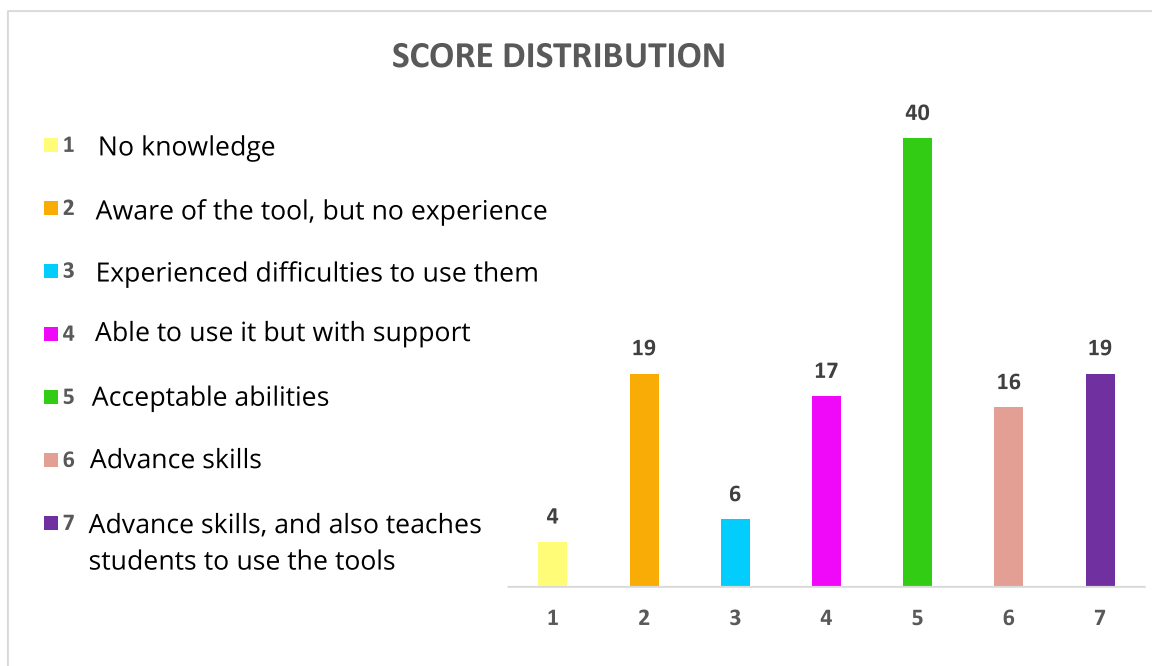
Organizational digital tools for task management and storage

The participants in the survey were asked if they implement different tools with organizational purposes in their work, with the aim of assessing if the teachers take advantage of the multiple platforms and digital tools available to help them manage their daily tasks and store documents and other materials.

The responses show that the general competencies regarding the usage of tools for organization is acceptable, 62% of the educators stated that they have an acceptable or advance level of skills in this regard. Nevertheless, the remaining 48% still entails a high number of educators that do not have the desired level of skills and experience using these tools.

It was also important to record if the educators teach students how to use the digital tools in their daily learning process, so that they can manage their own tasks and deadlines, and storage documentation and their own work using digital instruments.

In this case, the number of educators that help students to implement different digital resources for storage and task management was very low, only 15% of the VET educators that took the survey stated that they do teach students.

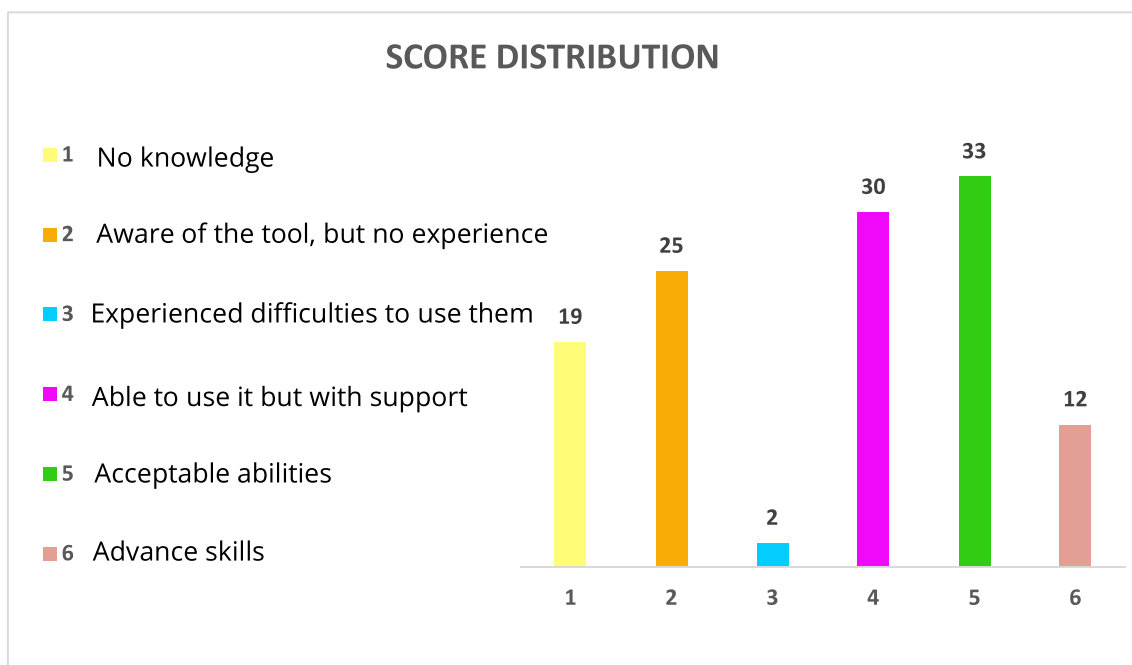


Considering the data shown above, VET educators need more resources to better their digital skills in this specific category, as well as initiatives to empower teachers to transmit their digital skills and knowledge to students. Cross-cutting skills such as digital literacy are increasingly in demand in the world of work, and training for employment must take this into account and provide the necessary training for learners who need it as well as opportunities for teachers to improve their skills and pass them on to students.

Collaborative work and interactive classrooms using digital tools

The aim of this category is to determine if VET teachers implement digital resources to develop interactive classes with their students. There are multiple tools available for free to help teachers and students work collaboratively, during classes such as Jamboard, Windows Whiteboard, OpenBoard and to elaborated group work, instruments such as Framapad, or Padlet. The usage of this type of resources becomes more useful in the environment of online classes and e-learning, where the educators might find difficulties to interact with students and for students to have the tools to facilitate working in teams.

Despite their usefulness, the data gathered through the survey shows a high number of teachers who have no experience using these tools, a 36% of the participants. From the 4 categories we are examining in terms of general digital competences, this is the category where educators show the least experience and skill.



Digital media to present ideas creatively

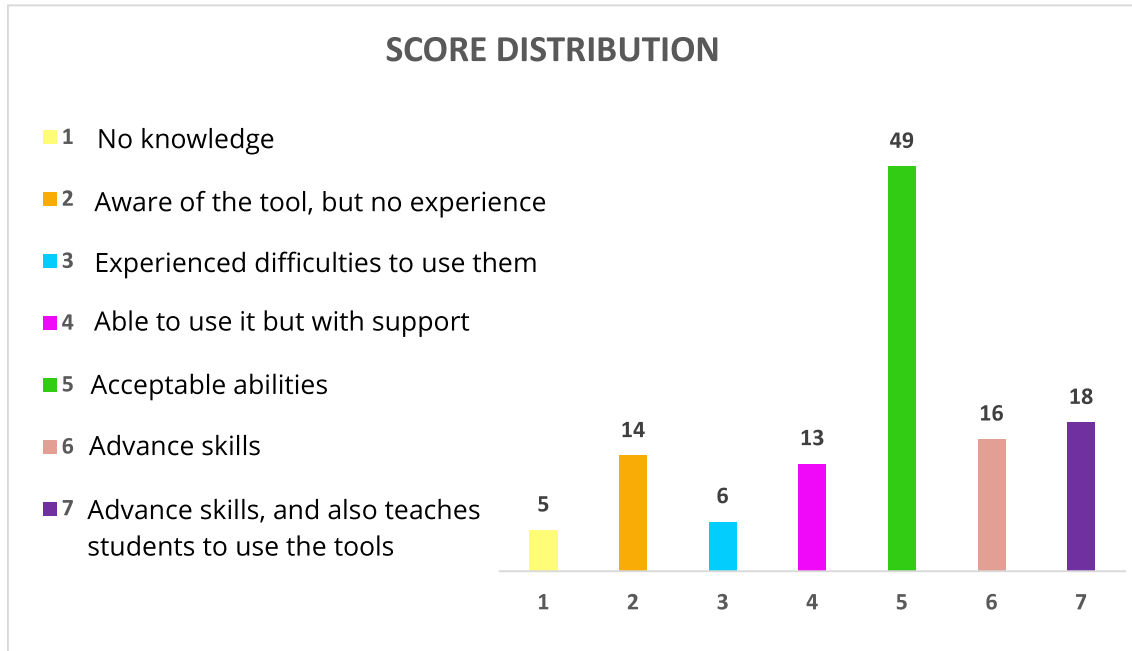
The educators participating in the research were questioned about their use of different digital media tools to present concepts or introduce new content to their students, as it has proved that the use of digital resources can bust students' engagement. Furthermore, educators were asked if they teach students to also use these tools, such as concept maps or graphic schemes to present their work. It is essential for students to learn how to creatively present their ideas using the digital tools available and to learn the digital skills that later they would need to adapt to the requirements of the workplace and the competencies companies are asking for nowadays.

On one hand, the data gathered shows that a hight number of educators have acceptable abilities when implementing digital media into their teaching, 68% of the



educators surveyed answered that they have acceptable or advance competencies on the matter.

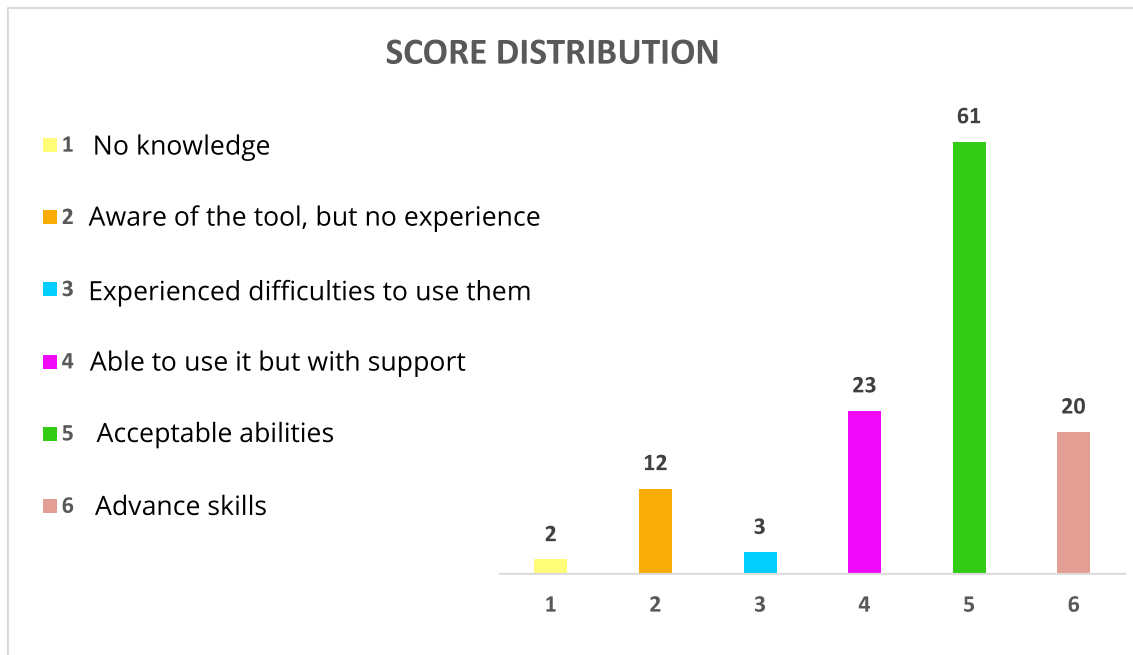
On the other hand, the number of educators that teach students to use digital media tools to present their work is extremely low, only 15% of the survey participants stated that they transmit these digital competencies to students.



Evaluation of students through digital means

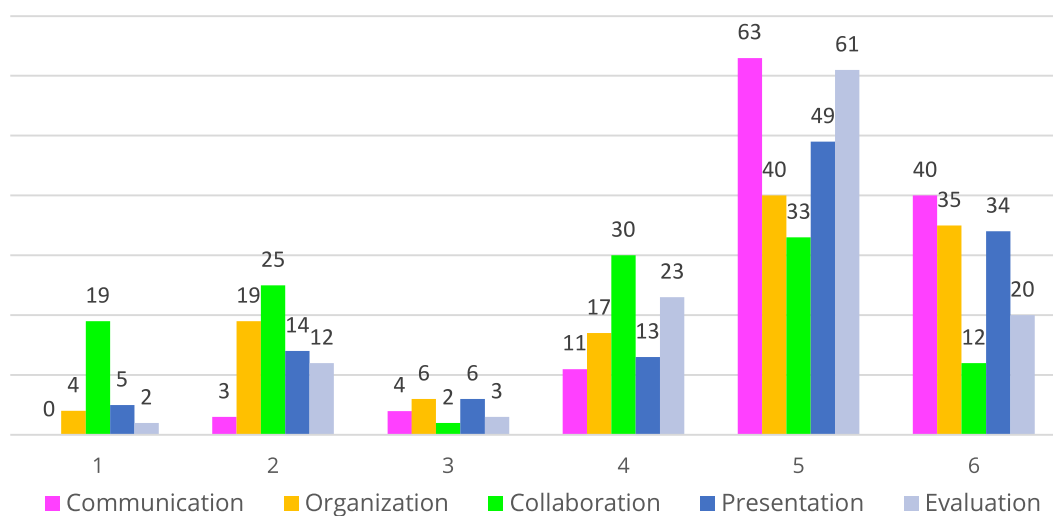
During the COVID-19 Pandemic when education in general was forced to take place online, one of the challenges that the education sector had to face, including vocational education and training providers, was how to evaluate and tests students in a fair and effective way. The reality is that a lot of tools exist to evaluate and test students such as kahoot, quizzes, eportfolios and many other platforms that also allow teachers to create personalize questionnaires. In addition, the face-to-face education can also benefit from implementing digital resources when testing students, to make the task more engaging for students and easier to rate for educators.

The answers from the participant surveyed show that, in general, a lot of teachers have acceptable skills. 60% of the educators stated that they have acceptable skills, and 17% that they had advance skills when using digital tools to evaluate students. Nevertheless, there is still a 23% of the educators surveyed that would highly benefit from the opportunity to improve their digital competencies when using digital resources from this category.



When comparing the different level of competencies in the five categories chose to divide the most relevant digital tools for education, the areas where educators show the highest need of training is in the implementation of collaborative tool to develop interactive practical classes with student, and with the aim of allowing students to have the channel to develop teamwork easily in distance learning environment.

The competencies regarding the use of organizational tools for task management and storage of documents and other learning materials can also be improved. As well as the use of digital media to present new concepts more attractively. These two categories became more relevant when comparing the numbers of teachers that have the competencies to use the digital tool, and the number of educators that teach students to use them to manage and organize their work and present their ideas, a number that is extremely low.

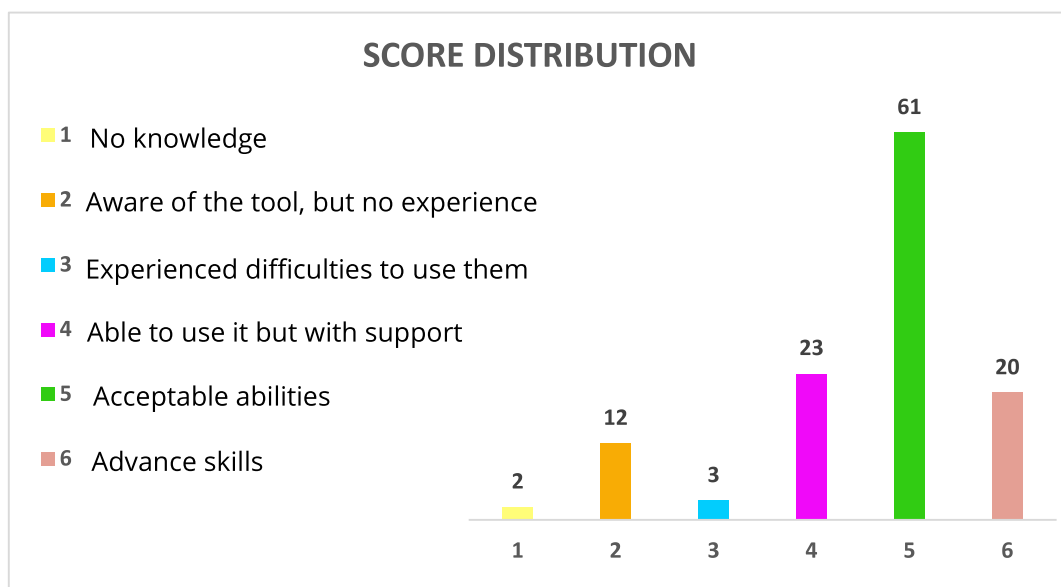


The communication and evaluation tools are the ones that present the highest number of educators with experience and abilities to implement them in their classes.



The data is highly affected by the needs to adapt to the distance teaching and learning that was forced by the restrictions implemented due to the COVID-19 pandemic, as these two categories are related to the two essential actions to continue education, that is to have a channel for students and teachers to communicate and a way for teachers to evaluate the knowledge acquired by students. This corresponds to the ancient model of teaching and learning, based on the classical teaching method of transmitting knowledge and testing the students on that knowledge, a model that becomes every day less relevant and further away from the needs of the workplace and the soft and digital skills that the market requires from workers.

In addition, it was important for the DigiFacT project to determine what was [the level of confidence educators have in their technical skills](#) to implement digital tools. The question was raised in the questioner after presenting multiple examples of tools available in the different categories analyze beforehand. The placement of the question aimed at correcting a poorly thought-out answer due to a lack of practical examples in mind, related to the question.



The answers show that most of the educators surveyed feel confident in their technical skills, 50,5% stated that they have acceptable skills and 16,5% that they have advance skills. Also, 19% of the educators surveyed answered that they can manage with support. Therefore, we can conclude that the level of technical competencies is satisfactory and most of the educators have the basic technical ability to be able to learn more about the different digital tools available, how to implement them in their classes to make them more attractive, and how to teach students to use them themselves and acquired essential digital competencies required nowadays.

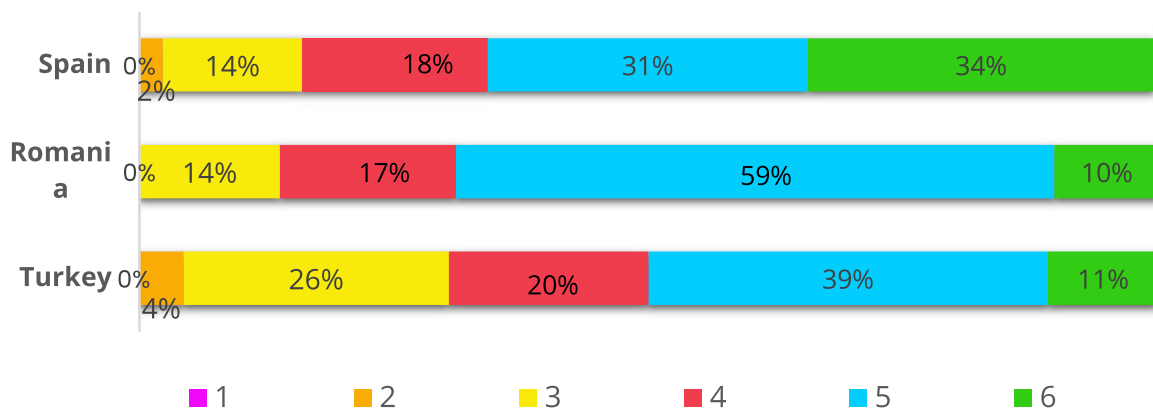
Lastly, the level of digital competencies was comparatively analyzed in the countries of the DigiFacT consortium: Turkey, Spain, and Romania. The level of competencies of each of the participants surveyed was measured in a scale of 1 to 6, based on the answers they gave to the questions related to the general digital competencies section of the survey. This section attends to the level of experience and skills in five categories of most essential types of digital tools for education, and a question regarding the level of technical skills of educators.



The following graphic shows the percentage of VET educators surveyed in each of the levels of competencies (level 1 is no competencies, to level 6 advance competencies). The graphic shows the percentage of participants in each of the levels from each country.

The results in each country are different, but not very far from each other. In the three

LEVEL OF GENERAL DIGITAL COMPETENCIES



cases we have none or almost none, VET educators with no knowledge or a very minimum level of competencies. Then, in the three cases we have a good number of educators with a basic or intermediate level of competencies, 32% Spain, 31% in Romania, an 46% in Turkey.

In the three countries, most of the educators surveyed stated to have a satisfactorily general level of competencies. Only in Spain the level of educators with advance competencies surpasses the level of educators with a satisfactory level, being the number of educators in each of the levels very similar.

Again, in the three countries the number of educators with a desirable level (level 5 Satisfactory or 6 Advance) are the majority. In Spain 65% of educators, in Romania 69% of educators and in Turkey 50%. The number is lower in Turkey than in the other two European countries, but the difference is not unbearable.

Regarding the meaning of this results for the future of the DigiFacT project, even though there are differences depending on the country, the general situation is sufficiently similar, being possible to develop common solutions for educators to improve their digital skills, that are relevant in the three countries. Especially considering that the target of the project is educators that wish to improve their digital competencies, being the less interested population the educators that already have advance skills.



Competencies in Data Analysis, Gamification and Artificial Intelligence

Competencies in Data Analysis tools and processes

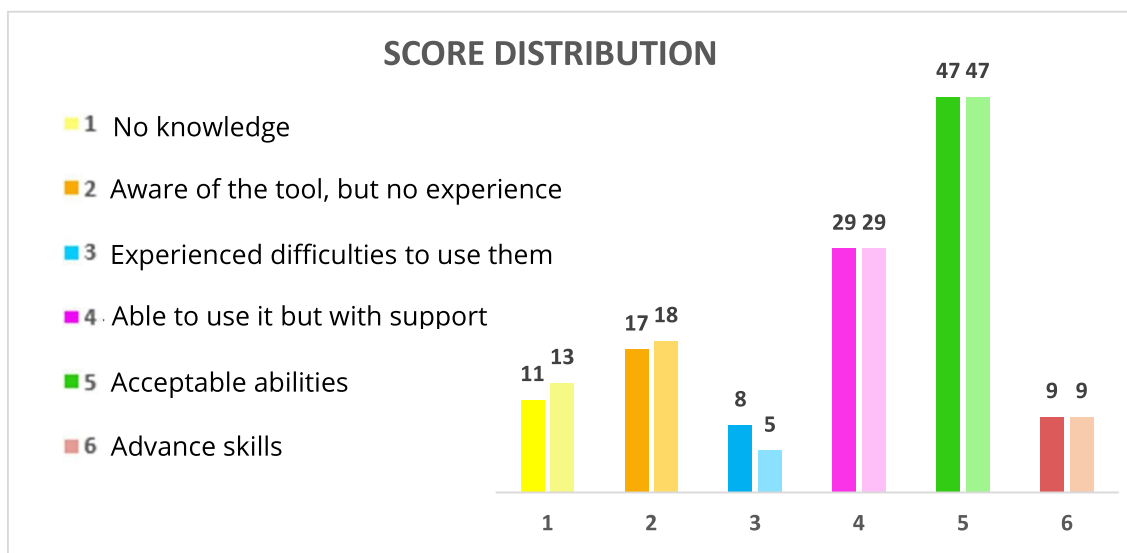
Data Analytics applied to education is an innovative practice that has become more used in the last years, especially in higher education. The main benefits of its implementation by VET providers and educators are: to measure key indicators of students' performance, support students' development by providing tailor feedback based on the data observe, and to help teachers to improve their approach when teaching, adapting to the different students situations when necessary and doing so in a more effective way.

We aimed at analyzing if VET educators have experience in implementing data analysis processes to collect data of students' progress and performance and later take measure to improve their learning teaching method. The survey participants were asked if they implement this method to obtain information about students learning habits and timetables, to track students' academic progress and commitment to their courses, etc. (Column 1 of the graphic below)

Participants were also asked about their competencies in the use of digital data analysis tools and their knowledge of those tools. (Column 2)

46% of survey takers stated that they have acceptable skills (39%) or advance skills (7%) when implementing data analysis processes and manage data analysis tools with the aim of improving their teaching approach and help students.

54% of participants declare to have less experience in the matter, varying from having no knowledge to needing support.



Overall, the level of competency regarding data analysis in the population surveyed, shows an acceptable but improvable level in the community of VET educators of the three countries of the project. The level varies from some educators to others, showing that it is needed to provide an instrument to help educators that found themselves in different levels, needing from the most basic training to a more intermediate one.

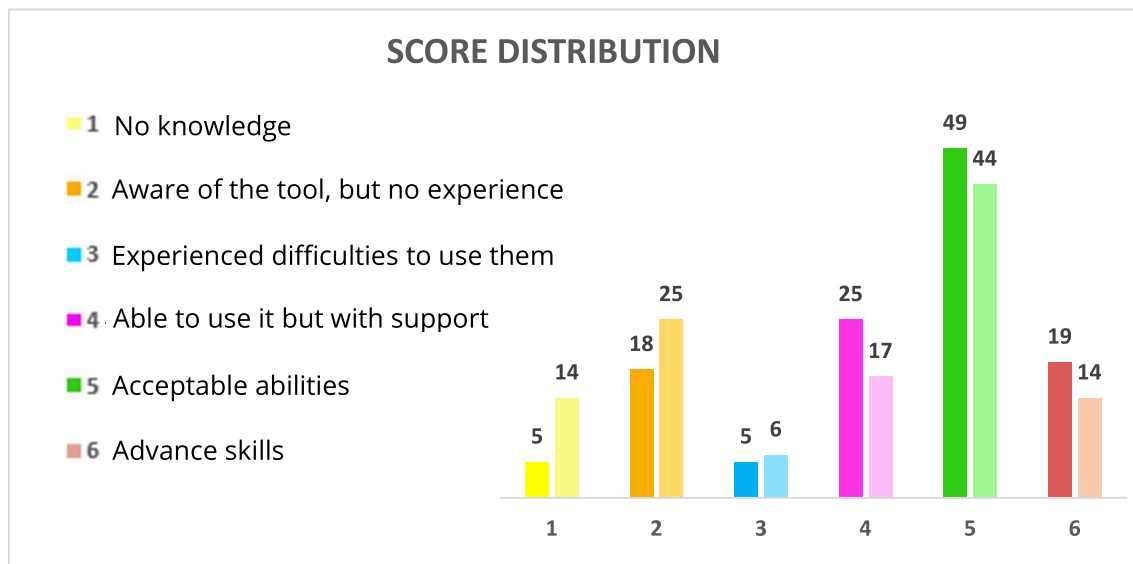
Competencies in using digital tools to gamify teaching

Through the questionnaire VET teachers stated their level of experience and competencies regarding the use of gamification technics in their teaching.

Approximately 56% of the VET educators participating the survey stated to have a good level of skills. 40,5% of the participants stated that they have acceptable abilities to implement different game dynamics and mechanics into learning, and 15,7% that they have advance abilities. (Column 1)

When asked about they experience and ability to use different online tools to gamify their teaching the results where similar, 48% to have advance or acceptable skills to use different tools to develop quizzes, kahoots and other games such as role-playing, simulations and competitions. (Column 2)

The overall level of competencies is satisfactory but with room for improvement, as 44% of participants stated to have no knowledge to needing support to implement gamification technics, the number being higher (52%) when asked about their competencies with online tools and instruments for gamification.

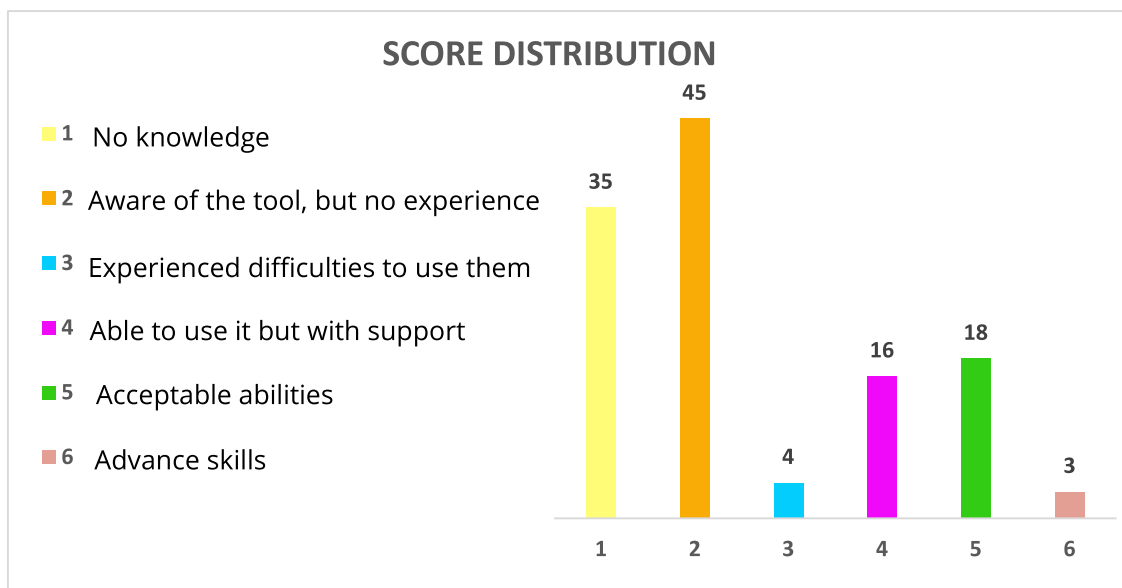


It is also important to highlight that 39 VET educators that took the survey stated to have no knowledge about digital gamifications tools or knew about the existence of these tools, but never have implement them in their courses. That means that 32% of the population survey has no abilities nor experience in the use of gamification in digital environments, a methodology that has proved to be especially useful to help engage and motivate students and promote teamwork and participations. These aspects are especially relevant in distance learning an e-learning courses where the direct communication between students and educators, and the groups of students can be lost, there being a greater need to create experiences that help saved the lack of face-to-face interaction.

Competencies in using Artificial Intelligence tools

The use of Artificial Intelligence has become more common during the COVID-19 Pandemic as a solution to developing evaluation and testing of students, to support students in their learning process of some specific fields (such as language courses) and to answer a lot of students' questions in a more efficient way. Nevertheless, the inclusion of platforms and tools that use Artificial Intelligence in education is still in its beginnings, and there is a high number of educators in the VET community that are not familiar with its uses and have not had experiences implementing them in their classes and courses.

The following graphic shows the level of experience and competencies of VET educators surveyed regarding the implementation of these tools and platforms:



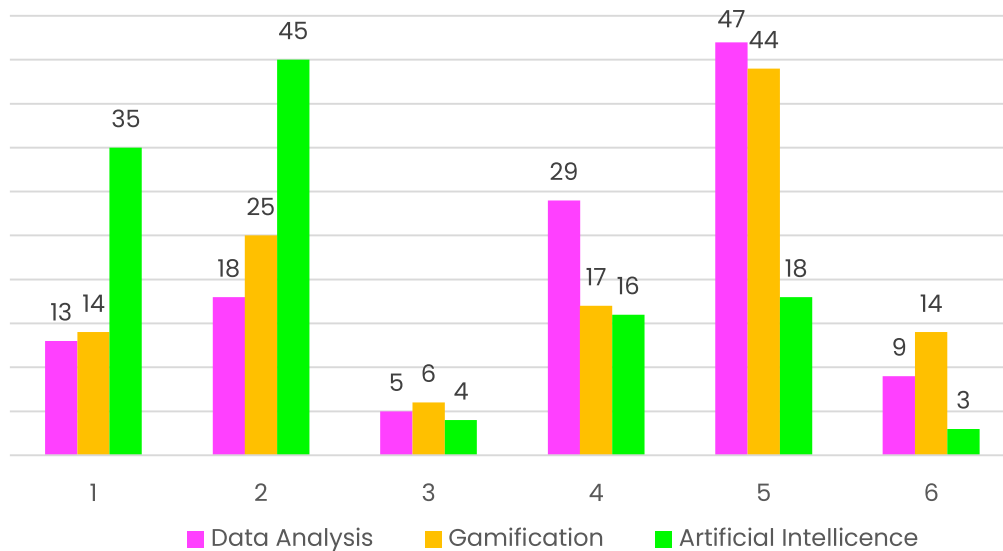
The level of competencies is quite low regarding this category of digital resources for education. Most participants, 66%, in the survey stated to have no knowledge or experience in implementing Artificial Intelligence tools in their teaching.

15% of the VET educators surveyed stated to have acceptable abilities, and only 2,5% to have advance abilities.

In conclusion, the knowledge between VET educators and trainers of the uses of Artificial Intelligence in education is significantly low and there is a great opportunity to facilitate resources, tools, and instructions for teachers to start using them in their courses and improve their teaching in multiple possible ways through these digital instruments.

In addition, when comparing the level of competencies in these three different areas of innovative digital techniques for education, it is noticeable that educators in vocational education and training have had more experience in using data analyses and gamification processes and tools, than in the implementation of tools that implicate AI.

The following graphic shows the different level of ability in the three areas of the VET educators surveyed from Spain, Turkey, and Romania:

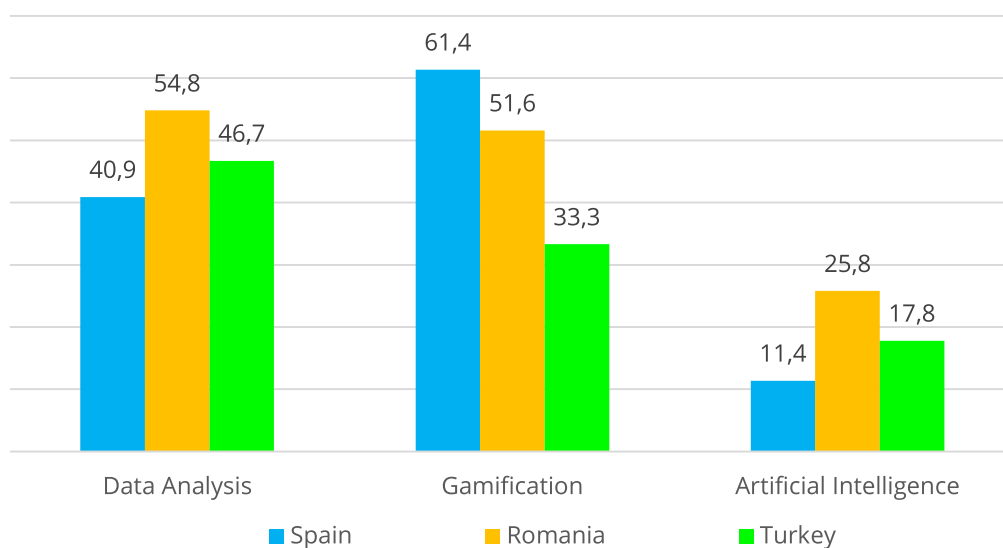


On the other hand, the level of competencies in these three chosen areas was measure comparatively in the three different countries. Specifically, the percentage of VET educators that stated acceptable or advance abilities regarding the use of tools that involved gamification, data analysis and AI in their teaching methods, was compared.

The results, shown below, agree with the prior statements that the level of competencies of the educators regarding gamification and data analysis tools, are much higher than the level of implementation of tools that use AI.

Regarding the three countries state of VET educators' digital competencies, we found no major differences in the data analysis area; in Spain the percentage of VET educators with acceptable and advance skills from the total of Spanish educators surveyed is 40,9%. Similarly, those educators represent the 54,8 % in Romania and 46,7 % in Turkey. Regarding gamification, the differences are deeper, Spain is leaden this area with 61,4%, followed by Romania at 51,6 % and Turkey at 33,3%.

Finally in the AI area the percentage of educators with acceptable or advance skills is very low in the three cases.





Overall, it is possible to conclude that the three countries need more training and learning opportunities for the VET community, for being able to further develop the skills necessary to implement the digital resources and tools available for digital environments, and thus teaching VET students one of the transversal skills that they would need more in the world of work of today, digital skills. It is also noticeable that regarding the use of tools that involve AI, there is a need for elemental material and guidance so that this innovative resource starts to be used more often for education purposes, in the vocational education and training field.

Comments of participants

Most participants did not add any more input in this section of the survey, in total we collected 7 comments of the 121 participants in the survey. Multiple participants did comment, but simple to add that they do not have any knowledge or remarkable experience to share. The comments were the following:

- *“I use Moodle which includes some of these or allow plugins and gamification tools/content”.*
- *“I have used gamification to teach in the fruit and vegetables agriculture sector and with collectives less digitalized and it had a great success.”*
- *“I am starting to implement gamification in online training.”*
- *“I believe I am a digitalized trainer, but I want to go a step forward and adapt and personalize gamified models, as well as take more advantage of AI, chatbots, and analysis reports, areas where I have less experience”.*
- *“I have advanced knowledge of 3D design and processing.”*
- *“I attended a conference on this subject with my colleagues and I would have liked to have put it into practice with my students, but I had neither the knowledge nor the resources.”*
- *“I do use Drive and Dropbox, but for personal use.”*

From the comments left by the survey participants we can determine that, even though some VET educators have experience with digital environments, they need more opportunities to improve and access new innovative techniques, as some of the comments insisted that they would like to use more often the digital tools available.



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 Sparks consortium: Spain, Romania, and Turkey. After analyzing the results obtained from the online questionnaire completed by 121 participants, we can draw the following conclusions:

- Regarding the overall level of digital competences of VET educators, we have observed that, while many of them have an acceptable level of competences, there is a great need to address those whose skills are lower in the digital domain. Furthermore, when analyzing each category of teaching in which more digital tools can be implemented, we have observed that in certain aspects educators do not have the experience or the necessary skills to implement digital tools.
- Regarding both pedagogical and technical skills of educators in the different categories of digital tools available to implement in education, especially in e-learning environments, but also very useful to implement in a blended or face-to-face environment, the level is different depending on the category. We find that many educators need to increase their skills in the use of collaborative tools to run more interactive and participatory classes, followed by using organizational tools for task management and storage of documents and other learning materials, and the use of digital media to present ideas and new concepts in a more attractive way.

Furthermore, it is noteworthy that in these last two categories mentioned, very few educators teach their students to use these tools themselves to organize their work and present it in a more creative way, a point where a great deal of improvement would be needed as these skills will be indispensable for VET students in the world of work, as well as being of great use in organizing their studies.

Digital communication tools and assessment tools are the ones with the highest number of educators with acceptable or advanced skills, probably the most indispensable tools in the educational system in which we find ourselves, but they should not be the only ones.

- Regarding the competences of VET educators in the areas of Gamification and data analysis, we find an acceptable level, 10 points lower or higher than 50% of the participants with acceptable or advanced skills, depending on the country we are in. In contrast, there is a clear decrease in the number of educators who use and are competent in the implementation of AI tools or platforms, highlighting a need to provide resources to the VET community to implement these AI tools at a basic level.

In short, in all three areas there is a need to provide opportunities for educators to improve their mastery of these innovative digital tools and techniques, while at the same time providing the opportunity to improve the general digital competences of educators which, as we have seen, in some categories are quite low, with a palpable need for improvement.



Bibliography

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