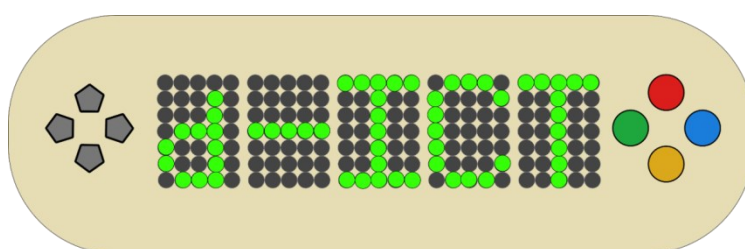




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## Improving VET Distance Learning through a Gamified Asynchronous eLearning Methodology (d-ICT)



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### National Survey Results Report

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**ORGANISATION:** IASIS NGO

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**AUTHOR:** Thanos Loules, Kostis Vasilakis

**CONTACT DETAILS (address, email, phone number):**

[thanos.loules@iasismed.eu](mailto:thanos.loules@iasismed.eu), [kostis.vasilakis@iasismed.eu](mailto:kostis.vasilakis@iasismed.eu)

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### **Executive Summary**

The following National Survey Results Report is provided for the aims of Project Result 1: “Lessons Learned: Exploring the taken resolution aimed at facilitating distance learning in the COVID-19 era”. The report provides the consortium of d-ICT project with Greek trainer’ insights from their experience with distance learning, before and after corona pandemic, that will guide next steps of development. A key objective of this Project Result is to identify VET educators' skill gaps in distance teaching tools, interactive digital educational techniques, and strategies to create an enjoyable e-classroom climate in order to prevent dropouts of learners.

The following report is based on both qualitative and quantitative data collected through three different methodologies. Quantitative data were gathered from a questionnaire addressed to 20 VET trainers, while qualitative data came from a focus group of 8 VET trainers and 5 digital interviews. All data come from trainers working in Greece and thus, regardless of their teaching experience, they have a comprehensive understanding of the Greek vocational training and education context, including the needs of trainers and learners. Their responses should address crucially the next steps of development.

## **Background and objectives**

The d-ICT project aims at creating an innovative gamified asynchronous eLearning experience addressed to VET educators to strengthen their distance teaching skills and enhance the distance learning experience, in order to prevent dropouts. The fast-moving transition the distance learning education during the COVID's lockdown caught the VET educators unprepared as many of them have not built the capacity to provide interactive lessons online so far. For that reason, the current project seeks to deepen its knowledge about the needs of VET educators, through a second-stage bottom-up analysis and address those needs by compiling, developing, and disseminating interactive digital educational experiences and tools.

In particular, through the current project, the consortium partnership aims to achieve the following objectives:

- To ameliorate the digital skills and competencies of VET educators in the field of distance learning.
- To create an innovative gamified asynchronous eLearning experience.
- To combine the assets of gamification and distance-learning.
- To boost the interest and curiosity of VET learners and keep them captured in the process of teaching, thus, reducing the phenomena of dropouts due to the boredom that non-interactive distance learning creates.
- To empower interaction and teamwork with classmates under distance learning circumstances.
- To raise awareness about the significance of facilitating the distance learning methodology through interactive approaches like digital gamification.

## Survey method

The research process included three types of methodologies, collecting both qualitative and quantitative data. For all these, participants' inclusion criteria were: to be VET educators regardless of gender, age, qualifications, and experience in the field, with a thorough understanding of Greek reality regarding VET. Participants for all three methodologies were recruited through convenience sampling. As an accredited VET centre, IASIS employs a large number of trainers, which means it has access to a large network that should be included in the survey. This sampling method was critical to the achievement of the goal.

Demographic analysis revealed that the sample is mainly female (80% of the sample), between the ages of 23 and 32 (70% of the sample), and has 1 to 5 years of VET teaching experience (75% of the sample). Pre-COVID-19, almost half of the sample (45%) had no prior distance learning experience.

Quantitative data were collected through an online questionnaire, that received answers for two weeks, from the 1<sup>st</sup> to the 15<sup>th</sup> of November 2022. Using a questionnaire, 20 trainers self-assessed their competencies (e.g. supporting their self-regulated learning) before and after the COVID pandemic. Qualitative data were collected by focus groups and interviews conducted at IASIS headquarters on 11/11/2022 and 16/11/2022 respectively.

Certainly, a focus group of 8 participants was held in the Greek language, lasted approximately 2 hours and engaged participants in a fruitful discussion. Some follow up questions and a guided discussion followed. However, participants did not give their permission for recording the focus group.

The aim of d-ICT focus group was to describe work conditions during the lockdown, trainers' struggles to make distance learning engaging and effective for all home-based students, the digital resolutions and the digital tools used, and to clarify points for improvement and possible solutions and/or suggestions. This type of methodology stimulated joint brainstorming on the participants' needs, deficiencies, potentials, preferences, and capacities. Oral accounts of the participants' work conditions, needs, deficiencies, and expectations brought into the VET system due to COVID-19. A series of flexible learning interventions using digital technology were discussed when reflecting on the diverse needs of trainees in learning new content in an innovative manner.

Further insights regarding VET trainers' experience came from 5 interviews, which resulted in a 6-minute video. 5 VET educators with different experience answered the questions -provided by the University of Peloponnese- that are attached in the

annexes. Following their consent, each participant recorded, when elaborating on the questions for 1,5 to 2 minutes.

The aim of d-ICT digital interviews was to become a valuable repository of professional experiences and perspectives, digital resolutions taken in Greece and suggestions on improving the distance learning experience.

## Survey Results

All the data collected from the three abovementioned procedures will be here briefly discussed under the following categories:

- Digital resolutions taken (during the distance learning in the time of covid-19 pandemic): most VET trainers answered and discussed that their digital skills regarding distance learning needed to be upgraded, when the COVID-19 pandemic started. VET trainers with a solid experience in the field identified themselves as competent only in real classrooms. However, they tried to quickly adapt to the new demanding setting, by transforming the learning material designed for in-class delivery to distance learning. Although they realized the need to be creative to be effective trainers, they made ambitious attempts, but for many of them, their digital e-teaching skills did not yield the desired results.
- Digital resources: even if before the pandemic the trainers weren't acquainted with digital resources that could facilitate their teaching experience, they all can list now numerous platforms that could make their work easier. Some of them referred that the pandemic outbreak made them thoroughly search for available resources that would make the lesson easier, more attractive and more engaging. As an example, Zoom and Google Teams enabled the delivery of teaching sessions within a matter of minutes, as long as trainers and learners had a stable Internet connection. The learning material back then was transmitted through email lists, because not all trainers were familiar with easily developed moodle platforms. Some trainers omitted that during the first Corona outburst, they weren't able to make an online class, so they proposed to share the open online courses (MOOCs) with their learners in order to fill trainees' spare time and fill in the gap in their education.
- Difficulties (technical, emotional, learning and teaching process): the majority of difficulties discussed had to do with the communication barrier lying in all four pillars abovementioned - technical, emotional, learning and teaching. Some of them didn't or even don't know how to efficiently proceed with the process of online learning, whereas some others discussed connection and hardware issues that could not have to do with their abilities. Another common difficulty regarding distance learning procedures was the lack of physical contact which made the trainer's job more difficult, as they did not have instant and vivid feedback from their trainees. Moreover, physical distances usually resulted in emotional frustration and sense of insufficiency, leading to substandard teaching results.
- Obstacles (e.g. lack of equipment, lack of digital tools, lack of skills): a quite common experience among VET trainers was the lack of sufficient equipment that would smoothly run their teaching needs. The trainers working for the

public sector shared the experience of old-fashioned hardware, which made and still makes the delivery of online courses impossible. This problem usually arises together with the lack of software and digital tools that could facilitate the learning experience. Another common referred obstacle was the unwillingness that most of the learners had regarding an active attendance on the online classroom. Most of them refused to have their cameras open, indicating that they are not in a learning mood.

- Ways to overcome the obstacles: when discussing possible solutions for overcoming the above-mentioned obstacles, most participants mentioned a budget allocation, allowing investments in new hardware and software materials, creating digital skills, and creating methodologies and protocols that would make the learning experience stimulating and enjoyable for the learners. When the discussion reached this suggestion, then the idea of gamification seem to be a sustainable resolution.
- Digital skills in VET distance learning: Both qualitative and quantitative data show that general competency in VET distance learning digital skill was increased after the pandemic outbreak. Furthermore, older trainers who lacked advance digital skills prior to the pandemic confessed that they would not have improved their technological competency, if the pandemic context had not required it.
- Digital skills in empowering interaction and teamwork with VET learners in distance learning: data suggest that trainers seem to be more competent in using digital technologies in collaboration with other educators, sharing and exchanging knowledge and experience and collaboratively innovating pedagogic practices. Formative and summative assessment is another skill that seems highly relevant among the participants.
- Correlation between gamification and distance learning: As participants underlined the need for a more attractive and engaging distance learning experience, which will motivate the trainees to get the most out of VET, the solution of gamification appears as a potential that definitely have to be explored. Some trainers shared their experience with gamification apps like kahoot!, which is common now in VET trainings and training of trainers. It was agreed by most participants that the most beneficial aspect of gamification will be learning through trial and error, immediate feedback, and progress assessment, whereas randomness choice split participants' choices. Furthermore, content unblocking and levels are recognized as high required towards boosting the curiosity of learners. In terms of facilitation of the interactive approach in VET distance learning, points, leader boards, and team seems to attract more participant answers.
- Digital skills to integrate gamification in VET distance learning: trainers seem to agree that the gamification in VET distance learning will ensure the



engagement of learners in the educational process. Moreover, trainers believe that gamified learning materials do not require advanced digital skills. **On the contrary, they seem to assume that a gamified learning approach requires less advanced digital skills than a typical online learning platform needs. That very fact, made them believe that gamification will have a positive impact on the prevention of learner dropouts.**

- Needs (e.g. for training in digital skills and tools) and points for improvement: focus group and interviews suggested overlaps between needs and points for improvement. Certainly, some trainers need an advancement of their digital skills, access to platforms and material that will facilitate their attempts to engage learners and thus prevent dropouts, supervision of more experienced trainers that will already run online classes sufficiently, policy reforms that will put learners at the forefront.

## Appendices

### Appendix 1

#### Questionnaire d-ICT<sup>1</sup>

1. Male  Female

#### 2. Please indicate your age:

23-32 years old

33-42 years old

43-52 years old

53-62 years old

63+ years old

#### 3. Please indicate your years of VET teaching experience:

1-5 years

6-10 years

11-15 years

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<sup>1</sup> Based on the *European Framework for the Digital Competence of Educators (DIGCOMPEDU FRAMEWORK)*

16-20 years	<input type="checkbox"/>
21-25 years	<input type="checkbox"/>
26-30 years	<input type="checkbox"/>
31+ years	<input type="checkbox"/>

**4. Prior to the corona pandemic, did you have any experience with distance learning?**

Yes  No

**DIGITAL SKILLS**

**5. From a scale of 1 to 5, what would you say your knowledge of digital skills was before the corona pandemic:**

*(1 = Non-existent, 2=Weak, 3 = Fairly good, 4 = Very good, 5 = Excellent)*

1 2 3 4 5

**6. From a scale of 1 to 5, what would you say your knowledge of digital skills was after the corona pandemic:**

*(1 = Non-existent, 2 = Weak, 3 = Fairly good, 4 = Very good, 5 = Excellent)*

1 2 3 4 5

**7. From a scale of 1 to 5, please rate your knowledge of the following digital skills in VET professional engagement *now*:**

*(1 = Non-existent, 2 = Weak, 3 = Fairly good, 4 = Very good, 5 = Excellent)*

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a.I can use digital technologies to enhance organizational communication with learners, parents, and third parties.

1 2 3 4 5

b.I can use digital technologies to engage in collaboration with other educators, sharing and exchanging knowledge and experience, and collaboratively innovating pedagogic practices.

1 2 3 4 5

c.I can individually reflect on, critically assess and actively develop one's own digital pedagogical practice and that of one's educational community.

1 2 3 4 5

**8. From a scale of 1 to 5, please rate your knowledge of the following digital skills in VET digital resources now:**

*(1 = Non-existent, 2 = Weak, 3 = Fairly good, 4 = Very good, 5 = Excellent)*

a.I can use digital sources and resources for continuous professional development.

1 2 3 4 5

b.I can identify, assess and select digital resources for teaching and learning.

1 2 3 4 5

c.I can modify and build on existing openly-licensed resources and other resources where this is permitted.

1 2 3 4 5

**9. From a scale of 1 to 5, please rate your knowledge of the following digital skills in VET teaching and learning now:**

*(1 = Non-existent, 2 = Weak, 3 = Fairly good, 4 = Very good, 5 = Excellent)*

a.I can plan for and implement digital devices and resources in the teaching process.

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1 2 3 4 5

b.I can use digital technologies and services to enhance the interaction with learners, individually and collectively, within and outside the learning session.

1 2 3 4 5

c.I can enable learners to use digital technologies as part of collaborative assignments.

1 2 3 4 5

d.I can use digital technologies to support learners' self-regulated learning, i.e. I can enable learners to plan, monitor and reflect on their own learning, provide evidence of progress, share insights and come up with creative solutions.

1 2 3 4 5

**10. From a scale of 1 to 5, please rate your knowledge of the following digital skills in VET learner assessment now:**

*(1 = Non-existent, 2 = Weak, 3 = Fairly good, 4 = Very good, 5 = Excellent)*

a.I can use digital technologies for formative and summative assessment.

1 2 3 4 5

b.I can generate, select, critically analyse and interpret digital evidence on learner activity, performance and progress.

1 2 3 4 5

c.I can use digital technologies to provide targeted and timely feedback to learners.

1 2 3 4 5

**11. From a scale of 1 to 5, please rate your knowledge of the following digital skills in empowering VET learners now:**

*(1 = Non-existent, 2 = Weak, 3 = Fairly good, 4 = Very good, 5 = Excellent)*

a.I can ensure accessibility to learning resources and activities.

1 2 3 4 5

b.I can use digital technologies to address learners' diverse learning needs, by allowing learners to advance at different levels and speeds, and to follow individual learning pathways and objectives.

1 2 3 4 5

c.I can use digital technologies to foster learners' active and creative engagement with a subject matter.

1 2 3 4 5

**12. From a scale of 1 to 5, please rate your knowledge of the following digital skills in facilitating VET learners' digital competence now:**

*(1 = Non-existent, 2 = Weak, 3 = Fairly good, 4 = Very good, 5 = Excellent)*

a.I can incorporate learning activities, assignments and assessments which require learners to articulate information needs.

1 2 3 4 5

b.I can incorporate learning activities, assignments and assessments which require learners to effectively and responsibly use digital technologies for communication and collaboration.

1 2 3 4 5

c.I can incorporate learning activities, assignments and assessments which require learners to express themselves through digital means, and to modify and create digital content in different formats.

1 2 3 4 5

d.I can incorporate learning activities, assignments and assessments which require learners to identify and solve technical problems, or to transfer technological knowledge creatively to new situations.

1 2 3 4 5

## CORRELATION BETWEEN GAMIFICATION AND DISTANCE LEARNING

**13. From a scale of 0 to 5, please rate how much you think the following features of gamification can help distance learning:**

*(0=I don't know, 1 = Not at all, 2 = A little, 3 = Fairly, 4 = A lot, 5 = Absolutely)*

a) **Autonomy and Open decision spaces** i.e. the gamification's environment possibility for different possible decisions by learners, experimentation and different possible outcomes.

0 1 2 3 4 5

b) A **challenge** i.e. a subtle balance between incremental difficulty design of a gamified task on one hand and the learner's ability on the other.

0 1 2 3 4 5

c) **Learning by trial-and-error** i.e. allowing failure (not punishment or prosecution) many times until the learner-player succeeds.

0 1 2 3 4 5

d) **Progress assessment** i.e. feedback to learners-players through statistics, achievements, awards, status, progress.

0 1 2 3 4 5

e) **Immediate feedback** in real-time.

0 1 2 3 4 5

f) **Randomness** i.e. a model based not on strong cause-effect relationships but containing surprises.

0 1 2 3 4 5

g) **Discovery** i.e. new content at an adequate rate based on previous content through various methods e.g. unlocking (i.e. finishing some levels before being able to play new ones).

0 1 2 3 4 5

h) **Emotional entailment** i.e. involving the VET learners emotionally with the use of characters, stories and aesthetics.

0 1 2 3 4 5

i) **Playfulness enabled** i.e. the gamified activity's versatility to be used as a toy without focusing on any specific goal and instead aiming to arouse the VET learner's curiosity and experimentation.

0 1 2 3 4 5

j) **Automation** i.e. the level of human intervention required to produce responses to VET learners' inputs.

0 1 2 3 4 5

k) **Augmented reality** i.e. an interactive experience of a real-world environment where the objects that reside in the real world are enhanced by computer-generated perceptual information.

0 1 2 3 4 5

**14. From a scale of 0 to 5, please indicate which of the following gamification features are required in boosting the curiosity of learners VET distance learning:**

*(0=I don't know, 1 = Not important at all, 2 = A little important, 3 = Fairly important, 4 = Very important, 5 = Absolutely/crucially important)*

a) Content unlocking

0 1 2 3 4 5

b) Badges-Awards

0 1 2 3 4 5



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c) Points

0 1 2 3 4 5

d) Leader boards

0 1 2 3 4 5

e) Avatars (characters)

0 1 2 3 4 5

f) Levels

0 1 2 3 4 5

g) Teams

0 1 2 3 4 5

h) Fixed scenarios

0 1 2 3 4 5

i) Open scenarios

0 1 2 3 4 5

j) Play/Demo mode

0 1 2 3 4 5

**15. From a scale of 0 to 5, please indicate which of the following gamification features facilitate interactive approaches in VET distance learning:**

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*(0=I don't know, 1 = Not important at all, 2 = A little important, 3 = Fairly important, 4 = Very important, 5 = Absolutely/crucially important)*

a) Content unlocking

0 1 2 3 4 5

b) Badges-Awards

0 1 2 3 4 5

c) Points

0 1 2 3 4 5

d) Leader boards

0 1 2 3 4 5

e) Avatars

0 1 2 3 4 5

f) Levels

0 1 2 3 4 5

g) Teams

0 1 2 3 4 5

## Appendix 2

### Focus Group Questions

Welcome the Focus Group

i. **Engagement questions**[16 minutes]

- Tell us a bit about yourself.
- How many years do you work as a VET?
- What do you generally think about distance learning VET?
- Have you ever had any experience in distance learning VET before Covid-19?

*(These questions will take approximately 2 minutes for each educator)*

ii. **Exploration questions** [30 minutes]

- During the pandemic, what kind of difficulties did you face as a VET educator?
- Did you overcome them? How?
- Are you a fan of distance learning VET? Why?

*(These questions will take approximately 3 minutes for each educator and the group will have 6 minutes to comment on others' responses)*

### Break [15 minutes]

iii. **Follow-up questions** [80 minutes]

- Look at List A (a list of digital skills will be given). Which of the following digital skills do you believe that a VET educator would need in distance learning? Why? Which of them do you have?
- What kind of digital tools do you think that you need in order to empower interaction and teamwork between classmates under distance learning circumstances?
- Do you think that introducing gamification (i.e. digital tool which educators apply game design elements to an educational setting) would reduce the drop-out rate in distance learning? How?
- Look at List B (a list of gamification features will be given). Pick one or two of the following features of gamification that in your opinion can help distance learning. Why?
- Look at List A (a list of digital skills will be given). According to DigiCompEdu, which of the following digital skills should a VET educator have in order to use gamification in distance learning?

*(These questions should take approximately 9 minutes for each educator and the group will have 8 minutes to comment on others' responses)*

iv. **Exit questions** [0-4 minutes]

- Is there anything else on this topic you would like to add?

*(This question is addressed to the whole group and should take 0-4 minutes)*

Thank the Focus Group

## List A

### ***DigiCompEdu***

➤ **Professional Engagement**

- i. *Organizational communication* (To use digital technologies to enhance organizational communication with learners, parents and third parties)
- ii. *Professional collaboration* (To use digital technologies to engage in collaboration with other educators, sharing and exchanging knowledge and experience)
- iii. *Reflective practice* (To individually and collectively reflect on, critically assess and actively develop one's educational community)

➤ **Digital resources**

- i. *Selecting digital resources* (To identify, assess and select digital resources for teaching and learning)
- ii. *Creating and modifying digital resources* (To modify and build on existing openly-licensed resources where this is permitted)
- iii. *Managing, protecting and sharing digital resources* (To organize and to protect digital content and make it available to learners, parents and other educators)

➤ **Teaching and Learning**

- i. *Teaching* (To plan for and implement digital devices and resources in the teaching progress)
- ii. *Guidance* (To use digital technologies and services to enhance the interaction with learners, individually and collectively)
- iii. *Collaborative Learning* (To use digital technologies to foster and enhance learner collaboration)
- iv. *Self-regulated learning* (To use digital technologies to support learners' self-regulated learning)

➤ **Assessment**

- i. *Assessment Strategies* (To use digital strategies for formative and summative assessment)
- ii. *Analyzing evidence* (To generate, select, critically analyze and interpret digital evidence on learner activity, performance and progress)
- iii. *Feedback and planning* (To use digital technologies to provide targeted and timely feedback to learners)

➤ **Empowering Learners**

- i. *Accessibility and Inclusion* (To ensure accessibility to learning resources and activities for all learners)
- ii. *Differentiation and personalization* (To use digital technologies to address learners' diverse learning needs)
- iii. *Actively engaging learners* (To use digital technologies to foster learners' active and creative engagement with a subject matter)

➤ **Facilitating Learners' Digital Competence**

- i. *Information and media literacy* (To incorporate learning activities, assignments and assessments which require learners to articulate information needs)
- ii. *Digital communication and collaboration* (To incorporate learning activities, assignments and assessments which require learners to use digital technologies for communication, collaboration and civic participation)
- iii. *Digital content creation* (To incorporate learning activities, assignments and assessments which require learners to express themselves through digital means)
- iv. *Responsible Use* (To empower learners to manage risks and use digital technologies safely and responsibly)
- v. *Digital Problem Solving* (To incorporate learning activities, assignments and assessments which require learners to identify and solve technical problems)

## List B

### *Features of Gamification*

1. **Autonomy and open decision spaces** i.e. the gamification's environment possibility for different possible decisions by learners, experimentation and different possible outcomes,
2. **A challenge** i.e. a subtle balance between incremental difficulty design of a gamified task on one hand and the learner's ability on the other.
3. **Learning by trial-and-error** i.e. allowing failure (not punishment or prosecution) many times until the learner-player succeeds.
4. **Progress assessment** i.e. feedback to learners-players through statistics, achievements, awards, status, progress.
5. **Immediate feedback** in real time
6. **Randomness** i.e. a model based not on strong cause-effect relationships but containing surprises.
7. **Discovery** i.e. new content at an adequate rate based on previous content through various methods e.g. unlocking (i.e. finishing some levels before being able to play ones)
8. **Emotional entailment** i.e. involving the VET learners emotionally with the use of characters, stories and aesthetics.
9. **Playfulness enabled** i.e. the gamified activity's versatility to be used as a toy without focusing on any specific goal and instead aiming to arouse the VET learner's curiosity and experimentation.
10. **Automation** i.e. the level of human intervention required to produce responses to VET learners' inputs.
11. **Augmented reality (AR)** i.e. the integration of digital information with the user's environment in real time.

### **Appendix 3**

#### **Digital Interview Questions**

1. Can you describe a great time you had during the distance learning in the time of covid-19 pandemic?
2. How did you react to distance learning challenges?
3. Would you suggest distance learning and why?

*(These questions should take approximately 2 minutes for each educator)*