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

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National Survey Results Report

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

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Executive summary

The Italian survey involved 22 VET trainers and teachers. They were selected among the trainers who carry out their activity at the CSF or in organisations that are part of the CSF network.

Data was collected through: **an online questionnaire**, **an online focus group** and 6 **storytelling interviews**

Digital resolutions taken in Italy

Due to Covid-19, in Italy schools and training centres were forced to carry out distance learning immediately (since February 2020) and for an extended period of more than a year. Distance learning during Covid has been a sudden novelty for which no one was ready. So most of the teachers choose the simplest resolutions: re-proposing traditional frontal lessons in online mode.

On the other hand, the trainers involved in this survey took innovative and original digital resolutions, considering forced distance learning during the pandemic an opportunity to experiment with creative solutions; unveil already existing skills in students and teachers; empower unexpressed potential of students; adopt more informal approaches in teaching.

Further, distance learning during covid was interpreted by theme as **a precious opportunity to maintain social relationships** for both students and teachers in a period of total isolation.

Digital resources

The resources used by the trainers involved in the survey were: online platforms and software like Google classroom and BigBlueButton; video conferencing platform like Zoom; online collaborative boards like Miro; quizzes and online questionnaires like Kahoot; digital tools for collaborative writing and document sharing like Google drive and Google docs; Youtube.

The use of already existing multimedia resources have been increased and also the self-production of new digital resources, like video tutorials that have been shared online.

Difficulties and obstacles

Most of the difficulties reported are inherent to the teaching methodologies. Trainers complained about absence / less feedback from the students (they did not understand if the trainees were understanding: "*it was a monologue not a dialogue, I had no feedback*"); they experienced less flexibility in teaching and had less possibility of improvising. The biggest difficulty, reported by all of them, was the lack of a proper design: the courses were not designed to be delivered online and it was necessary to completely redesign them.

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Some **emotional/personal difficulties** have also been reported. Most of the trainers complained about difficulties in **social interaction with the class**: the teachers could not count on non verbal communication. Also distance learning during covid was for many of them **stressful** and **tiring** ("*distance learning is tiring, you always have to give 100% to keep students' attention alive and constant. The quality of teaching must be very high*"). They also experienced obstacles and technical difficulties: digital tools were not always **accessible**, sometimes the **connection** was a problem; sometimes students lacked **technology skill**s.

Ways to overcome the obstacles
Trainers found different ways to overcome the obstacles. They found **solutions to warm up their online classes,** making them "more human" and increasing social interactions. Some teachers adopted **collaborative learning strategies**, integrating collective writing activities or collaborative research and team-work. Some of them increased the use of **multimedia resources** and experimented with **self-production of digital resources.** In the absence of adequate digital tools, some teachers invented ad-hoc technology which showed great **creativity**.
Further**,** they report that the **collaboration and the sharing with colleagues** helped them to overcome the difficulties and to find and develop creative and innovative solutions.

Digital skills in empowering interaction and teamwork
In general, the digital skills of the people interviewed are medium-high. They were already high before the pandemic and after covid they have increased further.
The digital skills considered useful in empowering interaction and teamwork are those inherent to digital resources (*creating and modifying digital resources*); professional engagement (*professional collaboration*); teaching and learning (*collaborative learning*, *to use digital technologies to foster and enhance learner collaboration*); empowering learners (*differentiation and personalization*; *actively engaging learners*).

Correlation between gamification and distance learning
All respondents agree that gamification can help distance learning because it increases personal engagement and keeps students engaged; it pushes students to compare / collaborate with peers; it stimulates personal initiative.
In particular, gamification can be useful in distance learning if it is used continuously over time: not a single "game", but a "collective adventure".
In the focus group discussion, some features have been considered most important: the **challenge**; **learning by trial-and-errors**; **open decision space**s; **discovery**. The questionnaires show that some features are more useful than others, like **emotional entailment**, **playfulness enabled**, **progress assessment**, **feedback in real-time**. Some

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features are most required in boosting the curiosity (**teams**, **badges-awards**, **levels),
while teams** and **levels** are considered the best to facilitate interactive approaches in
VET distance learning.

Points for improvement
From the Italian survey, some highlights and proposals emerged to improve distance
learning and make it more effective. Trainers suggest to **focus on hybrid and
integrated teaching; to redesign** lessons and teaching methodologies; to promote a
warm distance learning that does not give up on s**ocial relationships; to** improve the
chances of **getting feedback from students** (more dialogues less monologues); to
consider **digital technologies as enabling tools** to **amplify** and **differentiate training
possibilities.**

Background and objectives

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 drop outs. The fast-
moving transition to 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 meliorate the digital skills and competences 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 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

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Survey method

People involved and their profiles

The survey involved 22 VET trainers and teachers. They were selected among the trainers who carry out their activity at the CSF or in organisations that are part of the CSF network.
People were involved through personalised invitations, through telephone contacts and e-mails.

Their characteristics are as follows:

Sex

Female	Male	Tot
9	13	22

Age

23-32	33-42	43-52	53-62	> 63	Tot
3	9	6	3	0	22

Years of work experience

1-5	6-10	11-15	16-20	21-25	26-30	>30	Tot
2	6	6	3	3	1	2	22

Organisations involved

- CSF: 7
- Other training and consulting organizations (Pares, Lomazzi Formazione, Eventi@Milano, Emit Feltrinelli, Tice): 11
- Schools: 3
- Freelance trainer: 1

Method of data collection

Data was collected through:

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- **an online questionnaire**, which was completed by 20 people. The questionnaire was open online from 18-10-2022 to 9-11-2022.
- **an online focus group** involving 9 trainers: the focus group was held on November 7th, in online mode on Zoom. The focus group lasted 2,5 hours. A MIRO digital collaborative board was used to conduct the focus group. The board can be consulted online at this address: https://miro.com/app/board/uXjVPJYvvlM=/
- **storytelling interviews** involving 6 trainers. The interviews were conducted online, on Zoom, in the period from 11- 11- 2022 to 18 - 11- 2022.

Survey results

Digital resolutions taken per country (during the distance learning in the time of covid-19 pandemic)

Due to covid-19, in Italy, schools and training centers were forced to carry out distance learning immediately (since February 2020) and for an extended period of more than a year (lessons have returned to being held in presence only in September 2021).

The trainers involved in the survey underline how this experience was perceived as a sudden novelty for which no one was ready: no one was ready and prepared, either in terms of technological tools or in terms of methodological skills. So in many cases, most of the less experienced teachers choose the simplest resolutions: re-proposing traditional frontal lessons in online mode.

Digital resolutions taken by the teachers involved in the survey include the use of digital tools and digital environments to support communication with students both asynchronously and synchronously:

- Google classroom
- BigBlueButton
- Zoom, Zoom rooms or similar (Meet, Teams, etc..)
- Miro
- Kahoot
- Google drive (collaborative writing e condivisione di documenti)
- Online questionnaire
- Youtube per la condivisione di lezioni e videotutorial autoprodotto

The survey shows how the digital resolutions taken so suddenly have been an opportunity to:

- **experiment with creative solutions**: in some cases, however, the most competent trainers and teachers found themselves improvising personalised, creative and do-it-yourself digital solutions;

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- **unveil already existing skills**: sometimes trainers recovered practical digital skills that were already possessed by trainers and students but which had never been applied to teaching;
- **empower unexpressed potential of student**s: some trainers underline how distance learning has enhanced some students who usually struggled more than others in the classroom and who had the opportunity to express their unexpressed potential online;
- **adopt more informal approaches in teaching:** online teaching during covid has often triggered more informal relationships between teachers and students (*I entered their rooms, their homes, it was the first time I entered their world, I saw them in a very different, more informal way, in "pyjamas ways"*…).

In general distance learning during covid was interpreted by respondents as
- **a precious opportunity to maintain social relationships** for both students and teachers: online teaching moments were the only moments in which students could have social relationships with other people. The initial moment of the lesson was always used to greet each other, socialise, share personal experiences and also fears. The daily lesson was an important moment of meeting and sharing (*in a moment of complete isolation I was able to see many faces*).

Digital resources

The resources used by the people involved in the survey were:
- Google classroom
- BigBlueButton
- Zoom, zoom rooms and similar (meet, Teams, etc..)
- Miro
- Kahoot
- Google drive (collaborative writing and document sharing)
- online questionnaires
- Youtube for sharing lessons and self-produced video tutorials

Difficulties (technical, emotional, learning and teaching process)

Trainers involved in the survey underline the following difficulties

Difficulties inherent teaching methodologies
- **absence / less feedback from the students**: the teachers did not understand if the trainees were understanding, if they were attentive (*the biggest difficulty was understanding if there was an avatar on the other side or there was my*

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*studen*t). Some trainers report that most of the time their lesson "*was a monologue not a dialogue*".

- **less flexibility and less possibility of improvising**: on the web it was much more difficult to improvise (*I was used to the possibility of improvisation and to the flexibility of teaching in presence. This lack of the possibility of improvising with the same ease that allows the presence was the biggest difficulty for me*).
- **lack of proper design**: the courses were not designed to be delivered online; it was necessary to redesign the teaching methodologies.

Emotional / personal difficulties
- **Effort and high commitment**: distance learning is tiring, you always have to give 100% to keep students' attention alive and constant. The quality of teaching must be very high, otherwise attention and interest decrease;
- **difficulties in social interaction** with the class: the teachers had to do without non-verbal communication, they could not count on para-verbal communication.

Obstacles and technical difficulties
- **Accessibility of digital tools:** not all students had them in their home; sometimes there were no webcams, sometimes not even computers;
- often the **connection** was a problem: especially at the beginning there was the obstacle of the Internet connection (*it was not obvious to be able to connect and be able to communicate with the students*);
- sometimes students lacked **technology skills.**

Ways to overcome the obstacles

Trainers involved in the interviews and focus report the following ways to overcome the obstacles:
- **solutions to make online learning warmer and "more human"**: some trainers report their strategies to "warm up" online classes, to maintain those social and human interactions which are typical of face-to-face learning. They integrate moments of informal interaction such as the **online coffee break**, **live informal chats**, …);
- **collaborative learning:** some teachers have focused on collaborative learning strategies, integrating collective writing activities, collaborative research of resources, group work tasks. Some of them also directly invited students to carry out online searches and share their results with the class group;

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- **self-production of digital resources for teaching:** some teachers produced video-tutorials and multimedia lessons that they have shared on youtube (*I have become an expert youtuber!*);
- **use of multimedia resources**: there has been an increase in video resources used in online lessons by some trainers;
- **collaboration with colleague**s: discussion and sharing with colleagues has lightened the effort and made it possible to develop innovative solutions
- **technological creativity**: in the absence of adequate digital tools, some teachers invented creative ad hoc solutions (*I teach mathematics and it is essential to me to write formulas and expressions. Not having any tools, I tried to position a webcam that framed the sheet on which I wrote the formulas and that became the digital screen that was projected to the students*).

Digital skills in VET distance learning

The digital skills deemed important are the following:

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

Professional Engagement
- *Reflective practice* (To individually and collectively reflect on, critically assess and actively develop one's educational community) (2)
- *Organisational communication* (To use digital technologies to enhance organisational communication with learners, parents and third parties)
- *Professional collaboration* (To use digital technologies to engage in collaboration with other educators, sharing and exchanging knowledge and experience)

Teaching and Learning
- *Teaching* (To plan for and implement digital devices and resources in the teaching progress) (3)
- *Collaborative Learning* (To use digital technologies to foster and enhance learner collaboration)

Assessment
- *Assessment Strategies* (To use digital strategies for formative and summative assessment)
- *Feedback and planning* (To use digital technologies to provide targeted and timely feedback to learners)

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

Facilitating Learners' Digital Competence
- *Information and media literacy* (To incorporate learning activities, assignments and assessments which require learners to articulate information needs)
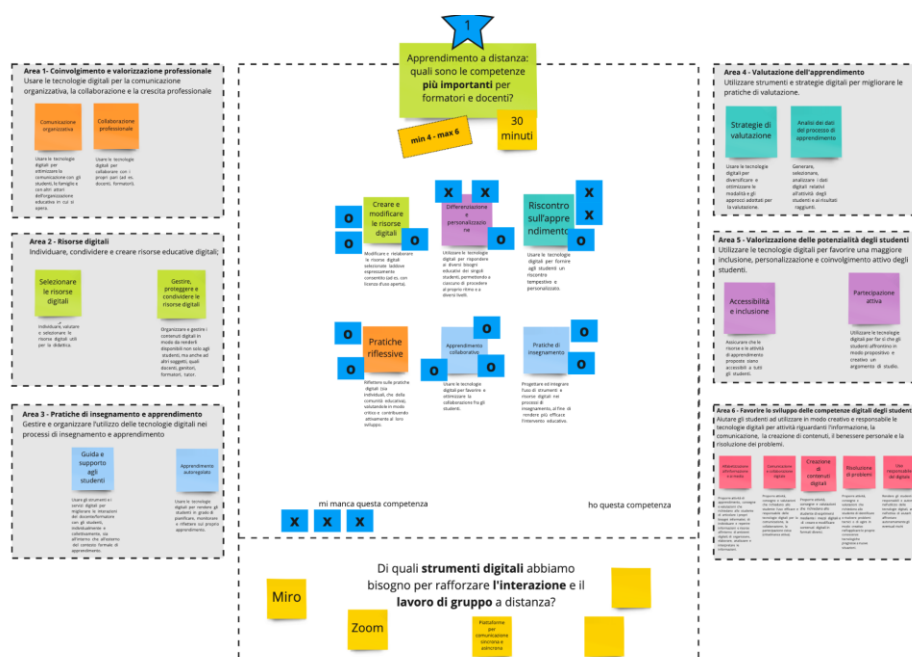
Img. 1: picture from the focus group conducted on MIRO board.
Which digital skills are more important in VET distance learning?
(Work group n. 1)

Digital skills of the trainers involved

In general, the digital skills of the people interviewed are medium-high. They were already high before the pandemic (from the questionnaires, 11 people declare very good skills; 2 excellent) and after covid they have increased further (12 people declare very good skills; 6 excellent)

In particular, the most common skills at a medium-high level (very good; excellent) are the following:

- *I can use digital sources and resources for continuous professional development.*
- *I can identify, assess and select digital resources for teaching and learning*.

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Digital skills and tools in empowering interaction and teamwork with VET learners in distance learning

The digital skills considered useful in empowering interaction and teamwork are:
- Digital resources: *Creating and modifying digital resources*.
- Professional Engagement: *Professional collaboration*.
- Teaching and Learning: *Collaborative Learning* (To use digital technologies to foster and enhance learner collaboration).
- Empowering Learners: *differentiation and personalization*; *Actively engaging learners.*

Digital tools considered useful in empowering interaction and teamwork are:
- Google classroom, BigBlueButton
- Zoom, zoom rooms and similar (meet, Teams, etc..)
- Miro
- Kahoot
- Google drive (collaborative writing and document sharing)
- online questionnaires
- Youtube for sharing lessons and self-produced video tutorials

From the questionnaire, a good digital preparation of teachers emerges in digital skills related to collaboration and team-work:

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

Su una scala da1 a 5, valuta il tuo livello attuale nelle seguenti competenze digitali. Posso utilizzare le tecnologie e i servizi digitali per m..., 3=Abbastanza buono, 4=Molto buono, 5=Eccellente)
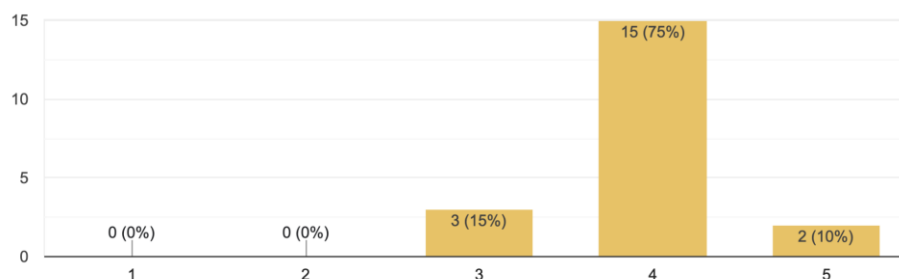20 risposte
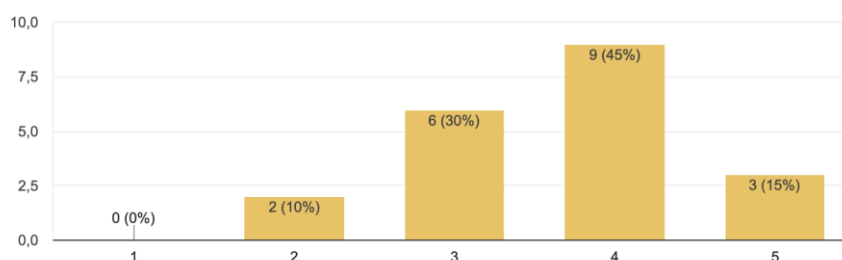
Img. 2: responses to *the question*
I can use digital technologies and services to enhance the interaction with learners,

13

- *I can enable learners to use digital technologies as part of collaborative assignments*

Su una scala da1 a 5, valuta il tuo livello attuale nelle seguenti competenze digitali.   Posso consentire agli studenti di utilizzare le tecnolog…, 3=Abbastanza buono, 4=Molto buono, 5=Eccellente)
20 risposte

Img. 3: responses to *the question*
I can enable learners to use digital technologies as part of collaborative assignments

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

Su una scala da1 a 5, valuta il tuo livello attuale nelle seguenti competenze digitali.   Posso utilizzare le tecnologie digitali per promuovere l… 3=Abbastanza buono, 4=Molto buono, 5=Eccellente)
20 risposte
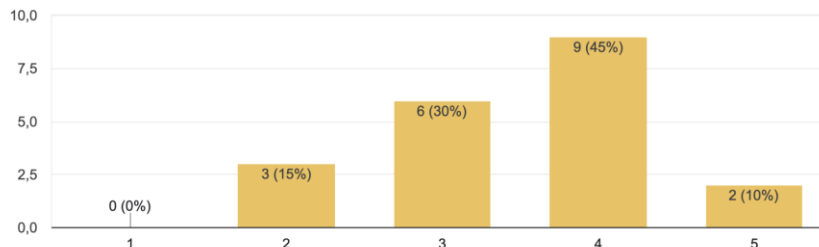
Img. 4: responses to *the question*
*I can use digital technologies to foster learners' active and creative engagement with a subject matte*r

Correlation between gamification and distance learning

All respondents agree that gamification can help distance learning, as:
- increases personal engagement and keeps students engaged
- pushes students to compare / collaborate with peers;
- stimulates personal initiative.

In particular, gamification can be useful in distance learning if it is used continuously over time: not a single "game", but a collective adventure.

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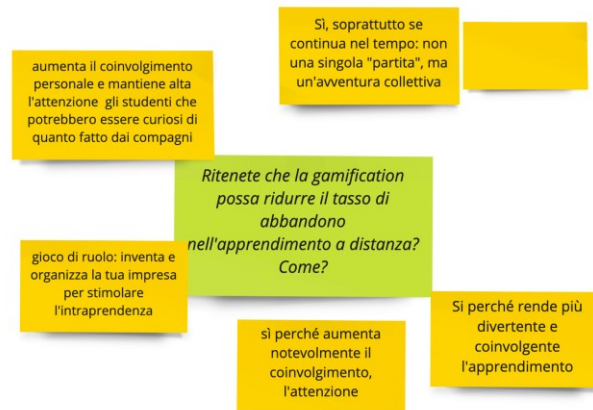
Img. 5. Do you think that introducing gamification would reduce the drop-out rate in distance learning? How?

The gamification features judged most important are:

- **Challenge:** subtle balance between incremental difficulty design of a gamified task on one hand and the learner's ability on the other.

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

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

- **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)

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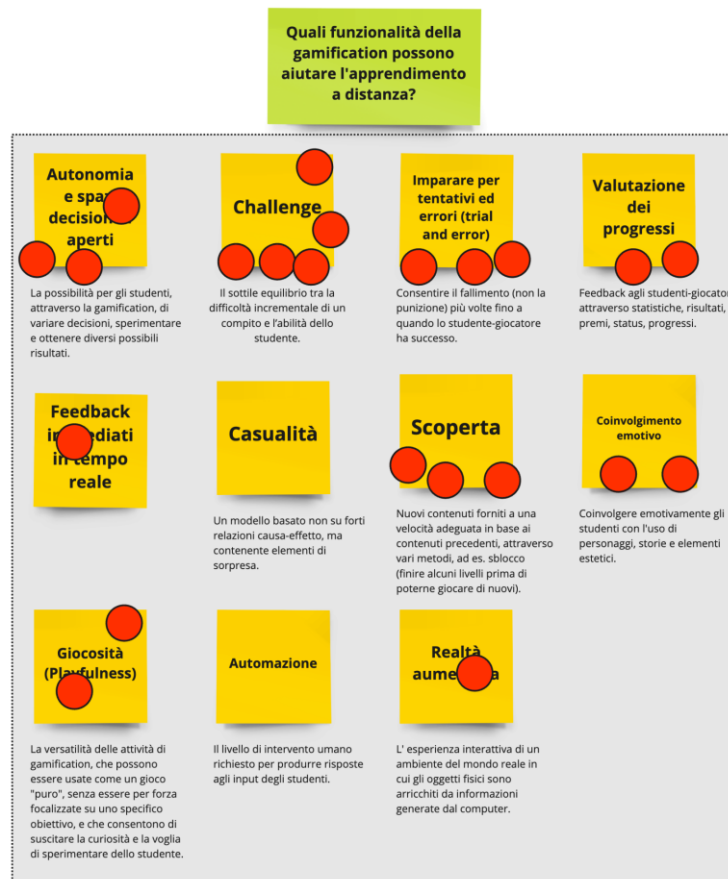
Img 6. What gamification features can help distance learning?

The **questionnaires** show that some features are more useful than others:
- **Emotional entailment** i.e. involving the VET learners emotionally with the use of characters, stories and aesthetics.
- **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.
- **Progress assessmen**t i.e. feedback to learners-players through statistics, achievements, awards, status, progress.
  Immediate feedback in real-time.

Instead, they are considered less useful:
- **Randomness** i.e. a model based not on strong cause-effect relationships but containing surprises.
- **Automation** i.e. the level of human intervention required to produce responses to VET learners' inputs.

The following features are most required in boosting the **curiosity**:
- Teams
- Badges-Awards
- Levels

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- Open scenarios

The following are considered the best features to facilitate **interactive approaches** in VET distance learning:
- Teams
- Levels

Needs

The following training needs emerged from the **focus group**:
- *Managing, protecting and sharing digital resources* (To organize and to protect digital content and make it available to learners, parents and other educators)
- *Accessibility and Inclusion* (To ensure accessibility to learning resources and activities for all learners)
- *Differentiation and personalization* (To use digital technologies to address learners' diverse learning needs)
- *Feedback and planning* (To use digital technologies to provide targeted and timely feedback to learners)

The digital skills less present in the group involved in the survey are the following:
- *I can modify and build on existing openly-licensed resources and other resources where this is permitted.*
- *I can ensure accessibility to learning resources and activities*
- *I can use digital technologies to address learners' diverse learning needs*
- *I can incorporate learning activities, assignments and assessments which require learners to identify and solve technical problems,*
- *I can generate, select, critically analyse and interpret digital evidence on learner activity, performance and progress.*
- *I can plan for and implement digital devices and resources in the teaching process.*

Points for improvement

From the survey, some highlights and proposals emerged to improve distance learning and make it more effective:

- **Focus on hybrid and integrated teaching**: digital is seen as a precious and now indispensable opportunity in integration with face-to-face training; physical and digital must not be mutually exclusive but complement each other.
- **Redesign** lessons and teaching methodologies.
- Promote a **warm distance learning** that does not give up on s**ocial relationships (it is possible actually!).**

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- Improve the chances of **getting feedback from students** (more dialogues less monologues).
- Enhance the possibility of **customizing hybrid courses**: both in terms of schedule/time and in terms of the learning methods. Students have different approaches and different potential. Each of them has her own learning styles.
- Take full advantage of **digital technologies as enabling tools** and as a way to amplify and **differentiate training possibilities**. Consider technology as an enabling powerful tool and take full advantage of the possibilities it offers us. Distance learning is also an opportunity for **digital literacy** and for promoting a more conscious use of technology (students often only use and know their smartphone in their daily digital practices).

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Appendices

Appendix

Questionnaire d-ICT[1]

1. Male ☐   Female ☐

Use visualizations to show data

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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[1] Based on the *European Framework for the Digital Competence of Educators* (DIGCOMPEDU FRAMEWORK

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16-20 years ☐

21-25 years ☐

26-30 years ☐

31+ years ☐

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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

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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)

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

$$1 \qquad 2 \qquad 3 \qquad 4 \qquad 5$$

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

$$1 \qquad 2 \qquad 3 \qquad 4 \qquad 5$$

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

$$1 \qquad 2 \qquad 3 \qquad 4 \qquad 5$$

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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.

<div align="center">

1   2   3   4   5

</div>

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

<div align="center">

1   2   3   4   5

</div>

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

<div align="center">

1   2   3   4   5

</div>

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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.

     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

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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.

<div align="center">1   2   3   4   5</div>

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

<div align="center">1   2   3   4   5</div>

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

<div align="center">1 2 3   4   5</div>

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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

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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

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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.

<div align="center">

0   1   2   3   4   5
</div>

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.

<div align="center">

0   1   2   3   4   5
</div>

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

<div align="center">

0   1   2   3   4   5
</div>

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

<div align="center">

0   1   2   3   4   5
</div>

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

<div align="center">

0   1   2   3   4   5
</div>

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

<div align="center">

0   1   2   3   4   5
</div>

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).

<div align="center">

0   1   2   3   4   5
</div>

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

<div align="center">

0   1   2   3   4   5
</div>

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i) **<u>Playfulness enabled</u>** 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) **<u>Automation</u>** i.e. the level of human intervention required to produce responses to VET learners' inputs.

0   1   2   3   4   5

k) **<u>Augmented reality</u>** 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

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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

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

UoP

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

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

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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)

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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)

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> **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.

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*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)

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