FENIX

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Short Report on the Piloting of the *"Gamified training for workforce skilling on Resilience Competency"*

December 2023

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1. Introduction

The FENIX Project Work Package 3 (WP3) endeavours to explore gamification as a potent tool for workforce skilling, focusing on Resilience Competency. The piloting phase is imperative to evaluate the efficacy and the resonance of the gamified learning approach with the target audience. This document delineates the gamification piloting process, the objectives aimed at ensuring a substantial training experience and the results achieved throughout the process.

2. Objective of the Piloting:

The core objectives of the piloting phase are set to achieve the following benchmarks:

- Training experience adequacy to the target group learning style: ≥80% positive.
- General satisfaction about the training experience: ≥80% positive.
- Engagement in the training experience: ≥80% positive.
- Indirect feedback from end-users: ≥80% positive (notwithstanding the measurement challenges).

Important Features of the Piloting Process

a) *Quantitative Indicators:*

- Engage a minimum of **40 participants, with at least 10 per partner** (comprising members from partner organizations or external individuals).
- Obtain a minimum of **30 completed evaluation questionnaires from participants**.

b) **Gameplay Approaches:**

b.1) Group Play:

- Partners to forward a notification to ISQe via email, detailing the names and emails of the piloting group members.
- ISQe to provision a dedicated space on their Moodle platform for group play.
- Each member is required to engage with the game for a minimum of 5 days within a 10-day timeframe.

b.2) Individual Play:

Individual participants have the option to access and play the game individually through the following link **https://learn.isqe.pt/cursos/Fenix/Game/ .**

c) **Post-game Review:**

After the game completion, reviewers are to fill out the questionnaire available at **https://forms.office.com/e/nPN4Nkw7U7:**

d) *Analysis and Reporting*:

ISQe, in collaboration with the partners, will undertake a thorough analysis of the feedback and develop a comprehensive report on the findings of the piloting process. The report will serve as a crucial resource for understanding the impact and effectiveness of the gamified training on Resilience Competency and will guide any requisite adjustments to enhance the learning experience.

Chronogram of the piloting process

Table I. Activities, description and dates of the Piloting

Activity	Description	Dates
Contact and selection of reviewers (at least 10 reviewers per partner -comprising members from partner organizations or external individuals-)	Each partner will select and contact the reviewers of the game and will explain the main features of it and send a short summary of the project.	From the 2nd to the 15th of October
Gameplay	All reviewers will play the game under one of the two modalities: **Group Play:** · Partners to forward a notification to ISQe via email, detailing the names and emails of the piloting group members. · ISQe to provision a dedicated space on their Moodle platform for group play. · Each member is required to engage with the game for a minimum of 5 days within a 10-day timeframe. **Individual Play:** Participants have the option to access and play the game individually accessing https://learn.isqe.pt/cursos/Fenix/Game/.	- For group play: 10 days counting since the day ISQe creates the gameplay space on their Moodle (deadline in any case: November the 10th) - For individual play: players will be able to play anytime up to November the 10th
Questionnaire administration to reviewers	All reviewers will complete the validation/evaluation online questionnaire accessible from https://forms.office.com/e/nPN4Nkw7U7	Deadline November the 17th
Analysis and Reporting	ISQe, in collaboration with the partners, will undertake a thorough analysis of the feedback and develop a comprehensive report on the findings of the piloting process.	Deadline December the 1st

Key data

Participants: The survey was conducted online and targeted individuals who completed the "Gamified training for workforce skilling on Resilience Competency" (n=45). **A total of 45 respondents participated in the survey, representing various professions and institutions** (see Annex 1).

Survey Instrument: The questionnaire consisted of 18 items, including both open-ended and closed-ended questions. It covered various aspects of the course, such as the match between the training experience and the target group's learning style, the clarity of the learning materials, usability, gender inclusivity, engagement levels, content coverage, and overall satisfaction. The survey also included demographic questions such as institution affiliation, country of residence, and optional contact information. Respondents rated some course elements on *Likert* scales, while others prompted for narrative responses.

Data Protection and Ethics: Participants were informed of the data protection policies in place, ensuring confidentiality and compliance with EU data protection regulations. Respondents were advised that participation was voluntary, with the option to withdraw at any time, and that all results would be reported in aggregate form to maintain anonymity.

Procedure: The survey was estimated to take approximately 10 minutes to complete. It was disseminated via an online platform, with the link provided to participants upon the conclusion of the "Gamified training for workforce skilling on Resilience Competency". The participants were allowed a window of time to complete the survey after which the responses were collected for analysis.

Data Analysis: Quantitative data from the Likert scale and multiple-choice questions were analysed to determine central tendencies and dispersion. Open-ended responses were qualitatively analysed to extract common themes and individual perspectives. The combined insights from quantitative and qualitative data provided a multi-faceted understanding of the course's impact and effectiveness.

Limitations: The self-selecting nature of the survey could introduce response bias, as it primarily reflects the views of those who chose to participate. The **sample size of 45** may not be representative of all course participants, and the results may not be generalizable beyond this group.

The findings from this survey are intended to inform the continuous improvement of the "Gamified training for workforce skilling on Resilience Competency" and contribute to the overall objectives of the FENIX Project, which seeks to enhance the quality and accessibility of vocational education and training.

3. Analysis

3.1. Participants' profiles

Participants are a diverse group with a broad range of professional backgrounds, from local government to international organizations, encompassing education, research, and various sectors of the private industry. They are interested in professional development, pedagogical methods, policy implementation, or vocational training, reflecting a shared interest in the course subject matter. The institutions where the participants of the gamified training experience on Resilience Competency work can be broadly categorized into several profiles[1]:

Educational institutions: This category includes various universities (e.g., University of the Balearic Islands, University of Novi Sad, University of Lodz, University of Granada, Stockholm University) and schools (e.g., high schools, VET schools). These institutions likely focus on higher education and research, covering a wide range of disciplines.

Research and development centres: Institutions like INCD ISIM Timișoara, ImpactSCI, and National Research & Development Institute for Welding and Material Testing - ISIM Timisoara fall into this category. Their main focus is likely on scientific research and technological development, possibly in specialized fields like material testing or applied sciences.

Corporate and business entities: This includes companies such as SC VCN DEVELOPMENT VEST SRL, and some participants who are self-employed, like self-employed software developers. These entities are likely involved in various business activities, ranging from technology to service provision.

Government and public administration: Participants from entities like Palma Municipality and the Employment Service of the Balearic Islands represent this category. Their focus is on governance, public administration, and the provision of public services.

Non-Governmental Organizations (NGOs) and Social Services: Casal Petit and Cruz Roja (Red Cross) are examples of NGOs involved in social services

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[1]   The list of companies and organizations where participants are employed can be found in Annex 1.

and humanitarian work. Their focus is likely on community service, social welfare, and aid.

Independent Professionals: This includes participants who are independent or self-employed in various capacities, like the independent participant listed.

Other specialized institutions: This includes specific centres like ITC, IEKEP, IASIS, and STEI Syndicate, which focus on specialized training, consulting, or other specific services.

These profiles suggest a diverse range of backgrounds among the participants, spanning academia, research, business, government, social services, and independent professions. This diversity could contribute to a rich exchange of perspectives and experiences in the training program, enhancing its effectiveness and applicability across different sectors.

3.2. Countries of participants

Spain: With 25 participants, Spain has the highest representation in the pilot program, comprising a significant majority.

Romania: The second-highest number of participants comes from Romania, with 10 individuals taking part in the training.

Greece: Greece contributes 4 participants, which is a smaller number compared to Spain and Romania.

Other: There are 6 participants categorized as "Other," which implies participation from countries not individually listed on the chart (i.e. Sweden, Serbia, Cuba). This diverse group indicates that the game has international appeal and potential for broader application across various cultures and countries.

Considering the spread of participants, feedback from the pilot could offer valuable insights into how the game performs across different cultures, regions and educational systems, which is crucial for further development and localization of the training content. Overall, the distribution of participants in the pilot program suggests a successful uptake in certain regions, with potential for expansion into a broader international scenario.

Graph 1. Countries of participants in the piloting

🔵	Greece	4
🟠	Romania	10
🟢	Spain	25
🔴	Other	6
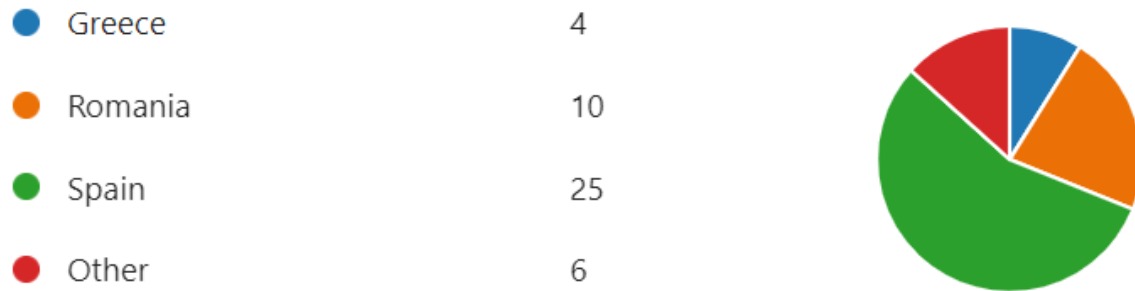
## 3.3. Adequacy of the game experience for the target groups

The feedback from the pilot phase of the gamified training program reveals an overwhelmingly positive response concerning the adequacy of the game design for the target group's learning style and needs. A commanding majority, 23 out of 45 participants, reported that the game met the target group's learning preferences "Extremely well," underscoring the effectiveness of the game in engaging the audience and fulfilling their educational requirements (refer to graph 2).

Additionally, 21 respondents felt the game matched the learning style "Somewhat well," further solidifying the notion that the gamified experience resonated well with the participants. The lack of neutral responses suggests that the training experience was compelling, prompting all respondents to form and express a definitive stance on its effectiveness.

It is particularly noteworthy that there were no responses indicating that the game matched the learning style "Extremely not well," and only one participant rated the adequacy as "Somewhat not well." This solitary feedback could represent a unique challenge or specific needs that were not entirely met by the game, which presents an opportunity for targeted improvements.

The data strongly indicates that the game's design has been successful in aligning with the educational styles and needs of the vast majority within the target group. This level of positive feedback is a testament to the game designers' ability to understand and effectively cater to the learning dynamics of their audience. Nevertheless, attention should be given to the individual feedback that deviated from the overall trend, as it may offer valuable insights for refining the game to enhance its universal appeal and effectiveness.

Graph 2. Training experience matching the target groups

🔵 Extremely well	23
🟠 Somewhat well	21
🟢 Neutral	0
🔴 Somewhat not well	1
🟣 Extremely not well	0
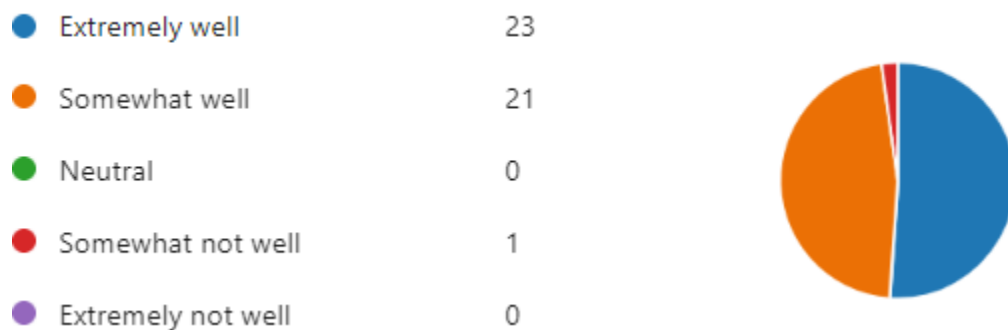
3.4. Engaging and disengaging elements

The responses to the question about the engaging or disengaging aspects of the game are diverse and offer valuable insights into the players' experiences. Here's an analysis and commentary on the feedback:

Engaging Elements:

- Several users found the structure of the game, with its island setup and various activities, to be engaging. Particularly, activities such as card games and question-and-answer formats were highlighted as interesting.
- The graphics of the game received specific praise for their appeal.
- The educational aspect where players can repeat questions after making mistakes was appreciated, as it allows for learning from errors.
- The writing quality of dialogues and texts was noted to be engaging, contributing to player interest.

Disengaging Elements:

- Clarity in instructions and objectives was a significant issue, with several players noting confusion about game mechanics such as earning keys, the purpose of certain activities, and the relevance of the actions to the game's progression.
- The sound design was criticized for being distracting and stressful, detracting from the experience.
- The translation quality in some language versions was poor, leading to confusion and diminishing the player experience.
- Repetition within the game and predictability of correct answers were pointed out as areas that could lead to disengagement.
- Technical issues, such as the game not saving chosen avatars or not closing properly, were mentioned as disruptive.
- Certain games within the overall experience, like the pairs game and roulette, received mixed reviews, with some finding them enjoyable and others too long or not sufficiently interactive.

General Observations:

- The feedback indicates a need for improvements in user experience design, particularly in the areas of sound design, language translation, and providing clear instructions and objectives.
- The game's ability to engage players through its content, structure, and educational value is evident, though there is room for refinement.
- Personal preferences play a significant role in how individual elements are received, suggesting that a one-size-fits-all approach may not be optimal for game design.

The responses show that while the game has many strengths, particularly in its engaging content and educational approach, there are notable areas for improvement. Addressing the issues related to sound design, clarity of instructions, and language translation could enhance the overall player experience. It's also important to consider the balance of activities to prevent feelings of repetition and to ensure that all elements contribute meaningfully to the game's narrative and educational goals.

3.5. Inclusivity

The survey data presents an encouraging picture regarding the gender inclusivity of the gamified training program. A vast majority of participants perceive the game as inclusive, with 26 out of 45 responses indicating that it is "Very inclusive" and another 16 finding it "Completely inclusive." This highlights the game's strength in incorporating gender-inclusive language and perspectives, suggesting that it likely uses neutral terminology and provides equal representation across gender identities, thus resonating with a broad and diverse audience.

Only 2 respondents rated the game as "Moderately" inclusive, which, while still positive, implies there could be specific elements of the game that might benefit from further refinement to enhance its inclusivity.

Interestingly, there were no responses that felt the game was only "Slightly" inclusive, and only one participant felt that the game was "Not at all" inclusive. This outlier indicates that there may be an exceptional case or perspective where the game's language and approach did not align with expectations of gender inclusivity. This feedback is valuable as it points to the necessity for a detailed review to identify any inadvertent bias or oversight.

The absence of neutrality in the responses could be seen as a testament to the game's deliberate effort to engage with gender issues, prompting a strong opinion from the participants.

In summary, the feedback suggests that the game has been successful in embodying gender-inclusive practices, a critical aspect in educational and training programs. The data underscores the program's potential as a model for inclusive game design. Nonetheless, the few responses that did not rate the game as highly inclusive should be considered constructively, providing a roadmap for continuous improvement in the quest for complete inclusivity.

Grap 3. Inclusivity

🔵	Not at all	1
🟠	Slightly	0
🟢	Moderately	2
🔴	Very inclusive	26
🟣	Completely inclusive	16

3.6. Game features

Game Interface and Usability

- The game interface seems to be relatively intuitive, with most responses between neutral to total agreement.
- A majority of players were able to play without difficulty, suggesting that the game is user-friendly.

Navigation and Instructions

- Responses to navigating the game without support and the clarity of instructions show some variability, but lean more towards agreement, indicating that while there might be room for improvement, the game generally provides clear guidance.

Engagement and Learning

- The game appears to be motivating for the players, as indicated by the positive responses to keeping them engaged.
- There is strong agreement that the game includes challenges that encourage learning and addresses educational themes clearly, which speaks well to its educational design.

Learning Transfer and Social Integration

- Participants seem to feel that they can transfer what they learned to their workplace, suggesting the game has practical applications.
- The game seems to include some social integration features, but this aspect has a wider spread of responses, indicating a varied experience among players.

Feedback and Suitability

- The game provided useful feedback on performance, which is important for learning and improvement.
- Most players agree that the game is suitable for the target audience, which is critical for its effectiveness.
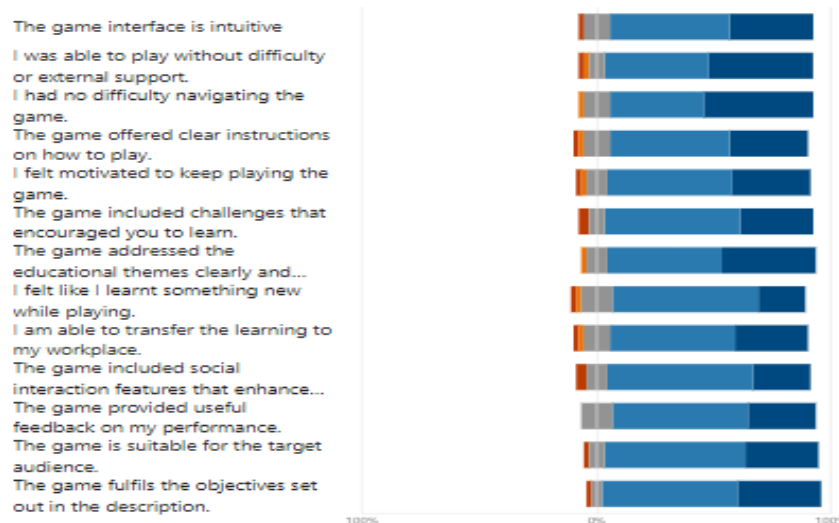
Clarity of Objectives

- There is a strong consensus that the game fulfils the objectives set out in the description, which is essential for meeting players' expectations.

General Observations:

- The game is well-received in terms of its interface, learning engagement, and relevance to the target audience.
- There are some areas with mixed responses, such as the intuitiveness of the navigation and the social features, suggesting that these could be areas to focus on for improvement.
- The positive responses to educational impact and the transfer of learning indicate that the game is successful in its educational goals.

The survey results suggest that the game is overall effective and engaging, with strong educational value. However, attention to enhancing the intuitiveness of navigation and expanding social integration features could further improve the user experience. The feedback on learning transferability is particularly encouraging, as it points to the game's potential for real-world impact.

Graph 4. Adequacy of diverse elements of the course

The game interface is intuitive	
I was able to play without difficulty or external support.	
I had no difficulty navigating the game.	
The game offered clear instructions on how to play.	
I felt motivated to keep playing the game.	
The game included challenges that encouraged you to learn.	
The game addressed the educational themes clearly and...	
I felt like I learnt something new while playing.	
I am able to transfer the learning to my workplace.	
The game included social interaction features that enhance...	
The game provided useful feedback on my performance.	
The game is suitable for the target audience.	
The game fulfils the objectives set out in the description.	

3.7. Missing topics or elements

The responses to the question about additional topics or areas for inclusion or expansion in the game provide a mixed set of viewpoints:

Requests for supplementary materials:

- One participant expressed a desire for additional resources upon completion of the game, such as readings or media related to the game's themes. This suggests an interest in extending the learning experience beyond the game.

Clarifications and explanations:

- A few respondents pointed out that certain game mechanics, like the "resilient bar" and aspects of teamwork, are unclear and could benefit from better explanations. This feedback highlights a need for clarity in how game features are presented and how they impact the game.

Content variety and applicability:

- There's a request for more variety in the games, which indicates a desire for a more diverse range of activities within the game.
- One respondent suggests that the game could have more applicability to the public sector, implying that the current content may be more

tailored to other sectors, or that there's an opportunity to address public sector-specific challenges.

Satisfaction with current content:

- The majority of respondents, however, did not feel that any topics or areas needed to be added or expanded upon. This indicates general satisfaction with the scope and content of the game as is.

Overall Observations:

- The feedback suggests that while there is a level of contentment with the existing game elements, there are areas where enhancements could be made to enrich the user experience.
- Clarification of game features and an increase in content variety could address specific user needs and potentially improve understanding and engagement.
- The interest in additional learning materials post-game reflects a desire for continued education, which could be leveraged to maintain engagement after the game is completed.

The game seems to meet the expectations of most participants, but there is room for improvement, especially in terms of explaining game mechanics and expanding on certain themes. Providing additional resources and enhancing the relevance to various sectors such as the public sector could make the game more comprehensive and appealing to a broader audience.

3.8. Recommendation of the game to others

The results are very positive, with a vast majority of the participants, 41 out of 45, responding "Yes," indicating that they would recommend the game to others. This strong endorsement suggests that the game was well-received and left a positive impression on most players.

Three participants responded "Maybe," which implies some hesitation. The reasons for this could be varied—perhaps these players had a generally good experience with some reservations, or they might believe that the game's appeal could be subject to specific interests or preferences.

Only one participant answered "No," signalling that for at least one player, the game did not meet their expectations or needs. This lone response, while it is an outlier, is still significant. It would be beneficial for the developers to understand the concerns or criticisms that led to this negative response, as it could provide a different perspective and inform potential improvements to the game.

Overall, the willingness of players to recommend the game is an important metric of its success and can be indicative of its potential popularity and usefulness as a tool for others. The developers can be encouraged by these results, but they should also seek to engage with the few who were less inclined to recommend the game to ensure it has broad appeal.

Based on the data provided and the responses about the learner profiles to whom the game would be recommended, there is a broad spectrum of potential users who could benefit from the game. The diversity in the responses indicates that the game has a wide appeal and is not limited to a single demographic or professional sector. Here's an analysis of the recommended profiles:

- **Educational settings**: Multiple respondents believe the game would be beneficial in learning centres, for students, and in vocational education training. This suggests that the game's educational content is considered valuable for both formal and informal educational environments.
- **Workforce development**: Several users see the game as useful for all workers, specifically mentioning staff from small and medium-sized enterprises (SMEs), corporate entry and mid-level employees, and low-skilled workers. This point to the game's potential in professional development and skill enhancement.
- **Non-Governmental Organizations (NGOs)**: NGO staff and individuals working in or with NGOs were identified as potential users, indicating the game's relevance for non-profit sector training.
- **Teamwork and management**: The game is seen as a resource for enhancing teamwork, recommended for HR managers, and could be useful for the HR department in general. This implies that the game can be a tool for team-building and improving management skills.
- **Social work and counselling:** There is a perception that the game can aid counsellors, youth workers, and social workers, indicating its applicability in social services and support sectors.

- **General workforce**: Responses suggest a belief that the game has universal applicability, with recommendations for "everybody" and "anyone interested in the topics". This demonstrates the game's perceived adaptability and relevance to a broad audience.
- **Entrepreneurship:** The game is also recommended to students who are looking to start a business, reflecting its potential use in entrepreneurship education.
- **Specific sectors:** Respondents see the game's utility for specific sectors like **NGOs, small companies, VET centres, and general trainers**, which could be due to its content that's applicable across various organizational settings.

In summary, the game is perceived as a versatile tool for a range of users, from those in educational settings to various levels and sectors of the workforce. It's seen as particularly useful for skill-building, professional development, and personal growth. The wide range of recommended profiles suggests that the game's design successfully caters to diverse learning styles and objectives, making it a valuable resource for many different types of learners.

3.9. Overall rating of the game

The average rating, as indicated on the chart, is 8.69 (out of 10), which is quite high and suggests a very favourable reception by the participants. This average score points to a strong positive consensus regarding the quality and effectiveness of the training.

Analysing the distribution, it appears that the most common score given was in the higher end of the scale (with a mode likely at 9), indicating that a majority of respondents rated the training very highly. There is a noticeable concentration of responses between 7 and 10, which reinforces the conclusion that participants found the training to be of high quality.

The absence of any ratings at the very low end of the scale (1-3) and the sparsity of ratings even at the moderate levels (4-6) suggest that negative or even neutral opinions of the training are rare among the respondents.

The overall high rating can be taken as a strong endorsement of the gamified training program and implies that the training is well-designed and effective in building resilience competencies among the workforce. Such positive feedback could be used to promote the training to a wider audience and in discussions with stakeholders about the value of such educational initiatives. The training developers might also want to consider what elements contributed to the high ratings and ensure those are maintained or further enhanced in future iterations of the program.

Graph 5. Game overall evaluation
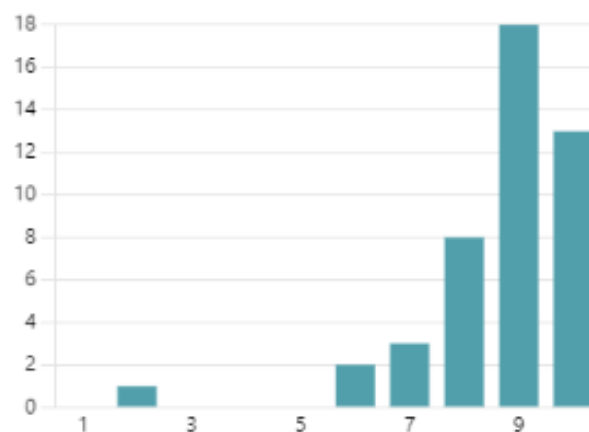
3.10. Anticipated benefits after completing the game.

The responses to the question about the benefits experienced or anticipated from completing the game indicate that participants generally expect to see positive outcomes from the training, particularly in professional development and teamwork dynamics.

Teamwork enhancement: Several respondents highlighted the strengthening of teamwork. The game seems to facilitate better cooperation and foster skills that are crucial for effective collaboration within teams.

Staff engagement: There is an expectation that the game leads to more engaged staff. This could be due to the interactive and immersive nature of the game, which may translate into higher motivation and involvement in the workplace.

Appreciation for workplace environment: Interestingly, one participant mentioned a newfound appreciation for their office environment in comparison to the game's sound design. This response, while unique, suggests the game may have unintended benefits, such as an increased tolerance for real-world distractions.

Development of competencies: The game is seen as a tool for developing transversal competencies and encouraging a focus on alternatives and important goals. It's considered not just entertainment but a platform for personal and professional growth.

Resilience: The theme of resilience itself is found to be very attractive and relevant. Participants anticipate that the game's activities reinforce behaviours that contribute to being more resilient in the workforce.

Positive thinking: The game has helped at least one participant recognize the importance of maintaining a positive outlook, which is often a key component of resilience.

Agility: The game is associated with promoting agility, presumably in thinking and responding to challenges, which is a valuable skill in today's fast-paced work environments.

Enjoyment and education: The game is seen as fun and educational, suggesting that it successfully combines enjoyment with learning, which can improve retention and application of the concepts taught.

Overall Observations:

- The benefits cited are predominantly focused on soft skill development, especially those that enhance team dynamics and personal resilience.
- The positive effects on teamwork and personal development suggest the game could be a valuable addition to corporate training programs.
- The emphasis on resilience and positive thinking indicates recognition of the importance of these attributes in modern work life.

The responses suggest that the gamified training is effective in providing benefits that extend beyond the game itself, affecting team dynamics, personal development, and professional resilience. These anticipated benefits reflect the success of the game in addressing and potentially enhancing competencies that are valuable in the contemporary workplace. The game developers might use this feedback to further tailor the game towards these identified benefits and to communicate the value proposition of the game to future users and stakeholders.

Annex 1: Returns.

Institution, organization, company, university, etc. where you are employed/work/teach
ITC
UNIVERSITY OF THE BALEARIC ISLANDS
UIB
IMPACTsci
Research center
Isim Timișoara
Timis County Youth Foundation
ImpactSCI
INCD ISIM Timișoara
SC VCN DEVELOPMENT VEST SRL
University Balearic Islands (Ass. Professor)
Casal Petit (NGO)
Helix Connect Europe
University of Novi Sad
University of Lodz
National Research & Development Institute for Welding and Material Testing - ISIM Timisoara
University Balearic Islands (Postgraduate student)
ITC
ITC
Rambla abogados
Independent
ITC
Rambla
Rambla
Universidad de Pinar del Río (Cuba)
Polytechnic university of Timisoara
Self-employed software developer
Municipality Office
IEKEP
Iekep
IASIS
University Balearic Islands
Highschool teacher
University Balearic Islands UIB
University of Granada
VET teacher (La Salle Palma de Mallorca)
Cruz Roja (Red Cross)

Social Education Degree Student (Balearic Islands University)
Professor of VET (Stockholm University)
VET School teacher
STEI Syndicate
University of Balearic Islands (Professor)
Palma Municipality
Employment Service of the Balearic Islands
Employment Service of the Balearic Islands

FENIX

Consortium

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IEKEP 30 YEARS INSTITUTE OF TRAINING AND VOCATIONAL GUIDANCE

Project N. 2021-1-ES01-KA220-VET-000032954