

BASIC HEALTH AND SAFETY SKILLS ON WORKS AT HEIGHT THROUGH SERIOUS GAMES

IO4_Pilot_experiences

Results



March 2020



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



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Erasmus+ Programme
of the European Union



ERASMUS+ Programme
Key Action 2 | Call 2017
Cooperation for Innovation and the Exchange of Good Practices

Project Number:
2017-1-ES01-KA202-038262

Partnership:

- Fundación Laboral de la Construcción (Spain)
- Institut de Formation Sectoriel du Bâtiment (Luxembourg)
- Open Universiteit Nederland (Netherlands)
- Westdeutscher Handwerkskammertag (Germany)
- Scuola Costruzioni Vicenza Andrea Palladio (Italy)
- Chamber of Construction and Building Materials Industry of Slovenia (Slovenia)
- Centre Ifapme Liège-Huy-Verviers (Belgium)

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1. GENERAL OVERVIEW

1.1. Introduction

This document is part of the work developed in the project Uppgames: basic health and safety skills on works at height through serious games and presents the results related to the pilot experiences, carried out within the IO4 of the program.

These pilot experiences have been developed in Italy, Slovenia, and Spain, and could not be held in France and Luxembourg, as planned, due to the health crisis caused by COVID19 in Europe. In Germany, the participants in the final conference (held on 8 February) already tested the beta version of the application.

1.2. Objectives

The objective of this task is putting in practice the training system, by carrying out pilot experiences with VET trainers and trainees from the building industry to validate the app for mobile devices from a technical, technological, and pedagogical point of view. The results of these experiences allow to know the final users' assessments on the quality and usability of the tool.

1.3. Procedure

Information about the tool, about how to install it into their own devices and about how to play the different levels was sent the participants previously. Then, they received an online questionnaire to collect their assessments and opinions about several aspects: structure, contents of each level, time needed to complete the games, usability, suitability for a training process, and so on.

Two different online questionnaires were developed to gather the information from trainers and trainees, with a different kind of questions in each one for each profile. (See complete questionnaires in Annex).

Considering a teaching-learning process the trainers were asked about pedagogical aspects of the tool, and the trainees about technical issues and of usability.

1.4. Participants

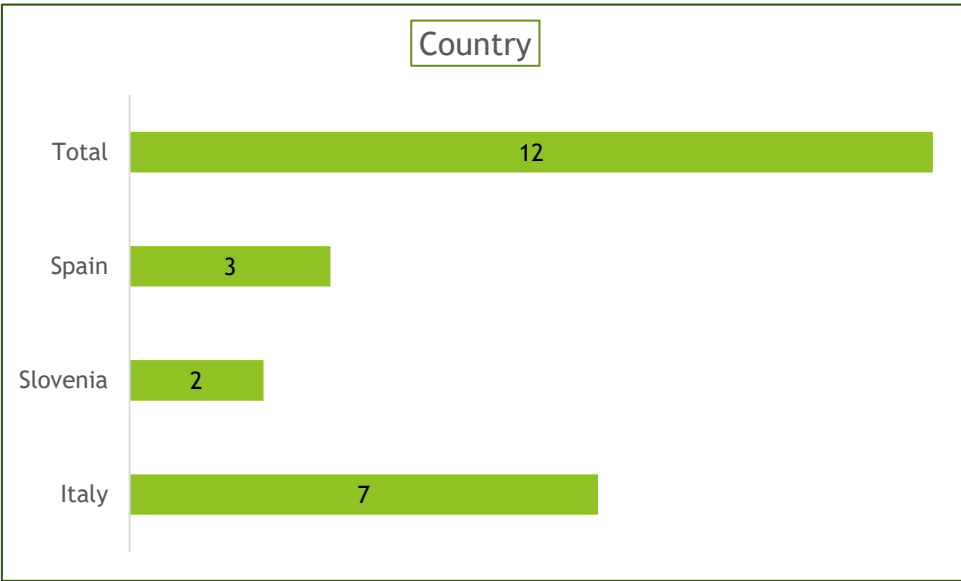
A total of 12 VET trainees and 32 trainers completed the questionnaires. The questions include a rating scale in the form of stars, having to point from only one (if it is wanted to indicate the worst rating) to 5 (if it is wanted to indicate the best).

The results are shown below.

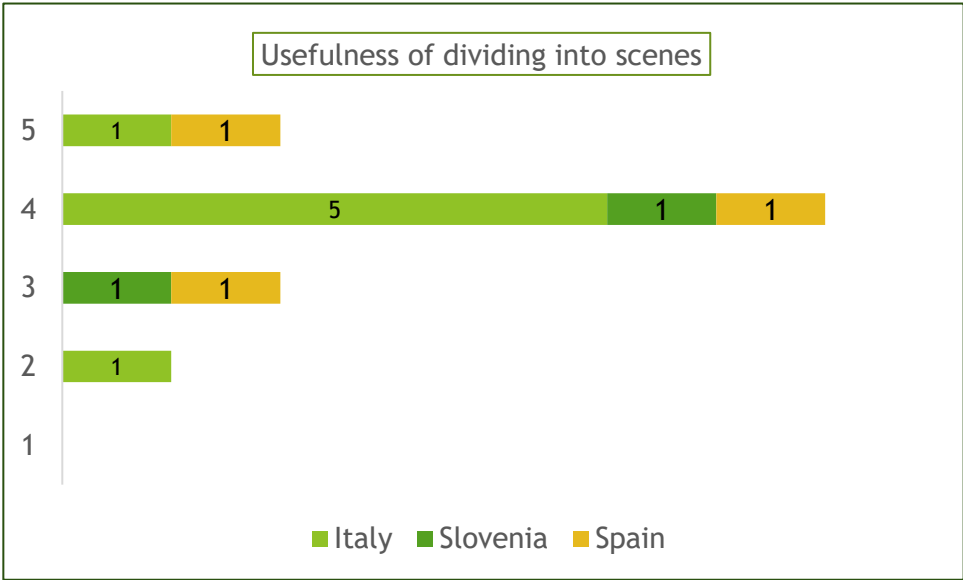




2. TRAINERS

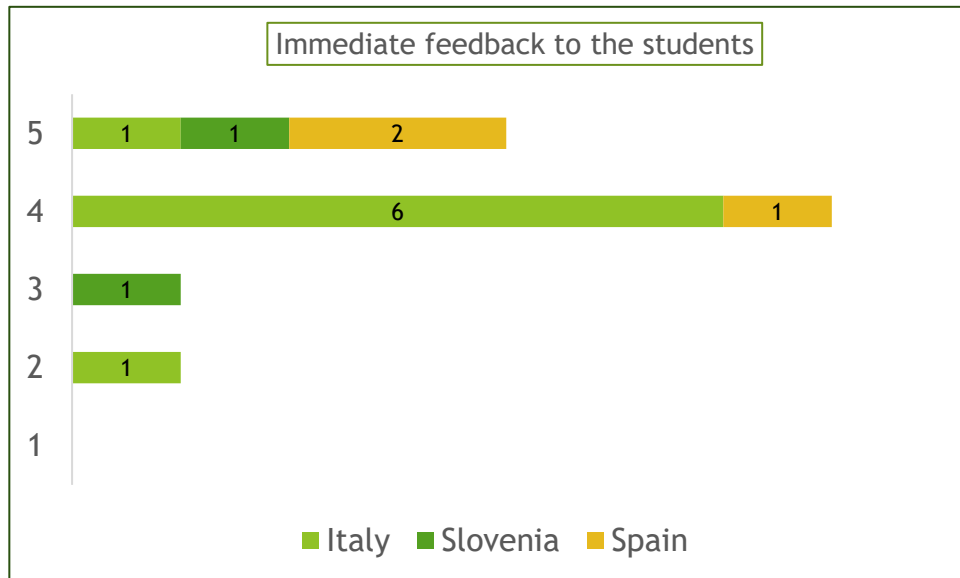


The participants were asked about the usefulness of dividing the mini games into different scenes.

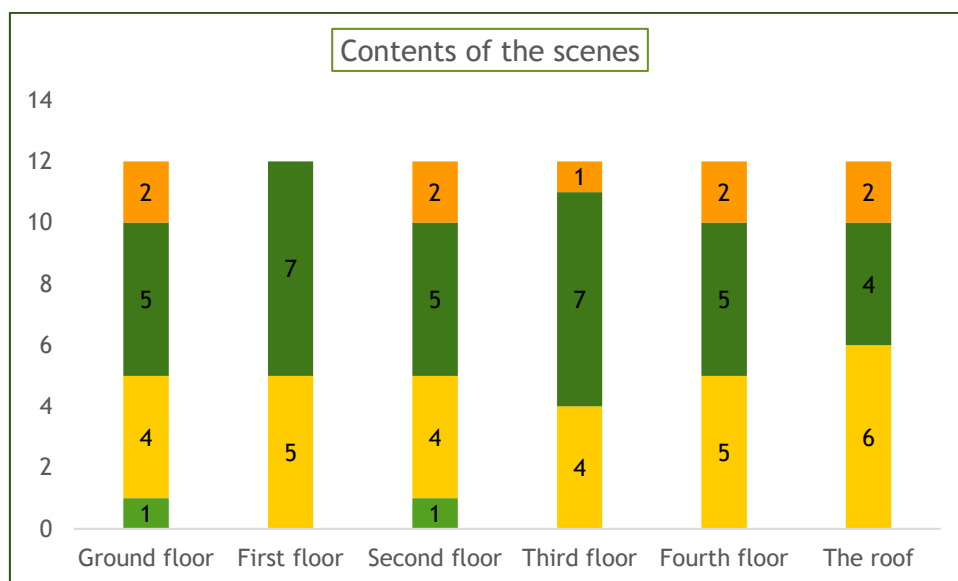


Giving an immediate feedback to the students according to their answer is considered a key element in reinforcing learning. The results are shown in the chart.





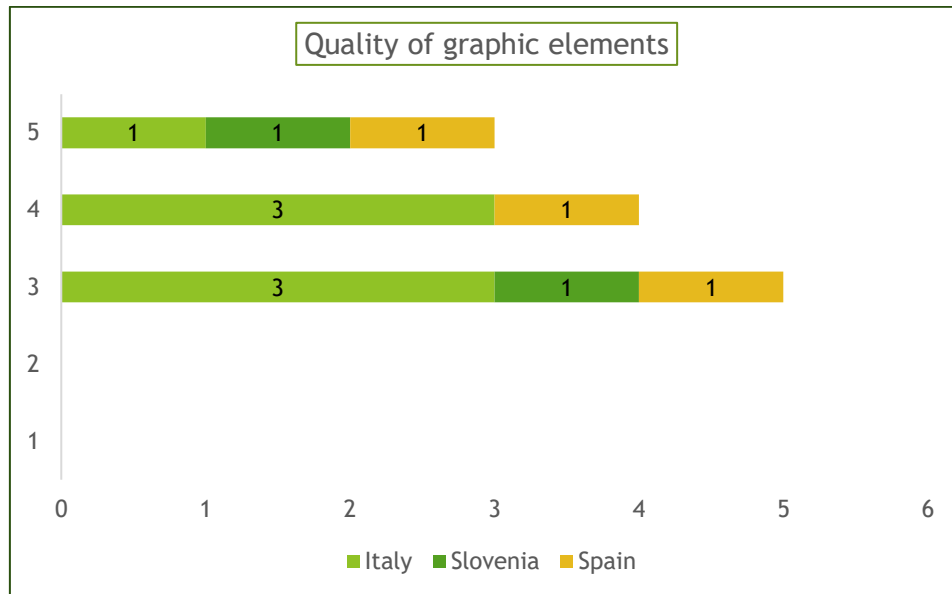
The next questions are aimed to know the answers' assessment of the way to present the information in each one.



The chart shows the evaluation that the trainers have given to the presentation of the contents at the different levels. Thus, the highest evaluation corresponds to the contents of the first floor and those of the third floor, with seven answers valued with four stars.

The next question is aimed to know the value the quality of the different elements included in the scenes: pictures, images, drawings, etc.





The different graphic elements included in the levels, which have served to make the design of the contents more attractive, have been assessed as of quality, with a score of three or more stars by all the trainers in each of the countries.

Another question is to know the opinion of the trainers about what elements are missing in the minigames to reinforce safe behaviour on the site. These were their answers:

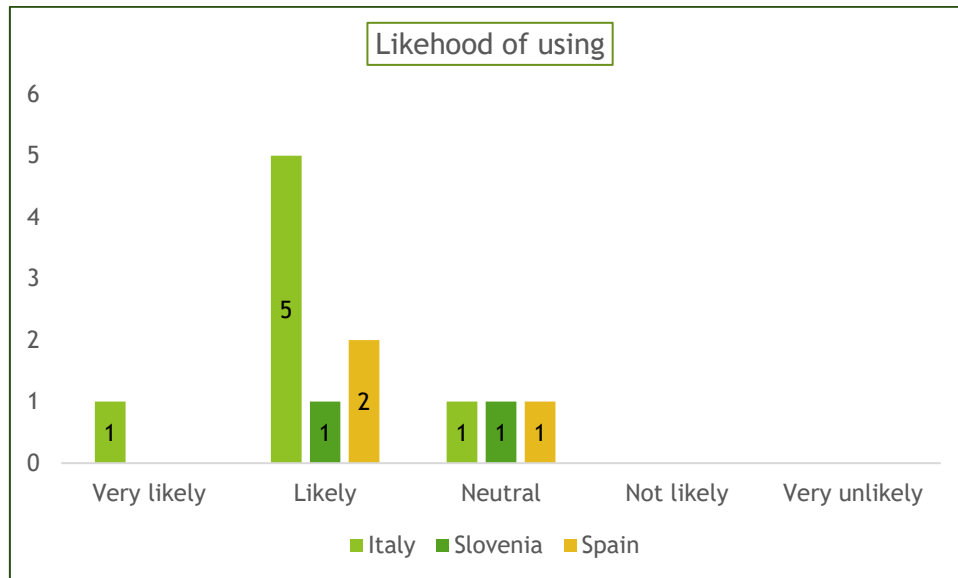
- More interaction between the characters.
- To include the consequences of unsafe behaviour.
- To show more accidents and damages that workers can suffer so that the student really knows what happens when adequate prevention measures are not taken.

The following question tries to know what elements are missing in the application to make it more useful from the pedagogical point of view. Only one answer from a trainer: assessment tool within each minigame and at the end.

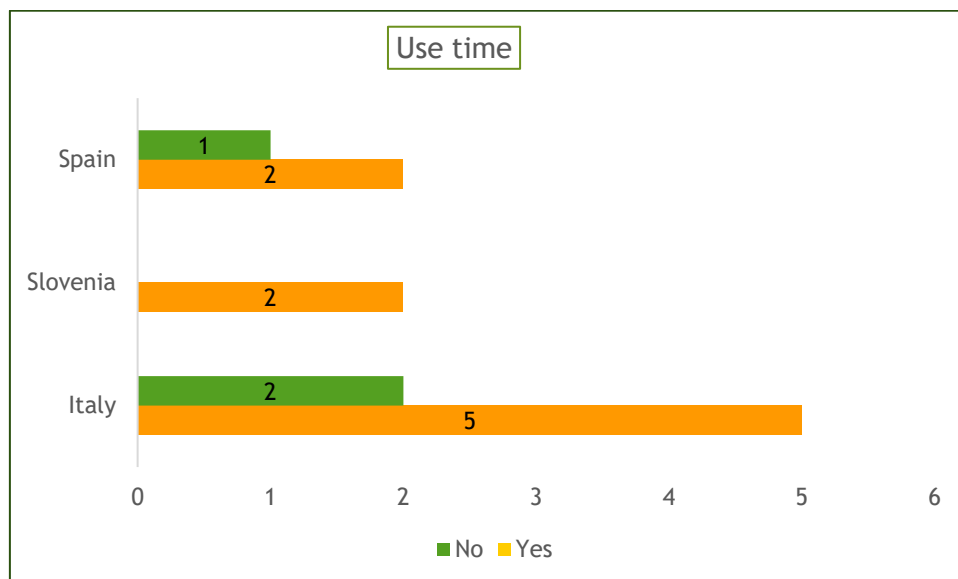
The trainers were asked about the likelihood of their using this application as a training tool.

The chart below shows the answers.



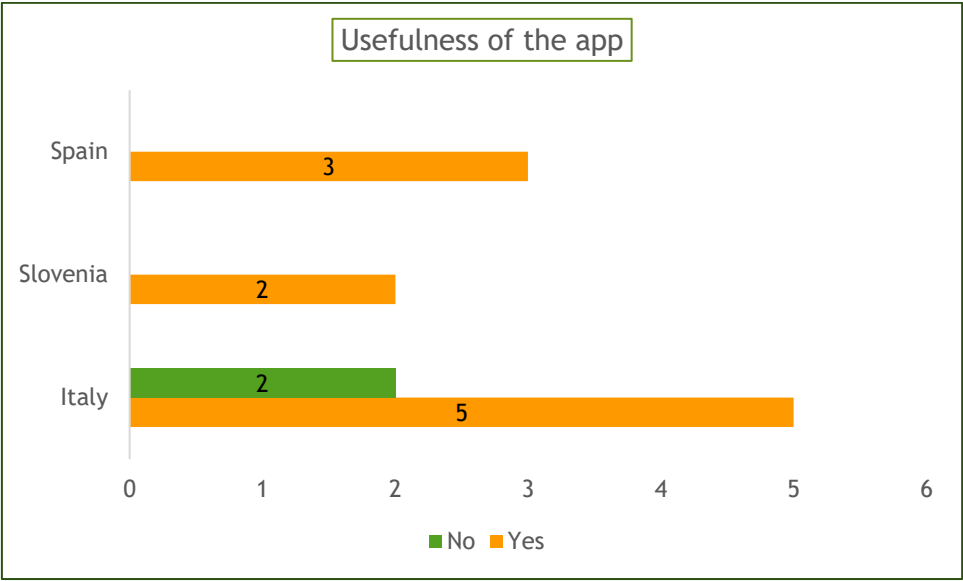


Regarding the length of the use and its adaptation to a teaching-learning process, the trainers answered Yes, as showing below.



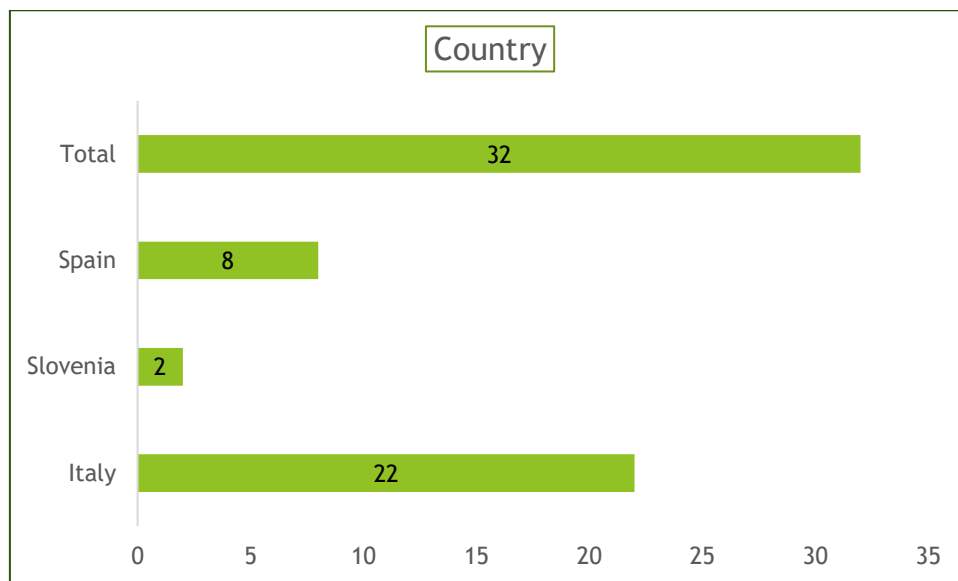
The last question of the questionnaire for the trainers was aimed at finding out their opinion on the usefulness of the application in a training process of hazards prevention in work at height. As shown, the most of them think that the app is useful for this kind of training.



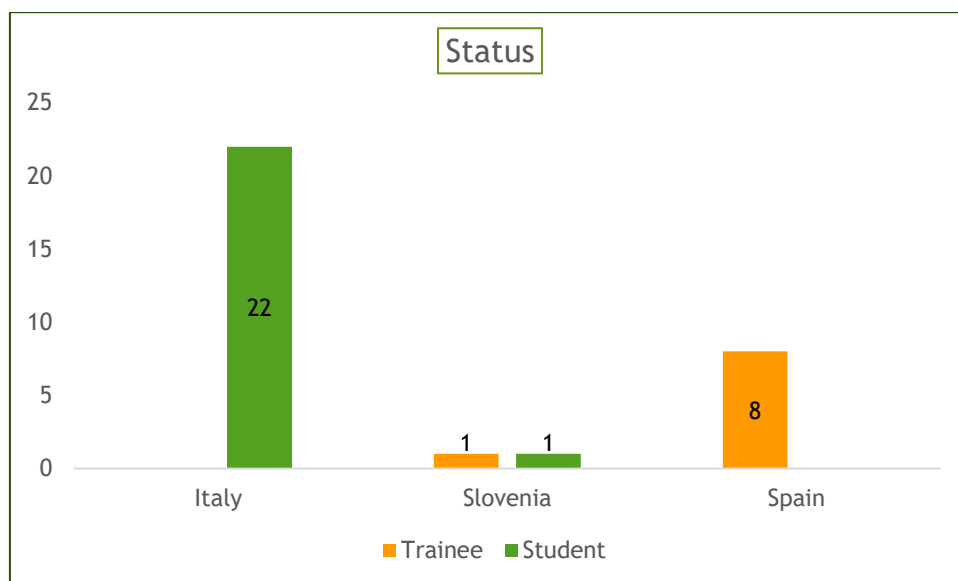




3. TRAINEES



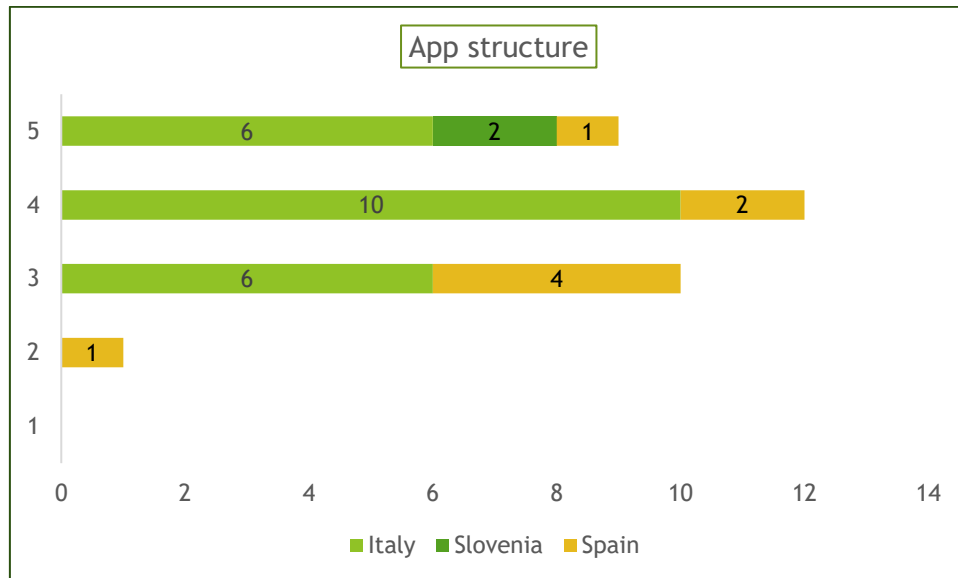
Status of the participants:



The data show that most of the participants were students, participating in formal training activities in the construction sector.

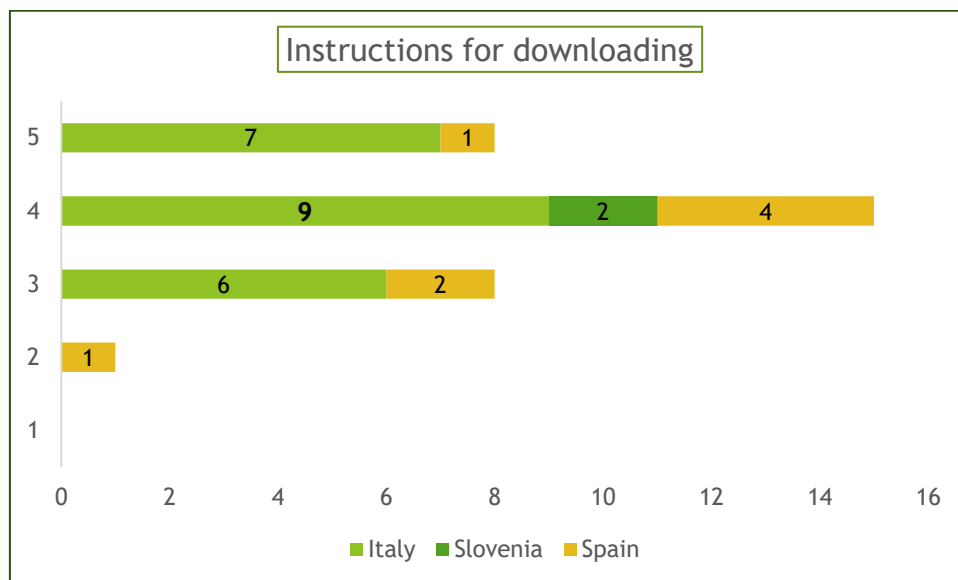
The first question for the trainees was about the general structure of the app.





The students' answers mostly indicate a positive evaluation of the structure of the application, highlighting the high number of participants who have rated it with four stars.

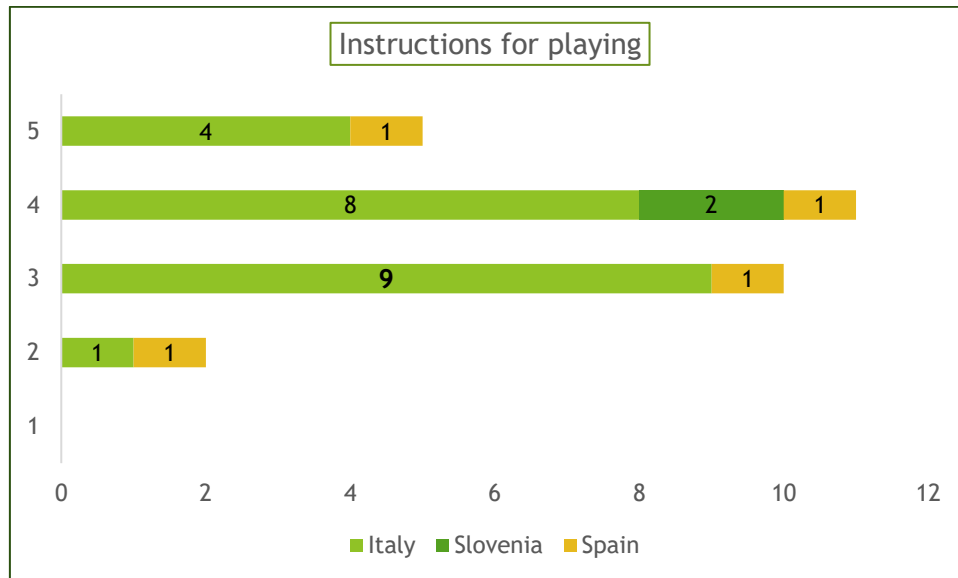
The next question is about the clarity of the instructions they received to be able to download the application and the ease of doing so.



The results show that it seems easy to download the application to the mobile device.

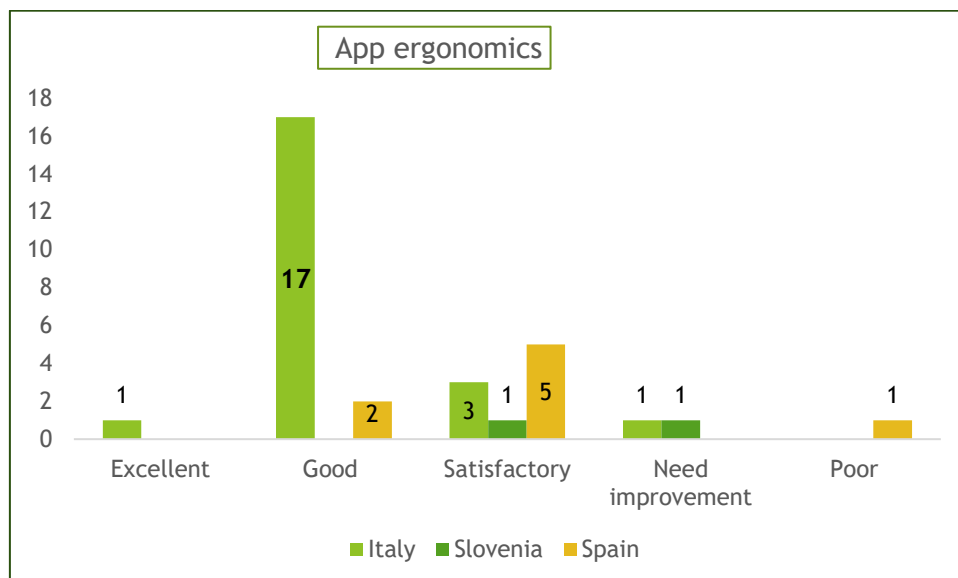
The next question in the questionnaire was aimed at finding out the level of difficulty presented by the application's mini-games and whether the instructions received were clear and simple to follow.





The trainees' responses indicate that it is easy to play. In fact, it has been one of the most important milestones the partnership has faced in developing the application: making it a user-friendly tool.

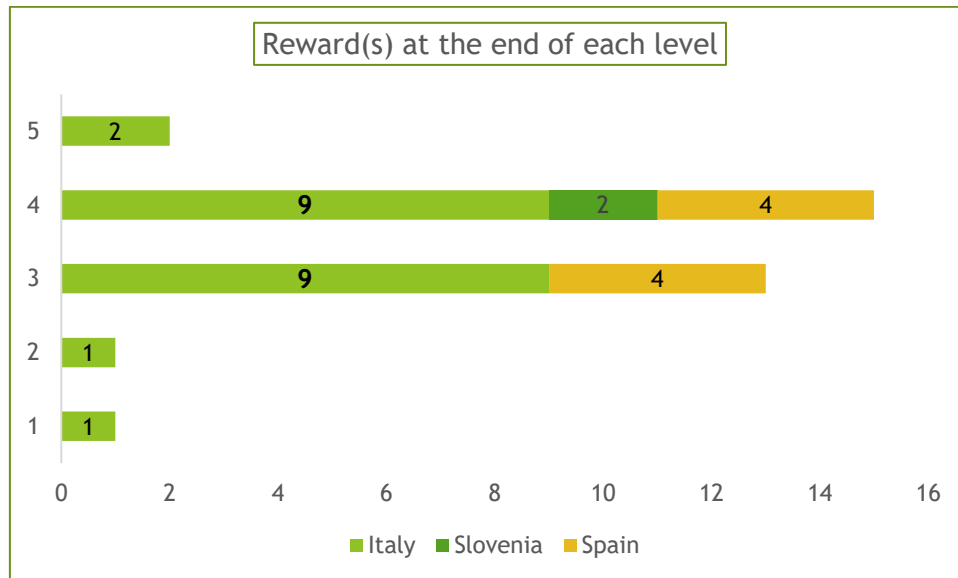
The next question is about the ergonomics of the app.



The distribution of student responses is heterogeneous, although mostly positive.

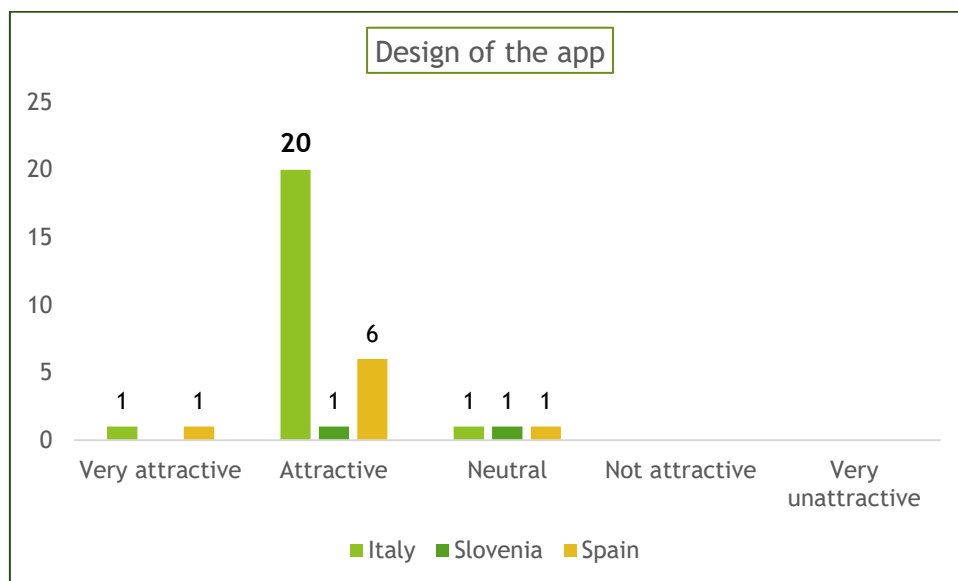
As a reward, players can earn different pieces of a building under construction (designed for this application) until it is completed. They were asked their opinion about this element.





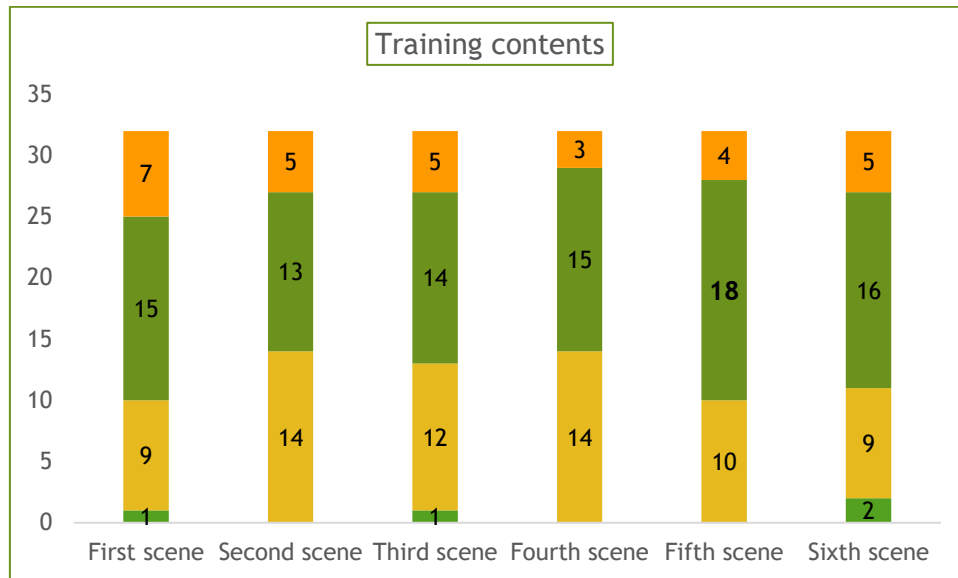
It seems that the reward designed for the players has been to the liking of the trainees.

The following question was aimed at finding out the participants' assessment of how attractive or unattractive the application.



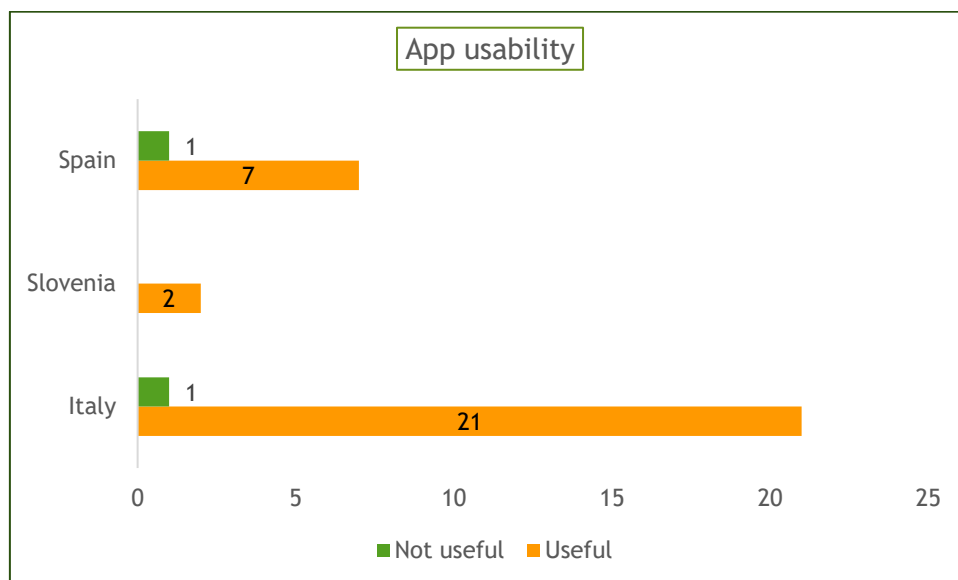
The next questions are aimed to know the trainees' opinions about the training contents within each level.





None of the participants have evaluated any of the scenes with a star. Most of the responses concentrated on evaluating the content as being of medium-high quality, with the fourth scene standing out as the one with the highest rating.

The degree of usability that, in the opinion of the trainees, the application has, was another of the questions asked.



Most trainees find the application especially useful.

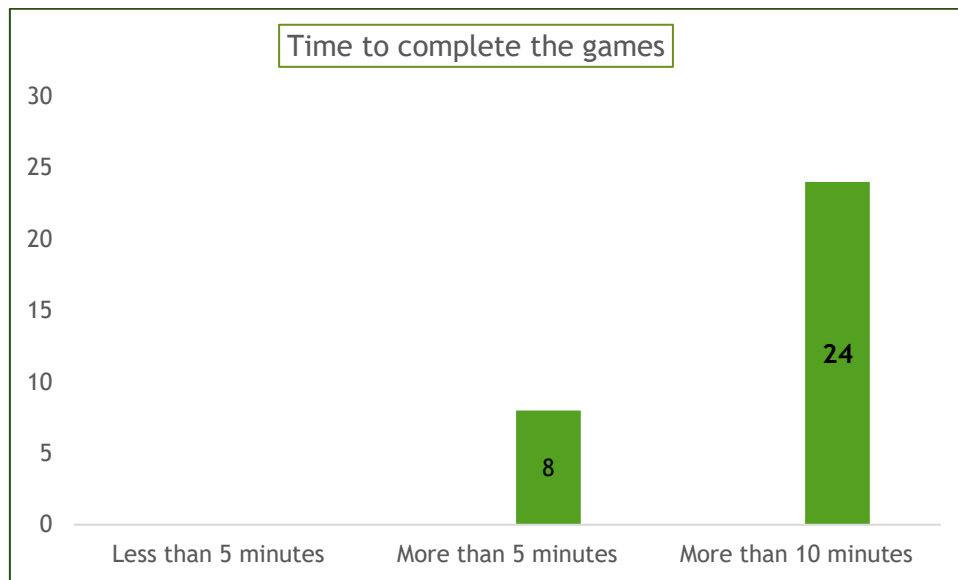
Survey participants were asked what was most difficult about playing these minigames. The answers were related to moving from one level to the next, and about the content of some questions, which were unclear.



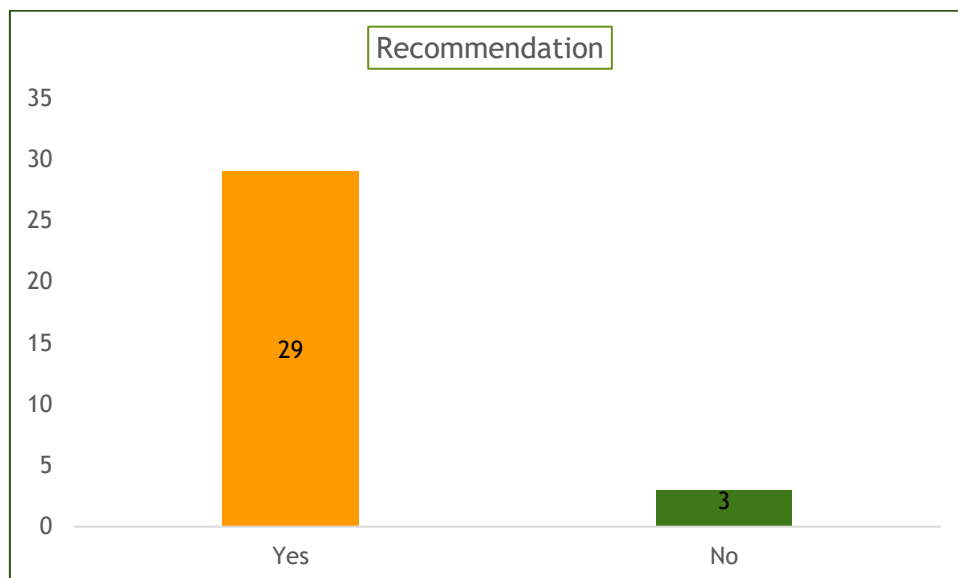


In relation to what they had learned after using the application, most of the trainees responded that some things were new to them but others they knew from before. Several of them stressed that they had realized the importance of prevention when working on site.

The next question was about how long it took them to complete the minigames.



Finally, the trainees were asked if they would recommend the application to other users





4. ANNEXES

4.1. Questionnaire for trainees

1. Country of residence:

- ☐ Belgium
- ☐ Germany
- ☐ Italy
- ☐ Luxembourg
- ☐ Slovenia
- ☐ Spain
- ☐ The Netherlands

2. Status: *(please, select the appropriate(s) case(s) that suit(s) you best)*

- ☐ Trainee
- ☐ Student

These questions are aimed at finding out your opinion about the contents of the app from a technical and useful point of view in a training and teaching-learning environment.

3. Please, evaluate the App structure.



4. Please, value the instructions for downloading the application to your own device.



5. How do you assess the information relating to the instructions to follow for playing?



6. What do you think about the ergonomics of the app?

- ☐ Excellent
- ☐ Good
- ☐ Satisfactory
- ☐ Need improvements
- ☐ Poor

7. How do you rate the information relating to the reward(s) at the end of each level and of the play?



8. Is the overall design of the app looking attractive for you?





- ☐ Very attractive
- ☐ Attractive
- ☐ Neutral
- ☐ Not attractive
- ☐ Very unattractive

9. How do you rate the training contents on H&S included in this first scene?



10. How do you rate the training contents on H&S included in this second scene?



11. How do you rate the training contents on H&S included in the third scene?



12. How do you rate the training contents on H&S included in this fourth scene?



13. How do you rate the training contents on H&S included in this fifth scene?



14. How do you rate the training contents on H&S included in this sixth scene?



15. How useful do you find the UPP GAMES App?

- ☐ Useful
- ☐ Not useful

16. What has been the most difficult of playing these minigames? (Three answers at most)

17. What have you learned after playing? (Three answers at most)

18. How long did it take to go through all 6 levels scenarios?

- ☐ Less than 5 minutes
- ☐ More than 5 minutes
- ☐ More than 10 minutes

19. Will you recommend this app?

- ☐ Yes ☐ No

20. Please, add any comment you consider.





4.2. Questionnaire for trainers

1. Country of residence:

- ☐ Belgium
- ☐ Germany
- ☐ Italy
- ☐ Luxembourg
- ☐ Slovenia
- ☐ Spain

2. Status:

- ☐ Trainer/Teacher/Tutor

These questions are aimed at finding out your opinion about the app from a pedagogical point of view (mainly) in training and teaching-learning environments.

3. Please, value the usefulness of dividing the mini games into different scenes from the pedagogical point of view.



4. How do you value the level of importance of giving an immediate feedback to the students to improve the knowledge acquirement?



Please, add your comments here.

5. How do you rate the way to present the contents on H&S in the scene from the ground floor?



6. How do you rate the way to present the contents on H&S in the scene developed on the first floor?



7. How do you rate the way to present the contents on H&S in the scene developed on the second floor?



8. How do you rate the way to present the contents regarding H&S in the scene developed on the third floor?





9. Please, value the way to present the contents on H&S in the scene developed on the fourth floor.



10. How do you rate the way to present the contents in the scene developed on the roof?



11. Please, value the quality of the different elements included in the scenes: pictures, images, drawings, etc.



12. In your opinion, what elements should have been included in the mini games to increase and keep a safer workers' behaviour? (Three answers at most)

13. In your opinion, what elements should be included in the app to make it more useful from the pedagogical point of view? (Three answers at most)

14. Will you consider using this app as a training tool?

- ☐ Very Likely
- ☐ Likely
- ☐ Neutral
- ☐ Not Likely
- ☐ Very Unlikely

15. Do you think that the length of use is adapted?

- ☐ Yes
- ☐ No

16. Do you think this app is useful?

- ☐ Yes
- ☐ No

17. Please, add any comment you consider.

THANK YOU VERY MUCH FOR YOUR COLLABORATION!



Leader:



FUNDACIÓN LABORAL DE LA CONSTRUCCIÓN
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