VIRT²UE

Training the Trainer

Plan for future platform development

WP6 Online platform and evaluation

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D6.4 Plan for future platform development

Project Details	
Project full name	Virtue based ethics and Integrity of Research: Train-the-Trainer programme for Upholding principles and practices of the European Code of Conduct for Research Integrity
Project acronym:	VIRT2UE
Start date of the project:	01.06.2018
Duration:	36 months
Project number:	N 787580
Revision date	30-11-2021

Deliverable details	
Work Package	WP 6 Online platform and evaluation
Deliverable description	D6.4 Plan for future platform development
Work package leader	Marc van Hoof
Authors and editors	Marc van Hoof

Overview

Introduction and Summary

WP6 is responsible for overall objective 6: **To develop the online training platform and user interface, which will be instrumental in evaluation of trainers' and researchers' needs and project sustainability**.

The main strategy in WP6 is to use existing open source software technologies with a proven track record for implementation on the platform. The Massive Open Online Courses (MOOC) software and Question and Answer (Q&A) software is successfully used by numerous distinguished academic or commercial organizations. This ensures low cost implementation, allows for a focus on the specific ERI adaptation and severely reduces the risk of problems with software development (e.g. develop-mental delays, additional costs).

The EnTIRE platform will host the online e-learning platform, allowing VIRT^{2}UE to focus investments on user experience software developments. All educational ERI materials will be open access and thus freely available. This allows stakeholders (e.g. academia and industry) to embed the materials in their curriculum, which increases the value and dependency on the platform. The Q&A part of the platform allows for a strong involvement of the ERI community for evaluation purposes. Questions about ERI content which are frequently posed or have a large importance within the community will be used to adapt the platform. A continuous evaluation and iterative development feedback loop will be created. Important topics will also be used as input for material development (WP4). For example by covering them on the dedicated YouTube channel. This ensures that there is a strong and direct link between the community's needs, actual use and the platform's content and identity. This identity will be strengthened by branding of the platform from which its authority should be recognizable.

Overview of objectives and deliverables

Objectives

Objective 1 Deploy an online open source and open access blended learning platform.

Objective 2 Develop an intuitive and engaging interface for the online platform.

Objective 3 Evaluate the community's use and needs for the training program.

Objective 4 Establish a continuous evaluation and iterative development feedback loop with trainers and researchers.

Deliverables

D6.1 The pilot version of the e-learning platform is online, M6.

D6.2 Report on findings of the pilot evaluation, M12.

D6.3 Version 2.0 of the e-learning platform is available, M24.

D6.4 Plan for future platform development, M36.

Plan for future platform development

Achievements so far

VIRT^{2}UE planned a modular, community supported, wiki-enabled blended learning environment which is sustainable for the long term. The implementation has succeeded. After logging in with ORCID, community members can create their own instructions for courses, and assemble them in training guides taking the perspective of a trainer and trainee separately. Other initiatives and community members can host interactive courses via Github and disseminate through The Embassy.

Goal

The goal for the future development is concentrated on identifying:

1. The experience of users who have participated in the VIRT^{2}UE train-the-trainer course
2. The use of the platform from users who reach the training section through search consoles
3. Factors that contributed to a positive experience
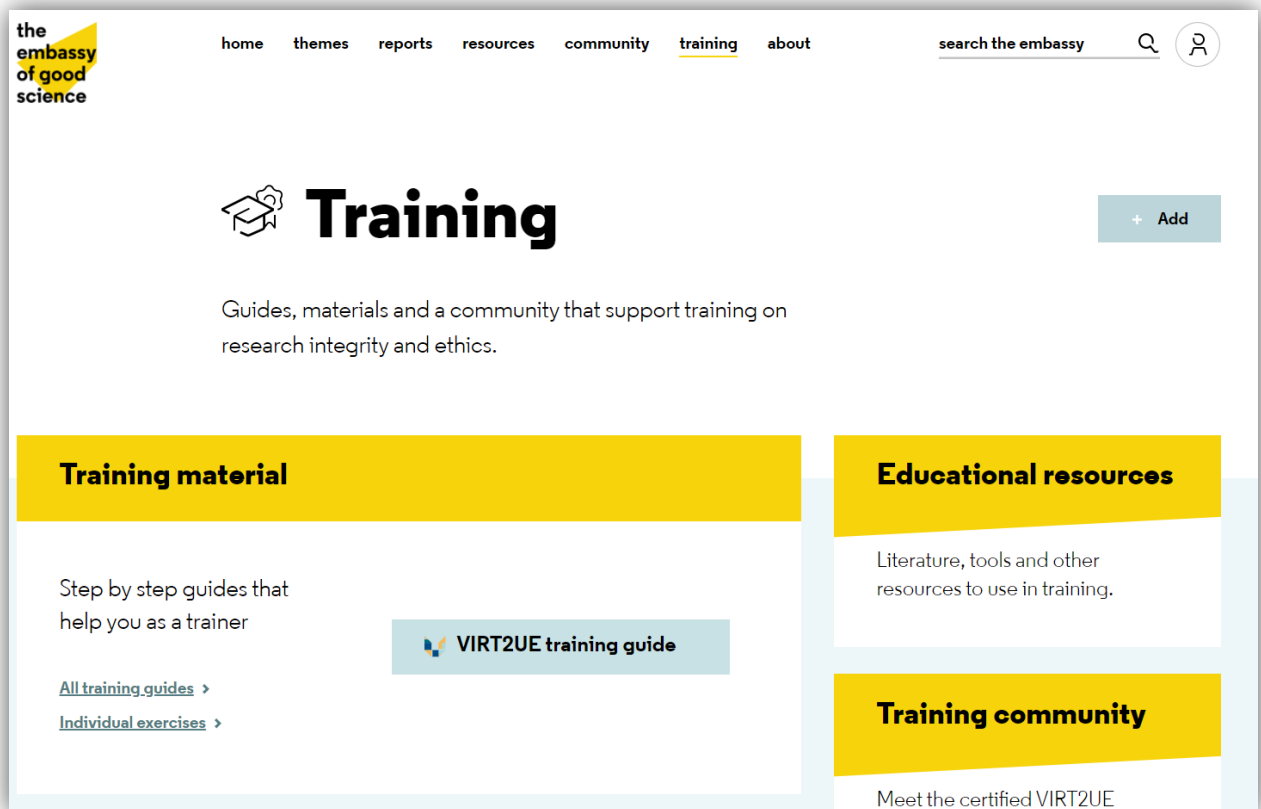4. Elements which can be improved

Figure 1. The landing training page, which focusses on VIRT^{2}UE.

Use and evaluation of VIRT^{2}UE developed platform features

The experience of VIRT^{2}UE trainers

The online trainings consisted of multiple modules. 4 different types of modules existed (Instructions, a Guide, online courses and other content on the Embassy (such as Themes and Resources). The evaluation contained information only on the Online courses, Instructions and supportive materials.

Evaluation of Online courses

Out of over 125 participants, 25% evaluated the online courses with a grade lower than 7, 25% with a grade between 7 and 8, and 50% of participants scored a grade between 8 or 10 (median = 8, IQR = 2). 96 (74%) participants would recommend the online courses to others. 92 (79%*) participants thought that the online courses were an adequate preparation for the interactive exercises. Only 6.9% disagreed.

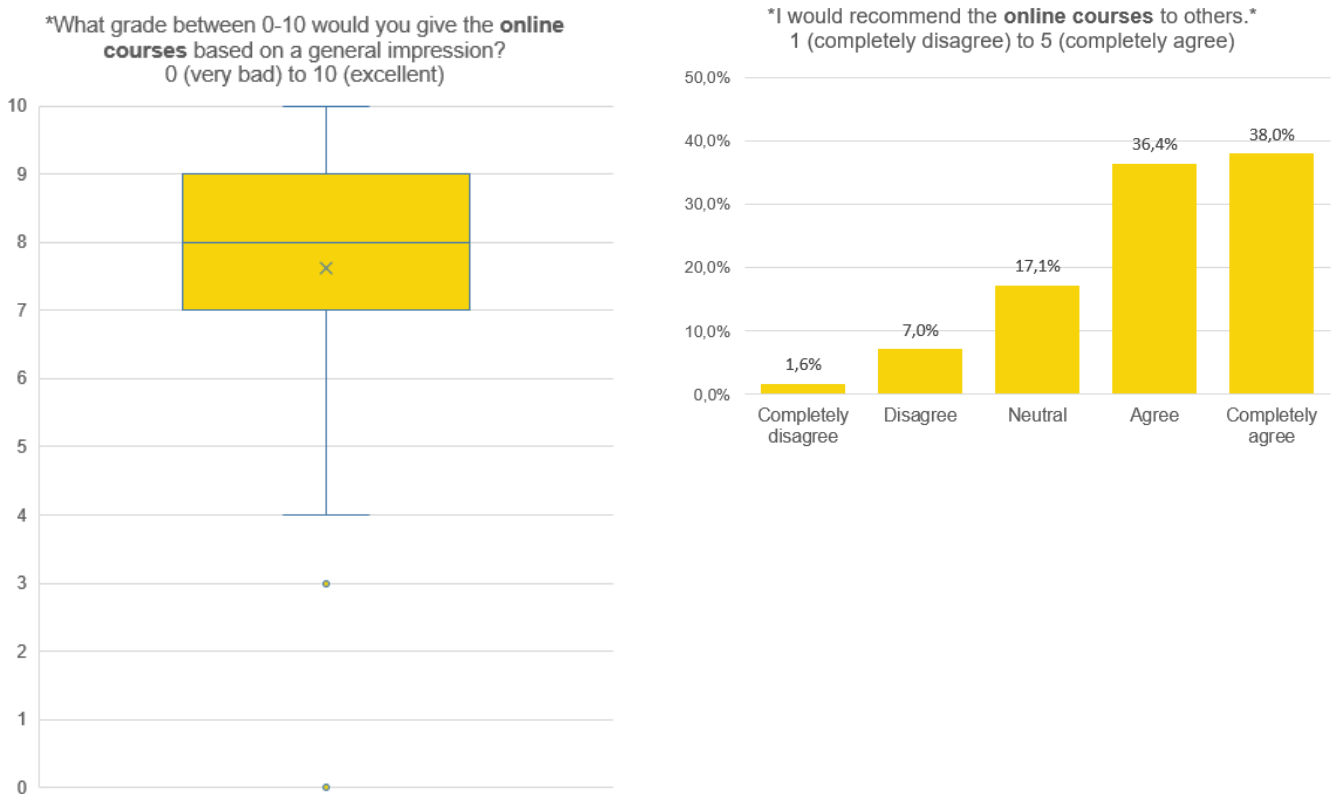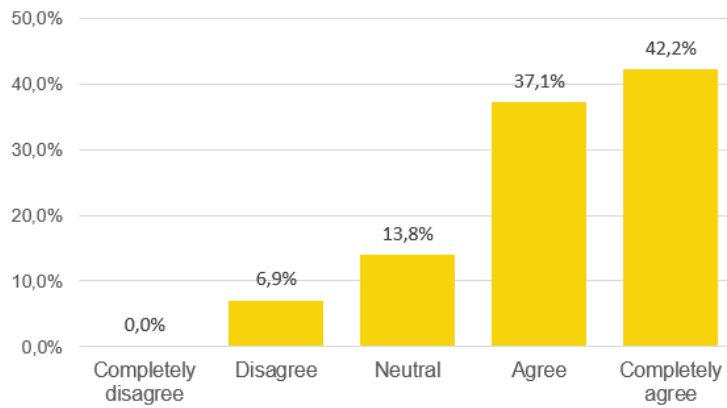*Percentages might vary due to different responses to different questions*

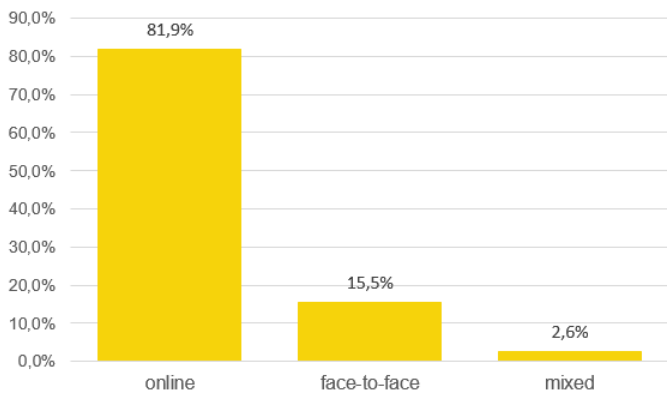
Figure 2. A boxplot and bar chart of the evaluation.

The blended-learning approach & ability to give the full training online
Due to the Corona-pandemic, most participants followed the interactive exercises online (online: n = 95 (81.9%); face-to-face: n = 18 (15.5%), mixed: n = 3 (2.6%). 80 (82%) participants felt that the online delivery of the training enabled them to deliver the training in a face-to-face format.
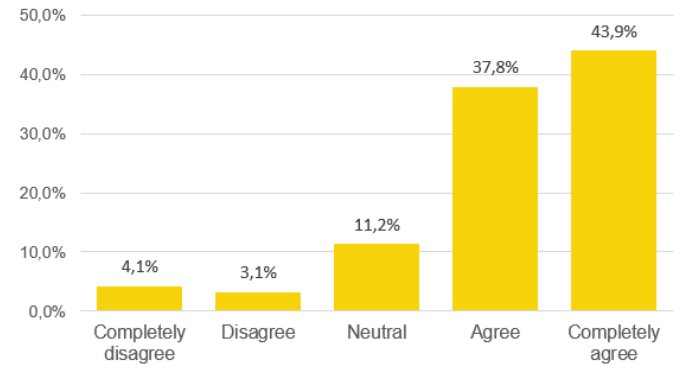

Figure 3. Three bar charts of the evaluation.

The value of other materials on The Embassy

72% of participants agreed that the assignments on The Embassy, consisting of Theme pages and manuals, we an adequate preparation for the face-to-face training. A somewhat larger proportion remained neutral (22%). Nobody disagreed.
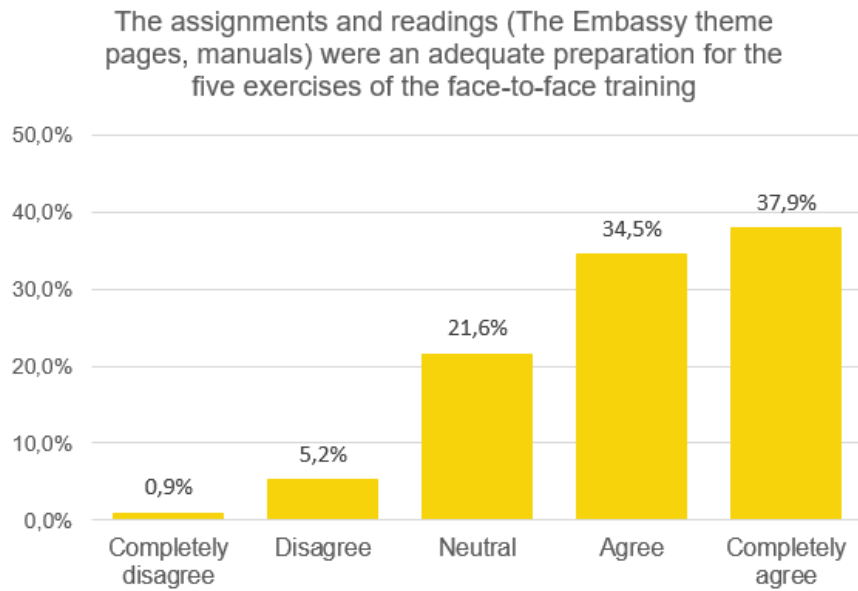
The assignments and readings (The Embassy theme pages, manuals) were an adequate preparation for the five exercises of the face-to-face training

Figure 4. A bar chart of the evaluation.

Impact of VIRT^{2}UE on The Embassy through a common search console
Via the Google Search engine, The Embassy received approximately 350 unique visitors a day through Google and around 12.5K people saw The Embassy in their Google search results.
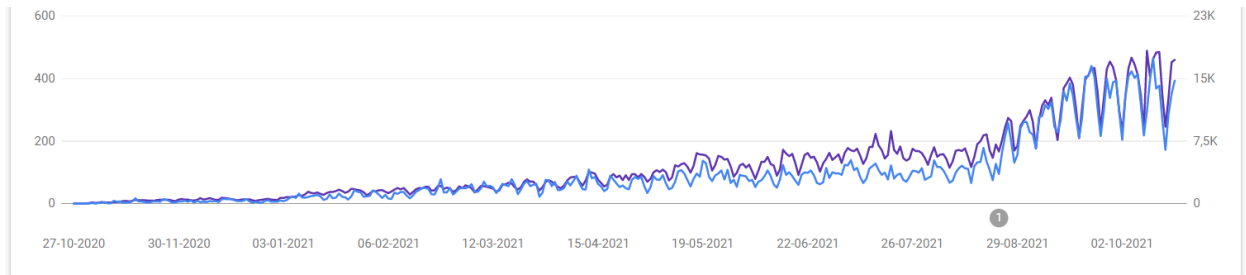

Figure 5. During the last year of VIRT^{2}UE, the traffic to The Embassy increased significantly. The purple line depicts the number of visitors who have clicked on a search result in Google. In Blue, the number of 'views' is shown, this is how many people search for related information and see The Embassy in their search results.

The proportion of visitors who were looking for information and materials and ended up with the VIRT^{2}UE materials was relatively modest. The results (Figure 6) indicate that optimizations are necessary to the materials to reach a broader audience online. The most important keywords (Figure 7), namely *'science training'* and *'integrity training'*, yielded no clicks – which indicates that the page needs further adjustments to increase the yields.
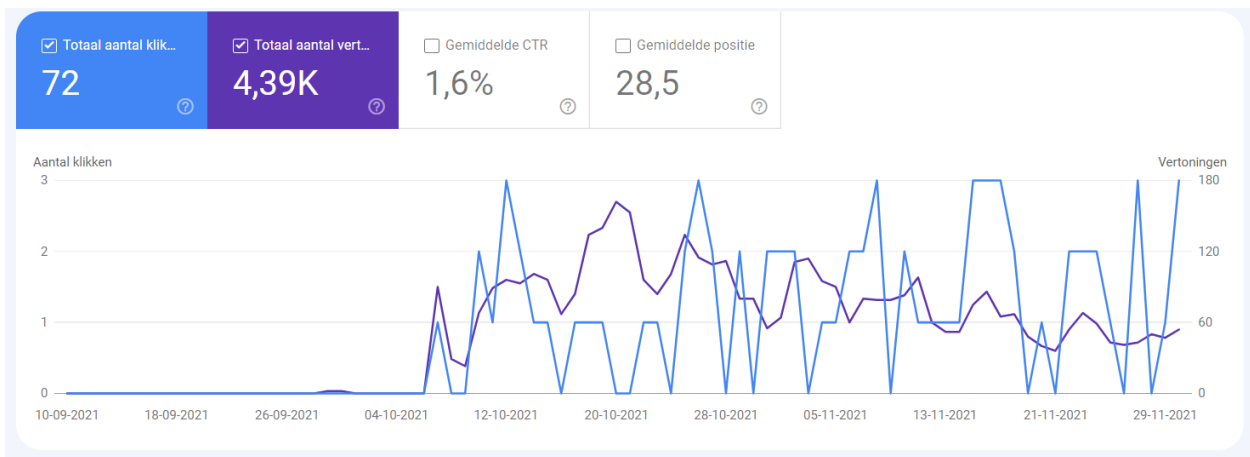

Figure 6. The training page which was developed by VIRT^{2}UE has approximately one visitor a day. It is viewed through Google, approximately 60 times a day. No growth is expected based on the numbers at the end of the project.

embassy of good science	17	233
virt2ue	5	92
virtue training	2	70
embassy wiki	1	209
the embassy of good science	1	66
train the trainer	0	418
science training	0	261
integrity training	0	216

Figure 7. The top search keywords which resulted in visiting the Training page, which is mainly dedicated to VIRT²UE.

Some individual instruction pages are more successful. The top performing instruction page – '*Four Quadrant Approach: A Method for Analysing Cases in Research Ethics and Research Integrity*' had a total of 154 clicks in the past year and more than 4K views. A screening by the Google Search Console indicated that the individual instruction pages were not properly formatted for mobile devices.
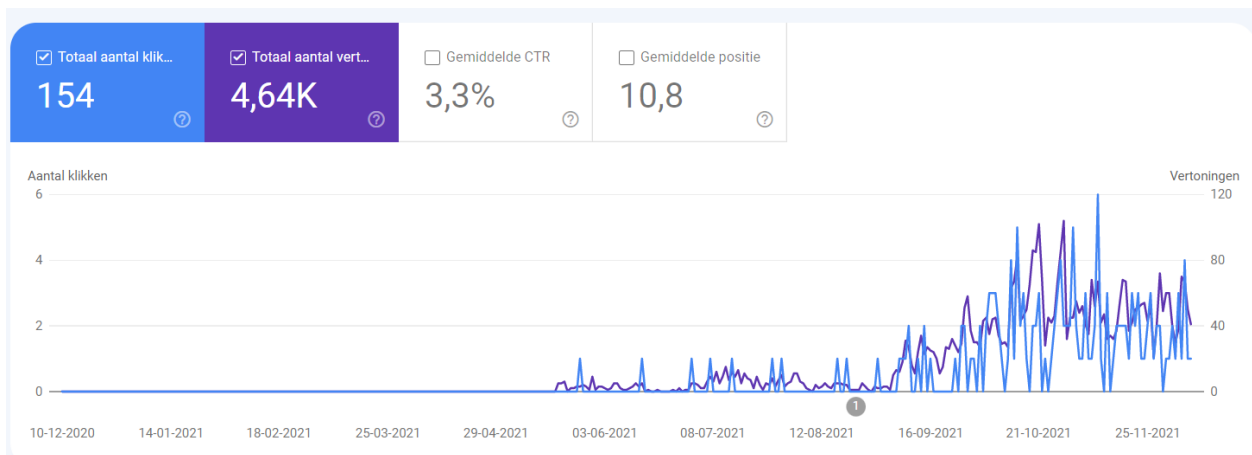

Figure 8. The instruction page 'Four Quadrant Approach: A Method for Analysing Cases in Research Ethics and Research Integrity' performed better during the last year and showed also an increasing number of users.

Development of a new community section for legacy projects and new initiatives

Within VIRT^{2}UE, a discussion section on The Embassy was developed which enabled users to interact which each other. Although initially some question arose and were answered – the participation remained behind in relation to other parts of the platform. Informally, we heard from users that they were hindered by sharing their questions openly online. We decided to redesign the discussion section and embed in a new section called 'the community section'. This section is meant to enable online discussion, but now in a way which is connected to a specific initiative. It was launched during the end-conferences of both EnTIRE and VIRT^{2}UE, and is thus specifically aimed to keep on improving the platform together with the community at the project's end.
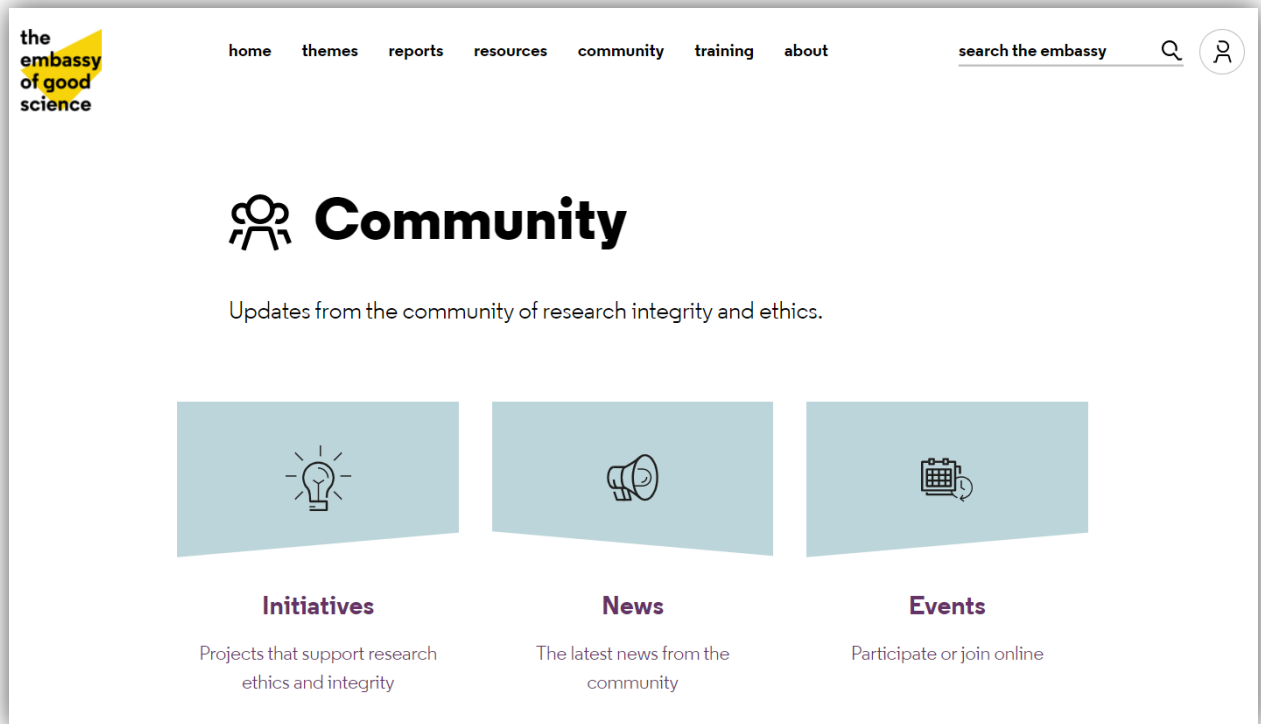

Figure 9. The new community section includes 'Initiatives', 'News' and 'Events'.

The Embassy expands the ability for other initiatives to share their content

During the last 2 years of the project, multiple projects expressed their whish to collaborate with The Embassy. A frequent comment was that The Embassy was not suited for uploading their specific output, such as deliverables. With the availability of the new Initiative section, other projects now have the ability to directly host their content. Their own logo and Twitter feed can also be added.
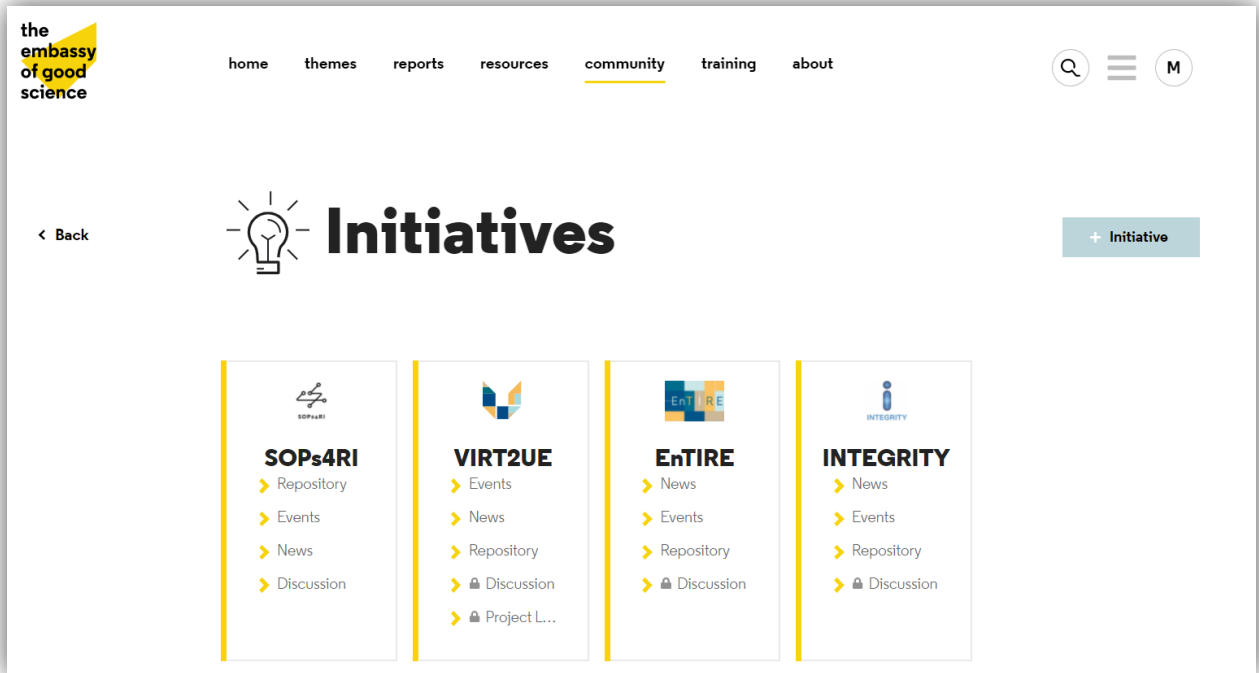
Figure 10. Within the new community section, other projects have the ability to add their own files in the repository, spread the word for news and upcoming events.

Creating and sharing events

Tied to projects, events can be hosted and shared through The Embassy. These events can be further promoted via social media. Users can easily add the events to their online agenda's and directly register.
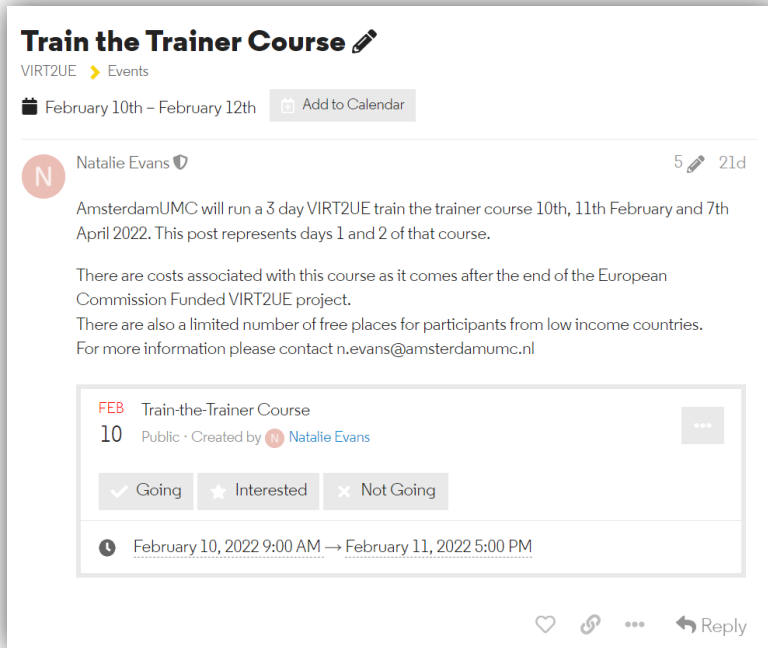
Figure 11. Users can state if they are attending a course, share it or start a discussion around it.

Hosting open and closed Q&A sessions
Initiatives can start their own discussion or Q&A discussion and choose to open this to the internet, or close it to their direct participants. As with the rest of the platform, users can participate after logging in with ORCID.
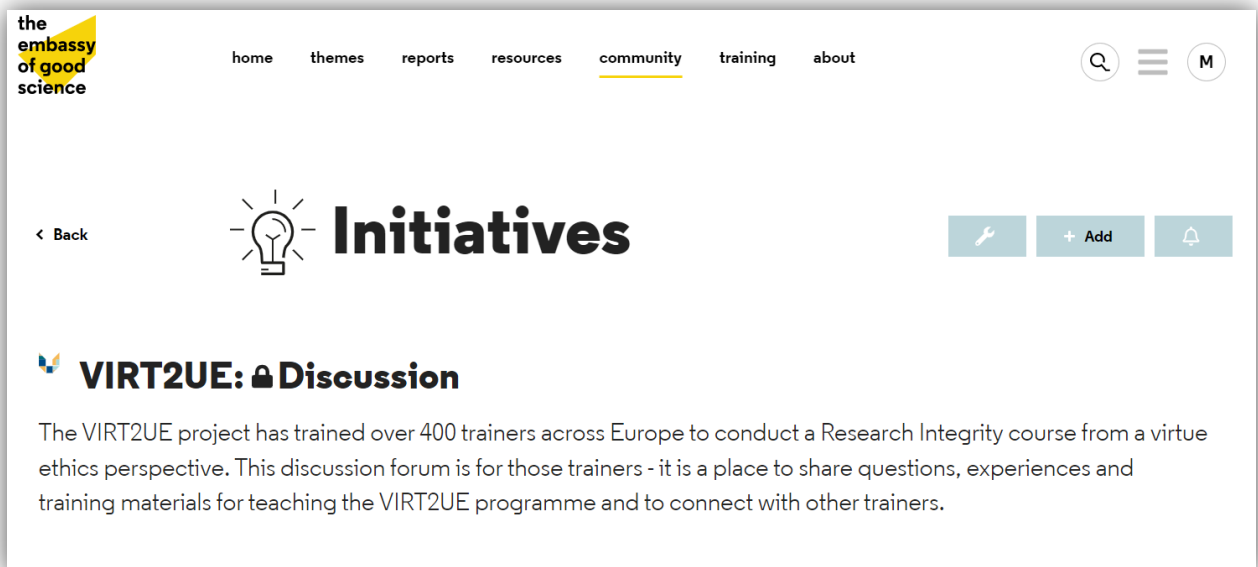

Figure 12. A shielded discussion section is now available. This allows moderators to hide a discussion from everyone else online. An open Q&A is still possible.

Providing news from the community

Initiatives can share the news within their project. The news is automatically added to the general news feed of The Embassy.
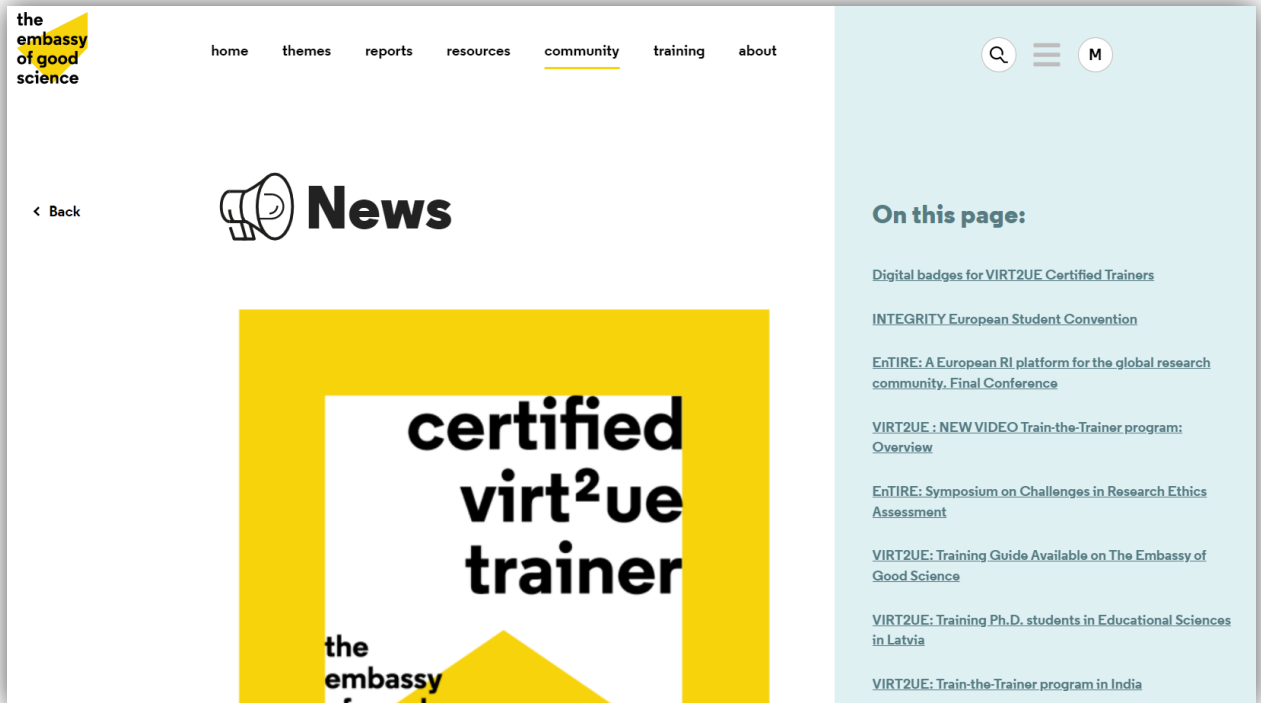

Figure 13. The new 'news' feed which contains the latest from other initiatives and The Embassy itself.

Identification of future improvements

Streamlining the content of the individual instructions
As was reported by the Google Search console, some instruction pages should be reformatted to make optimal use of the format. For example, some instruction pages do not restrict the number of words in the summary captions – leading to malformed pages and information is repeated on multiple spots (redundancy). This might lead to a lower ranking in common search consoles.

Connecting thematic pages with instruction pages
Cross-platform browsing can be improved by adding the instruction pages of trainings to thematic pages. At this moment, many instruction pages feature links to thematic pages, but few thematic pages link to instruction pages.

Improving the layout by enhancing the way to add images on the page
Currently, it is difficult to add images to pages without breaking the format of the page. A new user interface should be designed to place images on the page and to enable users to easily add images.

Improving the interactivity of pages
The online courses on The Embassy feature interactive elements. Due to privacy concerns, no data is saved to The Embassy's server. In the future, improvements can be made to integrate such interactivities more directly on the instruction pages. For example, to enable online participatory workshops.

Online registration of (partially) completed courses and keeping track of progress
Currently, the progress in Training courses on The Embassy is not being saved. In the future, a privacy minded new feature should be developed. Such a feature could keep track of the progress of users, allows online direct certification, while ensuring that a user can determine how this information is stored and displayed on The Embassy.

Inviting other initiatives to add courses
The training materials on The Embassy are wiki-enabled. Although at this moment, they have only been developed by VIRT^{2}UE. Close collaboration with other initiatives could possible further identify issues with the development of new courses and enhance its uptake.

Extending the single-sign on ability
At the moment, users need to sign in for the wiki-part of the platform and for the community part of the platform with their ORCID. This should be reduced to a single sign-on moment, to improve the user experience further.

Giving credit to course developers
At the moment, users who add to online teaching materials are credited by displaying their name on the page. In order to further promote content development on The Embassy, users who contribute courses could be credited by pushing back their contributions to their ORCID resume.