

Open Virtual Mobility

O4-A2.2: Produce content for the tool and translate content

O4-A2.3: Technical development of the tool
: O4-A2.4: Integration of content

O4-A2.7: Implementation in the VM Learning Hub and User-Testing-
Final -

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Executive summary

The evaluation of virtual mobility skills in the open VM project can be done with a self-assessment tool in the form of a Moodle plugin.

After describing the tool and its main functionalities, the content construction methodology is detailed in several steps.

Then are presented the technical development of the tool as well as the integration of the content into the tool.

Finally, the installation of the plugin in the project Hub and the test procedure by users are explained.

What are the objectives of this paper?

This paper aims to provide a comprehensive account of the steps involved in developing the e-assessment tool, from design through to implementation and user testing.

Who is this paper for?

- Mainly for the partnership of the Project
- For educators who have to assess transversal competences
- users of openVM learning hub to read background information about the self-assessment tool design
- Developers who wish to create and implement self-assessment tools

What topics are addressed in this paper?

Description of the tool, methodology for developing the tool, development and implementation, user testing and translation.

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1. Aims and Scope

While the previous documents (O4-A1.3 e-assessment concept and A4-A2.3 e-assessment tool) defined the type of virtual mobility skills assessment tool based on existing tools in the literature for similar skills (transversal competences), the purpose of this document is to describe how the content of the tool was defined, how it was implemented in the hub and how it will be tested.

2 Produce the content for the tool and translate contentTool description

As defined in the previous documents (O4-A1.3: e-assessment concept and O4-A2.3: e-assessment tool) and decided at the various meetings with partners, notably at the Timisoara meeting, the assessment tool is a self-assessment tool.

The evaluation covers the eight open virtual mobility skills of the skills framework defined in the project's O1 result.

This self-assessment tool includes statements associated with a four-level Lickert scale. In the Lickert scale, there are two positive levels (fully agree, agree) and two negative levels (fully disagree, disagree). These statements describe the activities and behaviours associated with virtual mobility skills. If the user thinks that they are able to realise all or part of it, they will answer positively on the Lickert scale and otherwise negatively.

For the same competence, the statements are arranged in the different sub-skills or components of the competence. After choosing his status (student or teacher) The user can choose the skill they want to evaluate and as soon as they have finished completing this skill they can see the result presented in the form of a radar graph.

Self-assessment tool

- ✓ 1 - Intercultural skills and attitudes
- ✓ 2 - Interactive and collaborative learning in an authentic international environment
- ✓ 3 - Autonomy-driven learning
- ✓ 4 - Networked learning
- ✓ 5 - Media and Digital Literacy
- ✓ 6 - Active self-regulated learning skills
- ✓ 7 - Open-mindedness
- ✓ 8 - Gaining Knowledge of Virtual Mobility and Open Education

2.2 Methodology

Several steps were necessary to build the content of the tool.

The first step was to create a **draft of all the items in the tool**.

This achievement was made based on the skills of the reference framework by imagining activities or behaviours that proved that the skill was well acquired or based on existing questionnaires or studies on these skills.

These activities are written in a "positive" way, i.e. if the user agrees or completely agrees, it will always mean that the competence is acquired.

The second step was a peer review by all partners.

For each declaration in the draft, the partners had to say whether it was appropriate for them and if not, propose a change or make a comment.

The third step was a synthesis of all the remarks and changes proposed by the partners.

This synthesis work was also accompanied by a search for new items to complete certain skills that were not sufficient and in particular by consulting several publications.

The fourth step was to carry out a field test involving students from the partners. The feedback was not given item by item but rather in a global way. It showed, among other things, that some activities only concerned teachers.

This feedback therefore modified the design of the tool because it was necessary to install a filter for the user's status (teacher or student) so that each target user only answers questions that are relevant to them.

For the fifth step, a second peer review was done by all the partners and the changes were integrated into the tool.

The last step done by all the partners was the translation of all the items and also the interface of the tool. The tool is now available in 7 languages (DE, EN, ES, FR, IT, NL and RO).

3 Technical development of the tool

3.1 Motivations

The choice of making a specific development to implement the self-assessment survey part of the tool comes from the observation of a lack of flexibility in Moodle's plugins to provide summarised results from split surveys. On top of that, translation of the statements into several languages was needed, which is hard to produce in a user-friendly way with Moodle's tools. In addition, statements vary depending on the user's status (student or teacher). Javascript allows the creation of a smoother experience for the end user, avoiding page reloading where it's not needed.

3.2 Implementation of the tool

The tool is a Moodle module plugin type (mod). It provides an interface built with Javascript that is responsible for the rendering of the statements.

The statements are stored in different JSON files split into two different kinds: statements for the students and statements for the teachers (which differ in some ways).

Each of those JSON files contain the statements (questions) for a given language and a given role (student or teacher):

```
questions_student_de.json
questions_student_en.json
questions_student_es.json
questions_student_fr.json
questions_student_it.json
questions_student_nl.json
questions_student_ro.json
questions_teacher_de.json
questions_teacher_en.json
questions_teacher_es.json
questions_teacher_fr.json
questions_teacher_it.json
questions_teacher_nl.json
questions_teacher_ro.json
```

The integrality of the JSON statements such as the whole Javascript development are bundled into a single Javascript file. It is used by the Moodle plugin to render the self-assessment survey.

A capable Moodle user can add a new activity called « OpenVM survey » in a course for one of the 8 categories of statements. In order to cover the whole repository of statements, 8 instances of the plugin must be set up into a course. Each of them provides a survey for the given category.

Intercultural skills and attitudes

Interactive and collaborative learning in an authentic international environment

Autonomy-driven learning

Networked learning

Media and Digital Literacy

Active self-regulated learner skills

Open-mindedness

Gaining Knowledge of Virtual Mobility and Open Education

3.3 Features

The plugin provides the ability to read the statements in the user's preferred language (Moodle profile settings) or on a specific language after a switch using Moodle's language menu (example: URL ending with ?lang=ro).

Users can define their status (student by default, or teacher) using a simple button. This results on a re-rendering of the statements to match with the selected role.

In an instance of the survey, the user can tick on a range of 1 to 4 for each statement. Information about the value of the range are provided next to each statement.

4 Implementation in the VM Learning Hub and User-Testing

4.1 Implementation in the VM learning hub

The plugin can be installed through the classical process by providing a zip file or by cloning the plugin repository.

After creating an account on the hub you can see how to access the tool by simply self-registering <https://hub.openvirtualmobility.eu/course/view.php?id=3>

4.2 User testing

In order to improve the self-assessment tool, a user test procedure is launched via an online questionnaire.

The main themes addressed in the evaluation are both ergonomics and lickert scale and statements. The evaluation questionnaire will be available to all users until the end of the pilot phase and will be presented during the multiple events in order to collect as many feedbacks as possible.

5 Conclusion

In conclusion, the self-assessment tool is installed in the Moodle platform. it corresponds to the needs of the project to assess virtual mobility skills for students but also for teachers or academic staff. the most difficult part to achieve was the construction of statements. Concerning the reliability of the tool it is in principle guaranteed by the two reviews carried out by the project partners who are experts in the field of virtual mobility skills and by the field test realised with

students. However, we are planning a test period for users to correct any malfunctions and also to improve the tool according to feedback. The results given by the tool are relative and not absolute and can be used, for example, to measure a gap between skills before following one of the project's mini MOOCs and after.

References

Casanova G.(2018).O4-A1.3: e-assessment concept. Erasmus+ Open Virtual Mobility Project
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