Project Number: 2018-1-PT01-KA203-047361

# EVALUATION REPORT ON TESTING ACTIVITY IN LITHUANIA

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## ABSTRACT

*Evaluation was performed to get in-depth knowledge about the results/outcomes created in the project. Evaluation allows us, as project partners, to monitor the outcomes development process thoroughly, as well as to make improvements needed. An evaluation report was prepared after lecturers saw and tested: Student's Assessment Toolkit; Online Math Library of Video Lessons and Teaching Materials; Community of Practice. We involved lecturers from partner institution (Kaunas University of Technology, Faculty of mathematics and Natural Sciences, as well lecturers from Faculty of Informatics) whose role in the project was to:*

- *Participate in the creation of the questions for the assessment tools*
- *Test the assessment tools*
- *Contribute to the creation of the contents of the MathE library:*
  - *Review of video lessons*
  - *Create video lessons*
  - *Produce didactical material*
- *Test with students the contents of the MathE library*
- *Participate in the Community of Practice*

*Students who took part in the project had the possibility to:*

- Test the Need Assessment Tool
- Be assessed through the Student Assessment Tool
- Make use of the contents of the MathE library:
  - Review of video lessons
  - Creation of video lessons
  - Production f didactical material
- Participate in the Community of Practice

*In addition, when all the project results had been completed, we involved lecturers from other institutions: Kaunas college, Vilnius Gediminas Technical University (VILNIUS TECH), Lithuanian university of health sciencies, Vytautas Magnus University, as well we invited members from Lietuvos kolegijų matematikos dėstytojų asociacija (Lithuanian College Mathematics Teachers Association) and some lecturers from gymnasiums which has higher education Math course.*

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## Introduction

The testing activities of MathE involved 20 Higher Education Lecturers, 87 university students and 3 project managers from the university who did not directly took part in the development of project's content.
To identify participants, it was adopted a mixed recruiting strategy. Project team members from the Kaunas University of Technology created online posts social media, newsletters, posted flyers on bulletin and sent targeted emails to relevant people within and outside their organization. All the communication included the main information regarding MathE project (objectives, results, target groups and impact) and a thorough explanation of the testing, i.e., what results were going to be tested, when the activity took place and how it was arranged.
The recruiting strategy was very successful, as the number of respondents was even higher than expected (more than 100 people). In fact, KTU was able to involve target groups not only from its own faculties (i.e., the faculties of Mathematics, Natural Science and Computer Science), but also members of other universities and schools. In total, it had been involved people from 7 different universities and teachers from the "Lithuanian College Mathematics Teachers Association" and 2 local gymnasiums with higher education math courses.

## Activities with teachers and students

The testing of MathE intellectual outputs have been carried out through different strategies. The first target contacted for the evaluation has been higher education and secondary school teachers, who also ensured the involvement of students through their lectures.

Testing was carried out through online meetings with project team members and teachers, who directly provided their feedback by filling out questionnaires, writing comments and by participating to focus groups aimed at collecting valuable information on intellectual outputs effectiveness and possible suggestions on how to improve them.

Other teachers provided an evaluation via email, by testing the material on their own. They also filled in questionnaires and provided personal comments on the results. A small group of project managers provided also their evaluation with this method.

Finally, teachers and students also tested the results together during lectures. Some of the teachers involved were asked to carry out different lectures (2 to 5) adopting MathE intellectual outputs. During these sessions, students were asked to provide their evaluation and comments.

It can also be said that all target groups did not only participate actively to the evaluation of project results, but, through their comments, feedback and suggestions, also provided substantial help for the elaboration of high-quality material, participating, although indirectly, through their development.

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## Evaluation

The testing activity was aimed to receive different type of feedback from direct and indirect users of MathE project results. The activities involved a deep analysis of all the three intellectual outputs (IOs) of the project:
- IO1: Student's Assessment Toolkit;
- IO2: Online Math Library of Video Lessons and Teaching Materials;
- IO3: Community of Practice.

Participants were asked to evaluate the intellectual outputs according to the following 6 measures:
- Transferability
- Level of innovation
- Usability
- Appropriateness of contents
- Effectiveness of the organisation (of the testing)
- Clarity and accessibility

The evaluation of the intellectual outputs reached excellent results. Most of the participants showed high level of satisfactions, signing good marks in all the six dimensions assessed. In general, the evaluation shows that MathE project generated results of very high quality and had a large impact on all target groups

**Results of the questionnaire submitted to the teachers**

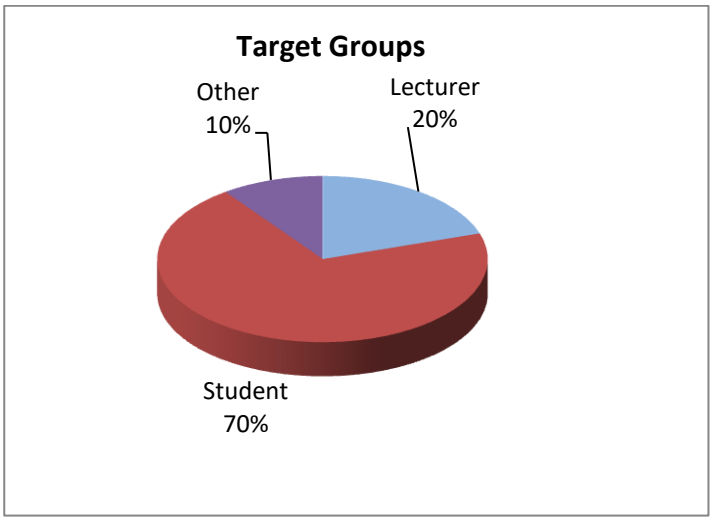


**Figure 1**

The testing mainly involved students and lecturers. As the graph above shows, the main target group are students (70%). The second group is lecturers 20%, while "other" represents the third and final group of participants (10%). This last group is composed by a small group of project managers who did not directly participate to the project but was interested in its topics and it was willing to test its results.

The following graphs will shed some light on the results of the evaluation for all three IOs.

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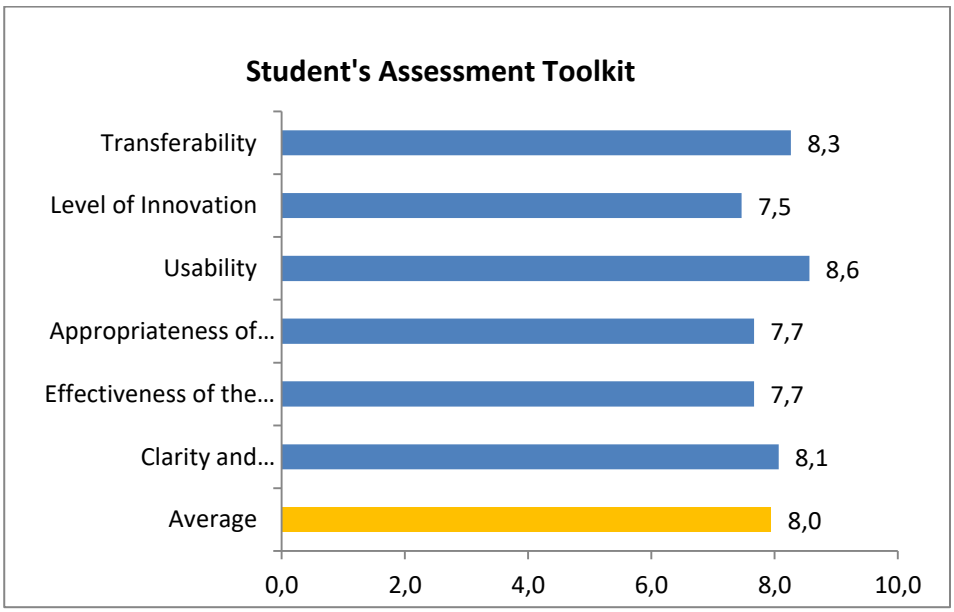


**Figure 2**

**Figure 2** illustrates the results obtained from the evaluation of the first intellectual output (IO1), the "*Student's Assessment Toolkit*". As the graph shows, the average result of the whole evaluation is **8 out of 10**, showing a considerably high level of satisfaction with this output. What was most appreciated of IO1 is its usability, as it shows the highest number **(8.6)**. Many teachers and students appreciated its simplicity and they claimed it is a rather simple and effective tool for the self-assessment of student's knowledge in mathematics.

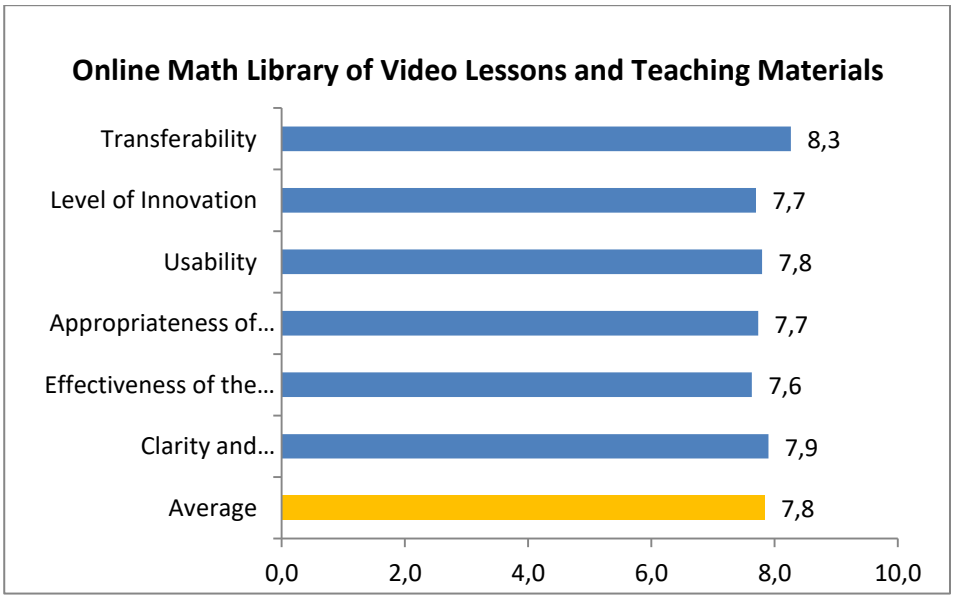


**Figure 3**

**Figure 3** highlights the results of IO2 evaluation (*"Online Math Library of Video Lessons and Teaching Materials"*), which obtained good results as well, with an average point of **7.8**. The best feature of IO2 appears to be its transferability potential, which received an average result of **8.3**. According to one of the participants, "*All the materials provided can be adapted quite easily in other faculties and different higher*

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*education courses*". Moreover, some teachers pinpointed the effectiveness of the MathE video materials for teaching to students who do not have mathematics as one of their main courses.

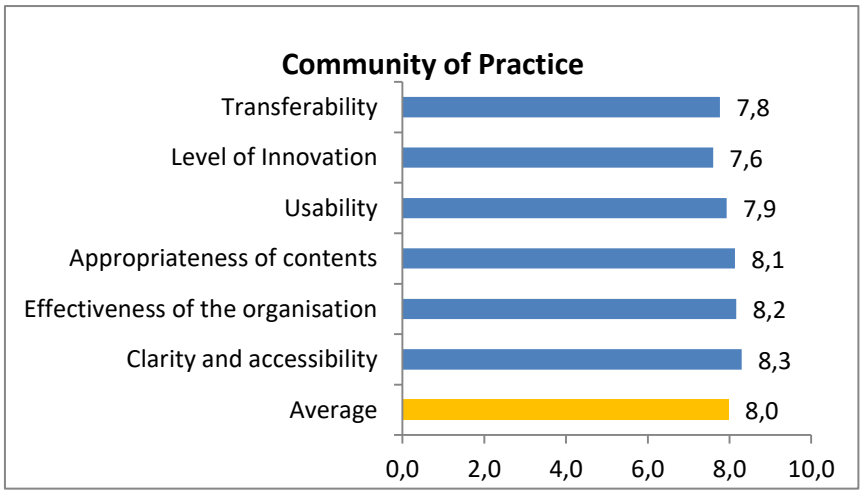


**Figure 4**

Finally, **Figure 4** represents the opinions of the target groups regarding IO3, *"Community of practice"*. As the previous two IOs, also IO3 received a very positive evaluation. In particular, many participants acknowledged its simplicity, clarity and accessibility (**8.3**). They also found the topics discussed in the "*Community of practice*" rather relevant and interesting, claiming that it is a very useful tool with both students who have a lack of knowledge in mathematics and those who simply want to deepen their knowledge.

## Conclusion

All in all, it can be stated that the project successfully reached the expected results. All target groups appeared satisfied with the quality of project IOs and openly manifested their willingness to adopt them in the future. The high transferability potential of IOs, the appropriateness of their content, and their clarity and accessibility will greatly contribute to the long-term impact of the project.

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