

PRE-SERVICE TEACHERS' CREATIONS OF MATHEMATICS LEARNING VIDEOS

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There is an increasing number of students who look for or create videos with mathematical content and these cases illustrate how the classroom is transforming with the integration of the Internet (Oechsler & Borba, 2020). One of the aims of the project QLeV-Math (Quality Criteria for Learning Videos in Mathematics) is to design a catalogue for video creators who develop learning videos for mathematics (Ratnayake et al. 2020). The current version of the catalogue was tried out with groups of pre-service teachers in the universities of the authors.

We discuss the use of such a catalogue made by two groups of pre-service teachers (video-makers) as a fulfilment of an assessment of an undergraduate mathematics course at the University of Catania. They were free to choose the mathematical topic, a target audience from middle school to high school in the Italian education context and a software to edit the video. The constraints were: the length of the video should not exceed five minutes; the video had to include a real-world context (an application of the mathematics content) and the use of tools – either digital or manipulatives. The teacher of the course (one of the authors) put a great emphasis on the accuracy of the content, the used terminology and the picture and sound quality of the video. So, she introduced the creator's catalogue developed by QLeV-Math project to the video-makers before they develop the videos. Then the video-makers were guided to write a complete script for the video including all narrations and timing. The teacher checked the scripts and provided some feedback to the video-makers, sharing these with the whole class. The video-makers were then free to create a video either individually or in small groups of two or three. Finally, the video was accompanied by a teaching sheet in which the video-makers had to describe the structure of the video and explain the links between the mathematical content they have chosen and the Italian curriculum. The final product was evaluated using the same criteria in the catalogue that was discussed with the students at the beginning of the task. Two of the videos produced will be compared in our presentation.

References

- Oechsler, V. & Borba, M. C. (2020). Mathematical videos, social semiotics and the changing classroom. *ZDM-Mathematics Education*, 52(5), 989-1001.
- Ratnayake, I., Bruder, R., Mammana, M. F., & Taranto, E. (2020). Supporting teachers in choosing mathematics learning videos. *Proceedings of EDULEARN20 Conference* (pp. 3022-3031).