

SILENT SCREENCAST VIDEOS AND THEIR USE WHEN TEACHING MATHEMATICS

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The aim of this workshop is to introduce teachers and mathematics education researchers to the concept of silent screencast videos. This will be done by showing the results of a Nordic/Baltic research project, allowing the participants to work on their own commentaries to silent videos, and guiding them in the process of developing new silent videos. The Nordic GeoGebra Network (NGGN) was formed in 2010 to promote the use of GeoGebra in teaching and learning of mathematics in the Nordic/Baltic countries. A grant from Nordplus gave NGGN an opportunity for collaboration between researchers in mathematics education and mathematics teachers. The first key topic group of teachers and researchers was formed to work on the topic “Learning mathematics through screencast technology and video”. Several short silent videos showing one mathematical concept each were made, and teachers of 5th-12th grade in six different countries tested them in class in Autumn 2014; making their pupils write or record their own commentary to the videos. The results were surprising in a positive way, enabling teachers to “see what the pupils were thinking” and encouraging communication in mathematics among the pupils (Hreinsdóttir, 2016). All of the tested videos were made freely available online in a GeoGebra-book on GeoGebra-tube and teachers in the different countries have continued working on new silent videos to add to the collection.

The workshop will start with an introduction to silent screencast videos and their use in mathematics teaching. Examples of student commentaries and instructions on how to add commentary to a silent video will be given during the introduction. All participants get to try out recording their own commentaries in a group work session, followed by instructions and useful tips regarding the making of new silent videos and on how to use them. Finally, all participants get to discuss their ideas for new silent videos and to work on their own silent video recording.

Time	Topic	Material / Working format / Presenter
30 min.	Introduction to silent videos and some results of the Nordic/Baltic research project that resulted in their development.	Slides / Lecture / Bea
30 min.	Participants get to try out the screencast technology by adding commentary to already available silent videos.	Participants bring their own portable devices / Hands-on work in groups / Bea
30 min.	Brainstorming for new silent video topics and instructions on how to make your own silent screencast video.	Participants bring their own portable devices / Hands-on work in groups / Bea

Please note: Participants should bring their own laptops or tablets to the workshop and preferably download the free software Geogebra (www.geogebra.org) and some screen-casting software (i.e. [Jing](#) or [Screencast-o-matic](#)) to their devices before attending the workshop. Participants that encounter problems in the downloading process will get assistance during the workshop. Geogebra, Jing, and Screencast-o-matic are all downloadable free of charge.

In the unfortunate case that the technology fails (internet too slow, programs not working), a plan B with group work related to the workshop topic has been made.

Instructions can be given in German instead of English if needed.

References

Hreinsdóttir, F., & Kristinsdóttir, B. (2016). Using silent videos in the teaching of mathematics. In Ceretkova, S. (Ed.), *Staircase to Even More Interesting Mathematics Teaching*, pp. 157-164. Nitra, Slovakia: Constantine the Philosophers University in Nitra.