

DYNAMAT – DYNAMICAL AND CREATIVE MATHEMATICS USING ICT

Andreas Ulovec

University of Vienna, Austria

Andreas.Ulovec@univie.ac.at

The poster describes the work of a European project group¹ developing materials and teaching units showing how the use of ICT and other technologies (e.g. GPS) can improve the visualization process in mathematics teaching and learning. To realize this objective we plan to use different specific characteristics of ICT: the possibility to generate various mathematical graphics as well as to modify and vary the images that come from mathematical visualization. By that, ICT can be used very well to help developing modelling and simulation competencies, as well as competencies in graphical reasoning. The poster presents examples of materials and teaching units, as well as information about the project and background research.

ICT supported learning, visualisation, dynamic geometry, creativity.

PROJECT SUMMARY

Future and in-service teachers need some concrete examples, hints and good practices how to apply dynamical ICT and in the same time to develop effectively the dynamical thinking, reasoning and creativity of their pupils. We plan to look for and produce such examples and didactic materials. We will tackle this situation with two approaches:

- a) show how the use of ICT can develop the visualization process,
- b) show how to make visual reasoning an acceptable practice in math education.

Expected results:

1. E-Book with materials (examples showing how the use of ICT can develop the visualization process; examples of simulations of real or hypothetical processes, so that appropriate math models will be constructed and improved; instructions and tips on how to use ICT to improve the simulation and modelling skills together with the creativity of pupils).
2. E-learning course and workshop for pre- and in-service-teachers
3. Web-page containing e-book, materials for courses and platform for e-learning course.
4. Final conference to present materials to teacher educators, teachers and teacher students, with workshops to actively work with and develop further materials.

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