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TuOMO: A tutorial-based learning portal in basic mathematics

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TuOMO is a project, funded by the Finnish National Agency for Education, with the goal of preventing learning difficulties in the basic syllabus of mathematics and of increasing interest in learning mathematics. The project makes use of a collaborative and tutorial-based learning tool called ViLLE, which was developed at the Centre for Learning Analytics at the University of Turku. We also used the exercises that were designed for it and the feedback that these exercises provided. The courses created in ViLLE form a basis for learning further skills and strengthen those already learned. This allows more time for discussing methods for finding solutions in problem solving during the lessons. The courses created in ViLLE make use of the various possibilities of the tool, such as immediate feedback, continuous assessment, peer review, self-managing support, and tutorials. Innovative learning analytics provide teachers with the means to enhance student motivation and interest in learning mathematics. The project covers all compulsory courses of the basic syllabus.

Scientific research showed that the learning results, in statistical terms, were significantly better than those in the control group, where the project materials were not used.