

Flexible Mathematics Content Preparation

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ABSTRACT

E-learning materials contribute a lot to the process of learning mathematics, since it is possible to use them to interactively present some mathematical structures, to give an explanation that is not found in textbooks or to offer online examinations. But nevertheless, most of the existing e-materials are static in the sense that teachers cannot adapt them to their needs, but must use them exactly as they were prepared. Recent studies have shown that teachers need e-learning content that they can easily adapt and reuse for their own purposes. This means that resources should be made out of small learning blocks. A new concept of how to create really useful e-learning content has evolved in Slovenia; namely, by “putting the teacher back into the game”.

The project "Mathematics for Secondary Schools", which is among the projects of NAUK.si (NApredne Učne Kocke – Advanced Learning Blocks), offers teachers the ability to create their own materials or to modify already existing ones. With the knowledge that is needed to edit articles on Wikipedia it is now possible to create one's own e-learning content, which will have no shortage of interactivity and is also readily available to students.

At the presentation, we will use the system for producing e-learning content called e-Sigma and show some examples. We will show how to combine the resources with an interactive simulation in GeoGebra, build a quiz in which the next question depends on the correctness of the answer to the previous or is selected at random from a given database, create a question where the answers are given as images, offer feedbacks when solving etc. Some preliminary resources can already be seen at <http://www.nauk.si>

Keywords

E-learning content, content creation, modular blocks, ICT in math teaching, high-school mathematics