Teaching Math With Advanced Learning Blocks

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ABSTRACT

A new role of a teacher for the 21st century is here. As stated in numerous papers this new role means that teachers should be oriented more towards guiding the learner through the learning process. In this process information and communication technology (ICT) plays a significant role. So it is not surprising that more and more e-resources are available to be used in the learning process. But through analyzing existing resources we often find that the authors of resources do not use the opportunities offered by the new technologies. One of the most important drawbacks of the existing resources is that authors too often forget (or neglect the fact) that teachers are the ones who will guide the learner through the resources.

Recent studies have shown that teachers need e-learning content that they can easily adapt and reuse for their own purposes. This means that lessons should be made out of small learning blocks or, as they are also called, "knowledge objects". 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 selection of proper technologies and tools for managing e-learning content and the establishment of a user-friendly and easy-to-use environment for creating and modifying e-learning content, are essential to ensure basic support and popularization of e-learning.

In this talk, we will present new ideas with proofs of concepts of "modular, really interactive e-content" build on the top of the mathematical knowledge using open-source solutions, open standards and some programming. E-learning content, which will be discussed, is not intended to be an electronic teaching book, but the add-on to the standard learning material. Some preliminary results can be seen at http://www.nauk.si.

Keywords

E-learning content, educational content preparation, modular blocks, ICT in math teaching