

ZMATH 2015a.00918

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Mathematical e-content: expressing, manipulating and retrieving mathematics online.

Winsløw, Carl (ed.), Nordic research in mathematics education. Proceedings from NORMA08 in Copenhagen, Denmark, April 21–25, 2008. Rotterdam: Sense Publishers (ISBN 978-90-8790-781-5/pbk; 978-90-8790-782-2/hbk; 978-90-8790-783-9/ebook). 269-272 (2009).

Summary: A large part of the new trends in ICT and education are dependent on fluent interaction with online content. This goes for e-learning, the use of learning management systems in secondary and tertiary education, and the many educational possibilities promised by the Web 2.0 wave, focusing on user generated content. In relation to mathematics, however, some aspects of electronic content (i.e formulas, graphs, sketches etc.) are not yet well supported by typical electronic environments. Mathematical formulas are not easily entered and displayed in off-the-shelf knowledge management and learning management systems, while on the other hand computer algebra systems and dynamic geometry software allows mathematical manipulations on a very advanced level. Because of these opposite situations, mathematical e-content is an area full of technological promises and practical limitations. The purpose of the workshop was to address how this affects the infrastructures for teaching and learning mathematics. The theme group addressed the research community working with standards for mathematical content online, and teachers facing issues of setting up e-learning of mathematics and integrating dynamic mathematical software in the learning environments and portfolios of the students.

Classification: U54 U55 U74 U75

Keywords: mathematical e-content; e-learning; use of learning management systems; computer algebra systems; dynamic geometry software; learning environments; portfolios