

Digital Library for the Implementation of Formative Assessment into Teaching

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Abstract

This paper presents information about the development, implementation, and verification of efficiency of “Digilib” – a digital library of formative assessment (FA) tools. A selection of 10 different types of FA instruments (e.g., self-assessment card, prediction card, and Frayer model) was conducted based on a literature search and Internet resources. Subsequently, in accordance with the educational standards and in cooperation with teachers, a total of 36 databases covering 774 FA tools for the selected thematic units and topics in science (biology, physics, chemistry), mathematics, and informatics were created for primary schools. “Digilib” was developed as a web application, which employs user roles (administrator, coordinator, teacher, student). This application allows teachers to create and save their own FA tools (forms), which can be assigned to students to collect information about their understanding of the subject matter, i.e., to receive real-time feedback. In the 2022/2023 school year, 8 primary schools, 16 teachers, and 46 classes (grades 5 to 9) with a total of 846 students were registered in the digital library. Semi-structured interviews were conducted to collect teachers’ opinions on the implementation of FA provided by the digital library. The teachers appreciated the simple user experience, quick feedback about students’ current state of knowledge, automated creation of complex overviews of students’ answers, and archiving. The feedback provided by the self-assessment and prediction cards helps students develop an ability to perform objective self-assessment and address possible misunderstanding in learning. As disadvantages, the teachers cited necessity of Internet and large numbers of students in the classroom.

Keywords: educational technology, improving classroom teaching, online tools, science mathematics, and informatics