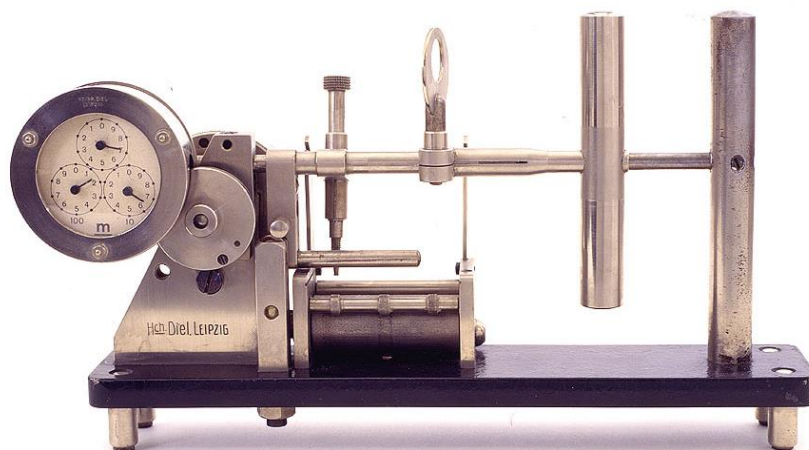


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THE FIRST TEST OF THE ELECTRONIC MATERIALS IN SERBIA: COMPARISON
BETWEEN CLASSICAL AND DIGITAL KNOWLEDGE TESTS FOR PRIMARY
SCHOOL STUDENTS

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The usage of electronic materials in education and their advantages/deficiencies in comparison with traditional learning materials are widely discussed (Woody et al., 2010; Daniel & Woody, 2013; Horne et al., 2016). However, there is a lack of systematic research comparing electronic and traditional learning materials, especially in younger primary school students. This is the first research in Serbia dedicated to electronic learning materials for knowledge testing. The main goal was to compare knowledge testing by classical paper tests with digital materials with various tasks forms providing feedback regarding pupils' performance. The sample consists of 447 pupils (227 from II and 220 from IV grade) from 5 primary schools in Belgrade. Pupils' knowledge was tested by electronic and classical tests within three subjects (mathematics, Serbian language, science). Each class involved in the research was divided into 3 groups: one group solved the paper version, while the other two groups solved parallel digital test versions (on tablet or computer) designed by M-author software. The study design was balanced regarding the test type and school subjects. Within younger sample there is no difference between students' achievement on the paper and electronic test version (tablet or computer) examining Serbian language, while mathematics ($F(212, 1) = 6.981, p = .009$) and science ($F(205, 1) = 24.196, p = .000$) tests pupils better performed in the electronic form. Further analysis comparing each test type (paper, tablet, and computer) was performed. Within older sample pupils had better results on the electronic materials than on the classical tests for all three subjects (Math. ($F(210, 1) = 46.572, p = .000$; Serb. ($F(214, 1) = 14.367, p = .000$; Sci. ($F(209, 1) = 62.170, p = .000$) and further tests comparing different test materials were also done. The findings suggest that older students better use feedback provided by electronic materials which enables them to correct mistakes and score better on electronic tests. This indicates that older students are more resourceful and probably have larger experience with electronic devices which was confirmed by the examiners observations about various difficulties that younger pupils experienced, especially with computers. Although born with electronic devices primary school students have insufficient experience with their usage in educational purposes which should be seriously considered and dealt with during digitalization of learning practice.

Keywords: electronic and classic knowledge tests, primary school students

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