# Students' knowledge in file management after elementary school

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**Abstract**

According to the Hungarian Frame Curriculum, teaching informatics starts in grade 6 as a compulsory subject, with only one class a week. By this time students are regular smartphone and/or computer users, primarily applying trial-and-error based computer problem-solving methods. In this way they gain knowledge through their own experiences and observations, without any guidance. In the Frame Curriculum the first topic is file management, which is the basis of operating system use and further data-handling procedures. Due to the late introduc-tion of informatics in schools and the different levels of knowledge that students bring into the classes this topic is difficult to teach. In addition, this topic is not sufficiently emphasized and practiced, since both students and teachers consider it to consist of elementary, born-with knowledge. Consequently, students evaluate their knowledge as high, but practice does not justify this assessment. Our research team invented and applied a knowledge-transfer based webtable-datatable conversion process to cover file-, elementary data- and webpage-management. In order to quantify and prove the efficiency of the method, we tested grade 9 students in experimental and control groups, covering the topic with our novel and with traditional methods, respec-tively. During the research period, the students were tested in two rounds: in a pre-test, before they studied the topic to record what knowledge is brought into classes, and in a post-test, after the intervention. The test included tasks involving error message interpretation, recogniz-ing file types based on default associations and conventions, explain-ing algorithms, and han-dling data files. This article presents the results of students in the pre-test administered in grade 9, starting their secondary education. It was found that when studying this topic with the trial-end-error methods, students do not build up knowledge in long-term memory, cannot see the algorithms behind fundamental file management processes, and consequently cannot solve real-world problems effectively. These results clearly show that there is a need for changes in the approaches adopted to file management.

*Keywords:* IT education, file management, elementary school