

SAVREMENE TEHNOLOGIJE I VIZUELNO – LOGIČKI PRISTUP U NASTAVI MATEMATIKE

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Apstrakt

Poslednjih godina je uočljiva povećana primena informaciono-komunikacionih tehnologija i matematičkog softvera u nastavi matematike. Mnogobrojna istraživanja efikasnosti matematičkog učenja su pokazala opravdanost i korisnost implementacije novih nastavnih sredstava. Takođe su pokazala da učenje uz obrazovni softver ima veliki uticaj na postignuće učenika u ukupnom sticanju matematičkog znanja tokom nastavne godine kao i na završnom ispitu na kraju osnovnog obrazovanja. Nastava realizovana primenom računara i softverskih paketa je interesantna za učenike, povećava njihovu zainteresovanost i aktivno učestvovanje. Neosporno je da upotreba računara i matematičkog softvera ima velike pogodnosti koje su dokazali i u svojim radovima predočili mnogobrojni istraživači efikasnog učenja. Takođe je neosporno da je jedan od glavnih zadataka nastave matematike – razvijanje konstruktivnog mišljenja učenika. Rezultati istraživanja koja smo obavili sa učenicima osnovne i srednje škole su pokazali nedostatak vizuelno-logičkog pristupa učenika tokom učenja matematike kao i pri rešavanju matematičkih zadataka. Vizuelizacija i reprezentacija matematičkih zakonitosti su od izuzetne važnosti u realizaciji nastave matematike. Treba ih primenjivati svuda i svaki put kada je to moguće.

Ključne riječi: obrazovni softver, nastava matematike, vizuelizacija i reprezentacija, konstruktivno mišljenje.

MODERN TECHNOLOGIES AND VISUAL - LOGICAL APPROACH IN MATHEMATICS TEACHING

Abstract

In recent years, there has been an increased use of information and communication technologies and mathematical software in mathematics teaching. Numerous studies of the effectiveness of mathematical learning have shown the justification and usefulness of the implementation of new teaching aids. They also showed that learning with educational software has a great impact on students' achievement in the overall acquisition of mathematical knowledge during the school year as well as in the final exam at the end of primary education.

Teaching realized by using computers and software packages is interesting for students, increases their interest and active participation. It is indisputable that the use of computers and mathematical software has great benefits that have been proven and presented in their works by many researchers of effective learning. It is also indisputable that one of the main tasks of teaching mathematics is to develop constructive thinking of students. The results of the research we conducted with primary and secondary school students showed the lack of visual-logical approach of students during the learning of mathematics as well as in solving mathematical problems. Visualization and representation of mathematical laws are of great importance in the realization of mathematics teaching. They should be applied everywhere and whenever possible.

Keywords: e educational software, teaching mathematics, visualization and representation, constructive thinking.

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