Perceptions of Pre-Service Primary School Teachers Regarding the Application of Interactive Educational Software in Classroom Teaching

Extended summary

The aim of the research is to determine the contribution of interactive educational software in classroom teaching. The aim of the research is to determine the contribution of interactive educational software in classroom teaching. The starting point of the research was the general assumption that the Interactive Educational Software in Classroom Teaching (IESCT) significantly contributes to the effectiveness of classroom teaching, learning and student participation in teaching, and also the specific assumption that this research will help isolate the components indicating the most common contributions of IESCT, as well as that a significant difference will be determined in student assessment of the contribution of IESCT, based on their academic achievement.

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The research was conducted in the second half of 2019, on a sample of 83 students attending the Classroom Teaching Study Programme at the Faculty of Education in Prizren (Republic of Serbia). The research used a combined instrument, namely the Interactive Educational Software in Classroom Teaching Scale (IESCT Scale). In addition to the general question on the students’ academic achievement during studies, this instrument also consists of a 20-item scale with a 3-point scale of agreement intensity: 1) I agree; 2) I am not sure; and 3) I disagree. Some of the metric characteristics of the Scale were tested in the research itself by using factor analysis with Varimax rotation and Cronbach’s alpha coefficient (Cronbach’s alpha coefficient = .912).

Using the Guttman-Kaiser criterion, two main components with a characteristic root greater than one were obtained, explaining 88.100% of the total variance in total. (Table 2) The first component is determined by 18 items: 2, 9, 11, 13, 6, 18, 17, 1, 5, 12, 15, 8, 10, 16, 3, 74, 19 and 15; it accounts for 44.556% of the common variance; it was called Effectiveness of Teaching. The second component is determined by 2 items: 4 and 20; it accounts for 43.544% of the common variance; and it was called Individuality in Learning.

A statistically significant difference was found at the level of p<.05 in the results of 4 groups of students divided based on their achievements during studies, in their assessment of the IESCT (3; 79) = 3.499; p = .019. The actual difference between the mean values of the student groups indicates a medium influence (Eta = .117). (Table 4) Based on the data presented in Tables 5 and 6, it can be concluded that the subsequent comparisons using the Tukey’s HSD test have shown that the mean values of group 1 (6.00-7.00): M = 45.3333; SD = 6.55235 and group 3 (8.01-9.00): M = 55.0000; SD = 6.92820 – were statistically significantly different. (Table 5) The data presented in Table 6 show that a significant difference in the IESCT significance scores at the level of p <.05 (p = .023) was found between the assessments of group 1 (6.00-7.00) and group 3 (8.01-9.00).

Generally speaking, students’ achievement in the course of their studies significantly influences their opinions on the importance of implementing innovation in teaching. Their assessments of the importance and contribution of educational software in their own learning and participation in classes are also significantly different. According to the calculated mean values, the students with GPAs between 8.01 and 96.00 (M = 55.0000) have significantly more positive opinions of the importance of IESCT than the students with GPAs between 6.00 and 7.00 (M = 45.3333) (Table 5).

Factor analysis singled out two components: 1) teaching efficacy, and 2) individuality in learning. These components show, on the one hand, that the organization and implementation of teaching by using educational software would significantly contribute to improving the quality of teaching. It would also contribute to enhanced learning and greater student involvement in teaching. Educational software also significantly contributes to the greater individuality of students in teaching. In order to achieve this, students need to be able to use different educational software applications which contribute not only to more efficient learning, but also to the development of creative and inventive skills.

Based on the results of the research and the critical analyses presented in the paper, a need for the introduction of numerous innovations in the professional development of future
teachers in Serbia becomes apparent. This applies both to the modification of the classroom teaching study programmes, which currently do not include teaching contents related to the training of students for the application of educational software in teaching, and to their professional development during their teaching practice, which is mandatory in Serbia.

**Keywords:** e-learning, educational software, software implementation, individuality in learning, innovative learning models.

**References**


