

ZMATH 2016c.01036

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Mobile technologies in the service of students' learning of mathematics: the example of game application A.L.E.X. in the context of a primary school in Cyprus.

Math. Educ. Res. J. 28, No. 1, 53-78 (2016).

Summary: This article reports on the main experiences gained from a 2-year study which incorporated A.L.E.X., an educational puzzle game available on iPad or Android tablet devices, within the primary school mathematics curriculum. The study took place in a public primary school, located in a rural area of Cyprus. The majority of its students come from low socioeconomic status families. Among the school community, a group of 15 pupils (eight boys and seven girls), aged 10–11 years old, was randomly selected to comprise the sample. The same group of students was visited twice within a period of 2 years, and a teaching intervention was organized. In both interventions, the application A.L.E.X. accompanied by a student worksheet constituted the main means of instruction. The worksheets were designed to integrate a technology with core mathematical ideas embedded in the national mathematics curriculum. Findings gained from the teaching intervention suggest that game apps hold a lot of promise as a tool for reforming mathematics education. While working with A.L.E.X., the children identified and processed mathematical themes that emerged spontaneously. They experienced unique emotions of surprise and enthusiasm regarding the existence of games with mathematical content that led them to acknowledge the pedagogical role that tablet devices could play. This helped them to broaden their fundamentally narrow viewpoint of mathematics as being primarily computation and arithmetic.

Classification: U70

Keywords: mobile technologies; game apps; primary school; mathematics learning

doi:10.1007/s13394-015-0163-x