The effectiveness of computer and tablet assisted intervention in early childhood students’ understanding of numbers. An empirical study conducted in Greece

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## Sample

Three hundred and sixty-five children (mean age in months, M = 62.0, SD = 5.5) from 21 kindergarten classes were randomly assigned to two intervention groups and a business-as-usual control group.

## Implications For Educators About

STEM Education

# Abstract

The present study aimed to assess the effect of two different types of digital technologies (computers and tablets) in early childhood students’ understanding of numbers. Three hundred and sixty-five children (mean age in months, M = 62.0, SD = 5.5) from 21 kindergarten classes were randomly assigned to two intervention groups and a business-as-usual control group. The interventions were conducted over 24 half-hour lessons. Data was collected during the 2013–2014 school year using a three-step research procedure. Students’ knowledge about numbers was assessed using the Test of Early Mathematics Ability-3 (TEMA-3). Findings were that (a) both experimental groups significantly outperformed the control group on the posttest, (b) the group that used tablet computers significantly outperformed the group that used personal computers on the posttest, and (c) there was no significant difference between genders on the posttest. Our findings support that computers and especially tablets, when combined with the use of developmentally appropriate software into the children’s daily routines, may provide a substantial contribution to early childhood students’ comprehension of numbers.

# Outcome

Findings were that (a) both experimental groups significantly outperformed the control group on the posttest, (b) the group that used tablet computers significantly outperformed the group that used personal computers on the posttest, and (c) there was no significant difference between genders on the posttest. Our findings support that computers and especially tablets, when combined with the use of developmentally appropriate software into the children’s daily routines, may provide a substantial contribution to early childhood students’ comprehension of numbers.