Scaffolding executive function capabilities via play-&-learn software for preschoolers

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Abstract

Educational software in the form of games or so called “computer assisted intervention” for young children has become increasingly common receiving a growing interest and support. Currently there are, for instance, more than 1,000 iPad apps tagged for preschool. Thus, it has become increasingly important to empirically investigate whether these kinds of software actually provide educational benefits for such young children. The study presented in the present article investigated whether preschoolers have the cognitive capabilities necessary to benefit from a teachable-agent-based game of which pedagogical benefits have been shown for older children. The role of executive functions in children’s attention was explored by letting 36 preschoolers (3;9-6;3 years) play a teachable-agent-based educational game and measure their capabilities to maintain focus on pedagogically relevant screen events in the presence of competing visual stimuli. Even though the participants did not succeed very well in an inhibition pretest, results showed that they nonetheless managed to inhibit distractions during game-play. It is suggested that the game context acts as a motivator that scaffolds more mature cognitive capabilities in young children than they exhibit during a noncontextual standardized test. The results further indicate gender differences in the development of these capabilities. (PsycINFO Database Record (c) 2016 APA, all rights reserved)