Young Children's Exposure to a Pedagogical Agent

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Abstract

Many studies have investigated the effects of pedagogical agents on adults. We know from these studies that pedagogical agents can motivate learners and increase their learning processes (Castro-Alonso et al., 2021; Schroeder & Adesope, 2014). However, few studies have investigated how pedagogical agents influence young children. Existing results relate to school children and show that incorporating a pedagogical agent into a learning environment significantly improves self-efficacy beliefs and motivation in young learners (e.g., Ashby Plant et al., 2009; Dinçer & Doğanay, 2017; van der Meij et al., 2015). But little is known about the effects of such agents on preschool children. The aim of our study is to shed light on this issue by assessing how preschool children perceive and experience a pedagogical agent.

It is known that young children develop relationships with media figures and that these parasocial relationships can, among other things, influence learning (Calvert et al., 2014). However, only 6.6 % of the research on parasocial phenomena is related to children (Liebers & Schramm, 2017). The aim of our study is to assess whether existing findings hold for young children and for an educational agent rather than other media characters (mostly TV characters). We also seek new insights into the factors that might influence young children's exposure to a pedagogical agent.

Therefore, we have scheduled a study with kindergarten children aged 4 to 5. We designed a pedagogical agent named Kora Koala, a female peer-like animated koala. She guides the participants through an app on the topic of media knowledge. Over 10 episodes, the children learn about various aspects of media, including different kinds of media, media figures, visual and auditive signs, and media representations of emotions. Since our participants cannot read, Kora Koala explains the contents and sets the tasks. She is designed to be adaptive to the children's knowledge, give feedback, and praise the children on their progress. Due to the pandemic, the study will be conducted online. Participating families will

receive tablets with our training app. The tasks will be performed at home within a period of two to three weeks. All episodes have an average duration of 30 minutes each.

To investigate children's exposure to the pedagogical agent, we measure their parasocial relationship (Calvert et al., 2019; Richards & Calvert, 2017) and identification (Hoffner & Buchanan, 2005) with her, anthropomorphic attributions to her (Severson & Lemm, 2016), and their evaluations of how real they think she is (Marchak et al., 2020; Schlesinger et al., 2016). Other variables to be measured include children's media sign literacy, theory of mind, intelligence, age, and gender. Media sign literacy, theory of mind, and intelligence develop significantly during the preschool stage (Nieding et al., 2017; Schneider et al., 2009; Wellman et al., 2001). Therefore, these cognitive abilities may influence the children's cognitive processing of their exposure to the agent. Children with highly developed abilities are likely to perceive and experience the koala differently from children whose abilities are not yet as developed. Despite media sign literacy which is tested with our own online measurement, and intelligence, the other variables are measured via questionnaires. Tests are accompanied by video conferences.

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