

Children's Perception of Conversational Agents and Their Attention When Learning from Dialogic TV

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Abstract : Children with Attention Deficit Hyperactivity Disorder (ADHD) have trouble learning in traditional classrooms. These children miss out on important developmental opportunities in school, which leads to challenges starting in early childhood, and these problems persist throughout their adult lives. Despite receiving supplemental support in school, children with ADHD still perform below their non-ADHD peers. Thus, there is a great need to find better ways of facilitating learning in children with ADHD. Evidence has shown that children with ADHD learn best through interactive engagement, but this is not always possible in schools, given classroom restraints and the large student-to-teacher ratio. Redesigning classrooms may not be feasible, so informal learning opportunities provide a possible alternative. One popular informal learning opportunity is educational TV shows like Sesame Street. These types of educational shows can teach children foundational skills taught in pre-K and early elementary school. One downside to these shows is the lack of interactive dialogue between the TV characters and the child viewers. Pseudo-interaction is often deployed, but the benefits are limited if the characters can neither understand nor contingently respond to the child. AI technology has become extremely advanced and is now popular in many electronic devices that both children and adults have access to. AI has been successfully used to create interactive dialogue in children's educational TV shows, and results show that this enhances children's learning and engagement, especially when children perceive the character as a reliable teacher. It is likely that children with ADHD, whose minds may otherwise wander, may especially benefit from this type of interactive technology, possibly to a greater extent depending on their perception of the animated dialogic agent. To investigate this issue, I have begun examining the moderating role of inattention among children's learning from an educational TV show with different types of dialogic interactions. Preliminary results have shown that when character interactions are neither immediate nor accurate, children who are more easily distracted will have greater difficulty learning from the show, but contingent interactions with a TV character seem to buffer these negative effects of distractibility by keeping the child engaged. To extend this line of work, the moderating role of the child's perception of the dialogic agent as a reliable teacher will be examined in the association between children's attention and the type of dialogic interaction in the TV show. As such, the current study will investigate this moderated moderation.

Keywords : attention, dialogic TV, informal learning, educational TV, perception of teacher

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