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Paper Title: Using Robot-Assisting Personalized Learning for Children with Autism: A Pilot Study of Robot's Actions

Authors: Chatchai Paengkumhag, Wisanu Jutharee, Warissara Limpornchitwilai, Kosin Chamnongthai and Boonserm Kaewkamnerdpong (King Mongkut's University of Technology Thonburi, Thailand)

Email: chatchai.p@mail.kmutt.ac.th

Abstract

There are a variety of symptoms of autism spectrum disorders. The appropriate interventions are selected according to the symptoms. Moreover, the key to successful intervention is to provide suitable therapy continuously. Unfortunately, the number of autism specialists is insufficient for the growing demands. Thus, for better intervention outcomes, the collaboration of parents/caregivers who help continue the intervention at home is crucial to the success of the intervention. However, it is not easy for inexperienced parents/caregivers. This study aimed to help parents/caregivers by using a robot to assist personalized learning for children with autism. We developed an artificial intelligence-based program to choose actions appropriate to the child user's learning style or preference so that the child user stays attended to the activities the robot offers. In this pilot study, we tested using a robot to assist personalized learning with six participants in the special education needs school. The result of this study revealed the possibility of using a robot to assist in personalized learning for children with autism, from the perspective of the participants' teacher. While interacting with the robot, the participants achieved a high average accuracy percentage of 83.36% and demonstrated a positive learning trend.
