

## Design of an Interactive Pretending System for Young Children with ASC

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**Background:** A subcategory of play, pretend play is generally considered a fundamental stage for child development and education. However, pretend play is one of the most affected areas of development in Autism Spectrum Conditions (ASC). Yet, traditional interventions for supporting its development are extremely rare, and the effectiveness of interventions that do exist is reported to be moderate, at best. Recent work, however, has provided promising evidence for the potential of new forms of digital technology to facilitate pretend play in children with ASC. Yet, research is relatively limited in being able to inform the design of technology to promote pretend play in children with autism in real-world contexts (e.g. classroom).

**Objectives:** Building on previous work and inspired by current practice, the long-term aim of this research is to investigate how a technology-based application can support the process of pretend play in young children with ASC.

As a first step towards reaching that aim, the studies reported here: a) investigate current practice and procedures used by teachers and practitioners to help children with pretending; and b) evaluate a set of possible concepts and technologies that might be relevant to promoting pretend play in children with autism.

**Methods:** A focus group study with 13 education professionals (10 Speech and Language Therapists and 3 teachers) has been conducted. The study followed a semi-structured group discussion driven by a predefined set of topics: a) interventions/activities used; b) choice and use of objects; c) choice of prompts and prompt-fading strategies; and d) the use of structure.

This was followed by a design workshop with 4 education professionals using an adaptation of the Inspiration Cards Workshop technique.

The empirical data has been analysed using both deductive and inductive thematic analysis.

**Results:** Preliminary results have revealed that education professionals regard pretend play as an important element for learning in children with autism. However, due to the limited amount of resources (e.g. trained staff, time) and the higher priorities for building other abilities (e.g. language, joint attention) pretend play is either not targeted or used as a context for developing other skills. Also, most participants do not follow a particular model/intervention for promoting pretend play but adopt various general *strategies/guidelines*, not specific to a particular model/intervention.

Scenarios of technology use have been identified along with a set of technology characteristics considered useful in practicing and supporting pretending with children with autism, such as: dynamicity, simplicity, personalisation, and flexibility.

**Conclusions:** Early data suggests there is a lack of support for promoting pretending in ASC in real-world contexts. Such outcomes reinforce the motivation behind this research.

Based on these results and relevant literature, next steps will involve a series of low- and high-level prototyping sessions with education professionals that will shape the implementation of an interactive system for practicing and developing pretend play in children with autism.