ASC-Inclusion: a virtual environment teaching children with ASC to understand and express emotions

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Project Description

ASC-Inclusion is a virtual environment designed to help children with autism spectrum disorder (ASC) develop their social and emotional skills. It was funded by the European Union’s Seventh Framework Programme (FP7/2007-2011) under grant agreement n° 289021. The research leading to this product has received funding from the European Community’s Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 269978.

The project is led by Dr. Omer Golan, a professor at the Hebrew University in Jerusalem. It is a collaborative effort involving experts from Cambridge, Genova, Istanbul, Gdansk, and Brussels.

Background

Children with ASC have difficulties in understanding and expressing emotions. They may struggle with nonverbal cues and may have impaired social skills. This makes it challenging for them to interact with others.

According to Bölte, S. et al. (2006), behavioral neuroscience, 120(1), 211-216, children with ASC have trouble in recognizing and expressing emotions. They are impaired at expressing and recognizing emotions, which can lead to social exclusion.

Objectives

- Analyze the children’s facial expressions, vocal intonation, and body gestures.
- Train children in emotions recognition and expression.
- Personalize settings according to children’s individual needs.
- Support professionals, parents, and carers using the project tools.

Method

Development was based on ongoing evaluation of the VE’s content during its development. It involves an iterative process involving children with ASC and their families. The project tools are designed to be used in educational environments.

Support for parents, therapists, and educational staff.

Project Rationale


A smart reward system based on ongoing evaluation of the VE’s content during its development.

Aims

- To develop a virtual environment that can help children with ASC understand and express emotions.
- To support parents, therapists, and educational staff.
- To personalize settings according to children’s individual needs.
- To develop a smart reward system based on ongoing evaluation of the VE’s content during its development.

Conclusion

The virtual environment developed by ASC-Inclusion project provides an entertaining educational environment, which successfully trains children to recognize and express emotions. The emotion analyzer demonstrates encouraging abilities to recognize emotions in children with ASC.

Preliminary Evaluation Results

In the UK, 15 children with ASC used the VE, and were tested pre and post intervention.

Using the VE had a significant effect on both close generalization tasks, as well as the distant generalization measure of socialization.

16 children with ASC used the VE in Israel so far (6 intervention 10 control).

References