POSTER SESSION II

Autism and Emotions: I-PAD with Educational Potential

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Currently autism is considered a complex neurodevelopmental disorder that manifests itself by a triad of characteristics: difficulty with verbal and nonverbal communication, difficulties in social interaction, repetitive behaviors and restricted interests (Pereira, 1998). The development of a multimedia product enabling the learning of recognition of facial emotions was sought for in the context of a Master in Information Technology, with a focus on Multimedia. Addressing in particular students with autism, and with a view of fostering their learning motivation, a game was developed that can be used on a computer, tablet or smartphone. Product development complied with a learning approach in Instructional Design (Campus et al. 1996) encompassing the following stages: Analyse, Design, Develop, Implement and Evaluate. Currently at the stage of research evaluation, the product comprises a main menu and activities with four levels of increasing complexity. These activities consist of: i) associating a facial expression with an emotion, ii) recognizing and identifying emotions in photographed facial expression, iii) building up facial expressions of given emotions from component features of the face (eyebrows, forehead and lips). All presented images are colored and accompanied by sounds. The game has an interactive nature: reinforcements are given to correct responses and incentives to go on trying in case of wrong answers. This poster is aimed at describing the planning and setting up of this new learning object.

Technological Interventions and Facial Emotional Recognition in Autism Spectrum Disorders

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Introduction: Individuals with Autism Spectrum Disorders (ASD) have deficits in recognition of facial expressions when compared with typically developing population (Begger et al., 2006; Deruelle et al., 2004; Hobson, 1986; Ozonoff et al., 1990). Computer training and multi-technology seem to be successful for teaching emotional skills to children with autism (Golan & Baron-Cohen, 2006; Silvor & Dakes, 2001, Taraka et al., 2010). We can find numerous educational technological resources that aim to teach facial recognition to people with ASD but few present empirical validations of results. The majority of these techniques are non-standardized material, with no reference to research work (Ryan & Charragán, 2010). Objective: To present computer games with scientific research validation in facial emotional recognition and emotions teaching for people with ASD. Method: The research took place between February and August of 2011, using EBSCO, Google and Google Scholar, parents of children with ASD’s forums, and autism and special education organizations websites. Computer games were characterized according to study objectives. Results: Six computer games were found and described according to source, target-population, empirical studies, and game task. Additionally a critical reflection was done. Conclusions: Several technological resources were found, but few present validated results. The variability of game tasks, type of characters and game interface is vast, maybe due to the diversity of the target population itself. Computer games are precious tools in emotions and facial recognition teaching for children with ASD. Golan (2010) believes that these children need to be intrinsically motivated to ensure that they pay attention to social-emotional stimuli that are of little interest for them. Computer offers a consistent, stable and free of social pressure environment, which is very pleasing to children with ASD (Moore, McGrath, & Thorpe, 2000). This area should be considered for future development.
14th European Conference on Facial Expression Abstract Book

New Challenges for Research