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Carrera de Ingeniería de Sistemas

INFORMATION AND COMMUNICATION TECHNOLOGIES BASED TEACHING METHODOLOGIES FOR PERUVIAN CHILDREN WITH DOWN SYNDROME

Tesis para optar el Título Profesional de Ingeniero de Sistemas

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Abstract

Learning disabilities are found in people that experience difficulties in the acquisition of basic intellectual skills, which are fundamental to succeeding at school, work or in life in general. An example of a learning disability is Down Syndrome (DS). Children with DS are usually unable to follow the traditional educational systems. As a result, these children need tailored methods and techniques that adapt to their learning styles. Therefore, new educational tools are being developed that allow Down Syndrome Children (DSC) to sharpen their intellectual capacities in a better way. In this research, we implemented and modified two literature-based mobile tools that could aid in acquiring mathematics and linguistic skills oriented towards DSC. We performed a quasi-experimentation to test the improvements in mathematics and language skills in a group of children with DS. Moreover, we found that measuring the response time of children with disabilities is a complex task; and the continuous assistance from a tutor was also found to be necessary. Despite the difficulties encountered, such as distraction from the children because of being curious to interact with a technological tool, the
results show that it is possible to increment the mathematical and language skills in a group of DSC by using an Information and Communication Technology (ICT) based tool in contrast with a classical teaching methodology without ICT tools.

Keywords

Down syndrome children; teaching methodologies; mathematics skills; communication skills.