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The silent reading supported by adaptive learning technology: Influence in the children outcomes

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ABSTRACT

In primary school, most children develop a deep comprehension skill in reading but not all children improve their learning competence in the same time and manner. Several children showed to prefer the silent reading but the traditional psychological/pedagogical approaches did not allow an improvement of their potential growth.

The purpose of the study is to examine the support of technology in the developmental process of the reading ability in childhood. We investigated the efficacy of the silent reading by technological interactive system based on 2 variables: (a) absence of constant adult supervision/intervention, and (b) child-technology interaction to promote the improvement of comprehension ability in reading.

A sample of n. 144 children in primary school with high and low reading abilities was subjected to a stimulation plan (duration 6 months) based on silent reading, smart games related to the stories reading and feedback though technology support (TERENCE program). The test–retest evaluation evidenced an increasing performance in the lower reading children. The results suggested the efficacy and the positive influence of technologies in the learning process: in the silent reading, the child may be better stimulated to learn and to comprehend the information using technology interactive. The adaptive learning technology might be considered a strong ally in educational environment to promote a greater cognitive enhancement in childhood.

1. Introduction

Telling, reading and understanding stories are activities by which we grow in our childhood. As the educators know, most children develop their deep comprehension skills in reading during the primary school. However, many children develop those skills late; the reason can be different. Moreover, not all children are able to use the reading mode (silent or aloud) effectively in the comprehension process.

The reading ability in developmental age is an interesting scientific topic; several researches were conducted to describe and explain the mechanisms that consent the increase of the cognitive processes (i.e.: comprehension, logic, memory, attention), the deficits' features and related interventions.

An interesting debate was on effect of the reading mode (e.g., aloud and silent) on comprehension ability in childhood. Studies showed the different impact of the reading aloud and reading silently on the comprehension ability but the results are equivocal. Some theories suggest that the individuals understand better the information after reading silently. Juel and Holmes (1981) describe the oral reading based on 'bottom up' process, according to the readers may stop processing after achieving phonological recordings. The researchers highlight the difficulty to verify whether the elaboration processes of reading depend on a stop of the lexical access or of the comprehension process. Furthermore, the younger readers may not have automatic decoding skills yet, so they focus their cognitive resources on phonological recording rather than on comprehension.

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