

Chapter 10

Using Mobile Technologies in Education: A New Pedagogical Approach to Promote Reading Literacy

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ABSTRACT

The acquisition of reading skills is decisive for the academic achievement of students. However, learning to read is a complex process. With this in mind, several attempts have been made to find new educational approaches to enhance students' reading motivation. Considering the enormous potential of ICT for education and training, we have developed a digital repository of teaching and learning materials and a multiplatform application that runs on mobile devices: Letrinhas. This information system was designed to promote the development of reading and to provide tools for monitoring and assessing reading skills against the curricular targets set by the Ministry of Education. Letrinhas was evaluated by specialists and users and a high level of satisfaction was observed among students and teachers as time and effort spent to consolidate reading is considerably reduced with this application. This evaluation also enabled to identify features that will be available in the future.

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INTRODUCTION

Research literature on reading shows that there is a close relationship between students' reading proficiency and their academic performance and, therefore, it is of the utmost importance that reading plans should be made to identify and intervene effectively with students at risk of developing reading difficulties (Carvalho, 2011; Lopes, 2005; Velasquez, 2007).

The acquisition of reading skills is therefore critical because it affects the ability to learn in all areas of the curriculum and it is crucial to the students' academic performance. "The command of written language increases our communication potential and is simultaneously the great facilitator of learning as well as of the development of individual interests and the cognitive capacity of the subject/reader" (Sim-Sim, 1995, p. 203).

Learning to read in the early stages of education is a complex task that is determinant for the development of fluent readers. Given its difficulty, for a significant number of students the initial process of learning to read is slow and time consuming, often triggering frustration and low self-esteem (Manso, Marques, Dias et al., 2015). This is the reason why several authors (Cruz, 2005; Shaywitz, 2008) argue that research in the field of reading should focus on three aspects: 1) early identification; 2) prevention; 3) re-education.

Research studies show that the sooner the learning problems are identified, the bigger the success rate will be and therefore reading plans should be implemented in the first two years of schooling (Foorman, Francis, Shaywitz & Fletcher, 1997).

For this reason, it is crucial to identify children at risk of developing reading difficulties and any system designed to assess reading literacy should be able to classify the students according to their performance level and apply appropriate solutions (Manso et al., 2015).

In the government guidelines for the teaching of Portuguese in basic education (Programa e Metas Curriculares de Português do Ensino Básico), which was enforced in the 2015/2016 school year, reading and writing aim at developing reading fluency (i.e. speed, accuracy and prosody), vocabulary, reading comprehension, gradual text production and comprehension.

It is clear from the curricular targets set by the government that the level of difficulty should increase gradually when it comes to reading. This is true for the reading targets set for the first four years of schooling.

"Read a text with a reasonably appropriate pronunciation and intonation and a speed per minute of at least: 1st grade: 55 words; 2nd grade: 90 words; 3rd grade: 110 words; 4th grade: 125 words" (Buescu, Morais, Rocha & Magalhães, 2015).

In this regard, there is an obvious need for resources to validate the results and create the necessary conditions to ensure improved outcomes for students with reading disabilities (Manso et al., 2015).

This is the context in which the libraries of the Artur Gonçalves cluster of schools (Torres Novas, Portugal), as the innovative learning centres they are, created the project "Learning and Teaching in School Library Centres" in order to help the students develop the skills that will turn them into knowledgeable and engaged citizens ready to deal with the 21st century challenges, and also to find answers to some specific student problems which were previously identified in class council meetings.

Considered as a project of "Innovative Ideas" by the Rede de Bibliotecas Escolares (Portuguese Network of School Libraries), the project also includes a reading-related feature called "Ginásio de Leituras" (Gym of Reading). In order to create an innovative and adequate solution, the network of school libraries invited the Polytechnic Institute of Tomar (Portugal) to develop a solution based on information

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