Chapter 5
Use of Mobile Devices in Science Education in a Brazilian Public School Located in a Region of High Social Vulnerability: A Case Study

Isabela Silva
Universidade Federal de Santa Catarina, Brazil

Loren Mattana Viegas
Universidade Federal de Santa Catarina, Brazil

Karen Schmidt Lotthammer
Universidade Federal de Santa Catarina, Brazil

Zeni Marcelino
Universidade Federal de Santa Catarina, Brazil

Karmel Silva
Universidade Federal de Santa Catarina, Brazil

Juarez B Silva
Universidade Federal de Santa Catarina, Brazil

Simone Bilessimo
Universidade Federal de Santa Catarina, Brazil

ABSTRACT

This chapter aims to present a case study about the use mobile devices as a tool to practice in science classes in subjects related to the parts of the human body and digestive system. This case study was carried out with 24 students of the fifth grade of a public school located in a region of high social vulnerability of the city

DOI: 10.4018/978-1-5225-5270-3.ch005

of Araranguá, Santa Catarina, Brazil, in partnership with the Laboratory of Remote Experimentation (RexLab). For the practice, the following applications were used: Human Body Systems 3D, Human Anatomy and Puzzle Anatomy. At the end, students were asked to respond to a questionnaire about the level of satisfaction related to the use of tablets in the classroom. Through the answers, a positive reaction related to the integration of digital technologies in the classroom was perceived, characterizing, thus, an assertive opportunity to continue the use of mobile devices in the school environment, giving an improvement in the quality of teaching of the sciences provided by the applications, considering the benefits of digital inclusion.

INTRODUCTION

The use of the New Information and Communication Technologies (NICT) is increasingly present in the routine of students of different educational levels and also of the most varied parts of the world. According to the author Coll (2013), the technological advance has brought many changes in a profound way in several areas; among these areas is the educational area, which works to bring the school environment new ways to improve learning and make teaching easier for both teachers and students – for Presby (2017), the use of ICT at classroom improve students' engagement and achievement.

There are many projects and programs currently in place to bring mobile devices into schools. According to the document "The future of mobile learning" (UNESCO, 2014), in formal education there are two popular models of mobile learning in schools, called One Computer per Student, in which each student receives his own device for free, and Bring Your Own Device (BYOD). There are also a number of university research and community projects to provide public school students with access to devices, since the infrastructure and budgets of these institutions are often precarious. In addition to the fact that most students have mobile devices, there are those who do not have them and will need to use the devices of third parties, such as students living in regions of high social vulnerability, thus promoting digital inclusion among these students.

Within this atmosphere, which is governed by new digital technologies ubiquitous in the routine of the individuals, it becomes of great necessity that institutions of education of basic education, level of education that in Brazil understands elementary, secondary and high school, seek adaptation to this reality. In this way, schools will provide their students with enhanced learning, linking the technological apparatus to the teaching of various subjects.