Is Digital Literacy Improving Science Education?

Abstract
Mass media, and especially digital media, have become an important tool of literacy and have increased their use in classrooms for educational purposes. This is of great interest in scientific literacy and Brossard and Shanahan (2006) developed an instrument to evaluate the understanding of scientific terms and basic science concepts. In this quantitative study we analyse the relationship between Spanish digital mass media and scientific literacy in pre-service primary teachers (N = 189). Results showed that these university students have a term knowledge level lower than the one found by Brossard and Shanahan in the USA. On the other hand, conceptual knowledge was not correlated at all to the term frequency in the Spanish digital newspapers considered. The conclusions suggest that participants do not use digital newspapers to improve their science education so a change in students’ use of those digital media from ludic to educational purposes is needed.

Keywords: science education, mass media, digital media, scientific literacy, media literacy, pre-service primary teachers, education and media, scientific knowledge.

Introduction
Mass media are frequently considered as important tools of literacy, not only in informal or non-formal contexts (Ingle, 1974; Aparici, 2005), but also in educational formal contexts like classrooms (López, 2003; Wellington, 1991). On the other hand, the dominance of technology in our era has promoted socio-cultural changes that directly affect education and make it necessary to deal with technological progress in schools, encouraging the ability to participate in the utilization of technology as a cultural element. (Kožuchová, 2010). ICT have improved citizens’ access to information and have fostered communication in such a way