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Gender Differences in Music Content Learning Using a Virtual Platform in Secondary Education

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Abstract

Current education outlooks concur on the need to design effective learning settings adapted to the digital environment which students live in. The rapid development of software and computer tools has generated new teaching and learning spaces (Gamage, Tretiakov, & Crump, 2011).

Leaving aside the issues derived from their implementation in the classroom (Girvan & Savage, 2010), this study looks at the use of a virtual education platform for the subject of Music in Compulsory Secondary Education (ESO). The specific focus is to analyse how the music contents contemplated in Decree 38/2015 from May 22, which establishes the curriculum in Compulsory Secondary Education (ESO) and the baccalaureate in Cantabria, can be covered in this space, as well as to examine gender differences in the attainment of these contents. To this end, we began with the current curriculum, following a mixed research design that on the one hand included a semi-structured interview with the teacher, and on the other, a questionnaire administered to 93 students of Year 1 of ESO in a public school of the Autonomous Community of Cantabria. The results obtained help justify the genesis and teaching purpose of the education platform, and at the same time present the perception and actual appropriateness of this setting for participants. The conclusions evidence that the gender differences found are the consequence of the attractive design of the activities, a circumstance that fosters greater motivation in the subject of Music in ESO.

Keywords: virtual platform; music education; secondary education; gender

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1. Introduction

The study of the use of Information and Communication Technology (hereinafter ICT) in the different education levels and branches of knowledge is a well-established line research that has generated an extensive and interesting body of scientific literature (Asian & Zhu, 2015; George & Onniyi, 2016; Uluyol & Sahin, 2016). Studies in this field coincide in pointing out that software and computer tools have enabled, among other benefits, more independent and cooperative learning than with traditional teaching (Girvan & Savage, 2010; Rabah, 2015). Technical advances in this area and their subsequent implementation in teaching has generated new teaching-learning spaces (Gamage, Tretiakov, & Crump, 2011), such as virtual platforms (Virtual Learning Environments, VLEs) (Lim & Kim, 2015). These have been seen as a change and evolution in the resources used by certain teachers who, adapting to the needs of the information society, have found in the Web the ideal medium to perfect their lessons by posting resources online, while enabling all stakeholders to share information (Silva, 2011).

In relation to teachers, Imbernón, Silva and Guzmán (2011) reflected on the teaching competences that university teachers should have in order to achieve meaningful learning using two of the basic distance education models: *e-learning* and *b-learning*. They designed and implemented case studies, intentionally selecting a group of representative universities in Spain that were carrying out electronic and virtual learning initiatives, with the participation of teachers and students. On the one hand, the results obtained showed that for the proper use of a virtual platform it was necessary to have extensive teacher training in the area of ICT, as well as continuous assessment of the practice to implement future improvements. On the other hand, the study revealed that adequate planning and implementation of virtual environments allowed students to develop "competences in the areas of reasoning, planning, reflexive learning, knowledge creation and communication" (p. 114).

As for the possible influence on the teaching methodology for music, using a case study Alberich-Artal and Sangra (2012) demonstrated how music teaching was carried out in an essentially virtual context, that is, the platform ConservatorioVirtual.com. This space includes a series of musical content courses such as training in score editing, composition techniques for film music or contemporary music, among others. The virtual environment of each course has a relatively uniform design: they all present music examples, high quality images and videos, together with simple texts and self-correction exercises. Among other results, the study highlighted the fact that, although it favoured independent learning, music education requires direct student-teacher contact that should not be replaced by a virtual context. Similarly, experts drew attention to the fact that the success of this device depends on the quality of the contents displayed, as well as on how they are structured.

Regarding the education potential of virtual platforms, Serra and Vallès (2015), based on an analysis of intergenerational creation workshops, indicated the importance of feedback from all platform users in theses spaces. Furthermore, the collaborative learning made possible by these systems makes it possible to develop a common base of knowledge that is continuously growing and, therefore, continuously updated.

Emphasis should also be placed on studies dealing with gender and technology in education (Castaño, 2008, 2010; Cohoon, 2011; Sáinz, 2011) which generally indicate that women have had the most difficulties gaining access to and using electronic resources, a circumstance which is known in the scientific literature as the gender digital divide (Brynin, 2006). Quicios, Ortega and Trillo (2015) have stated that it is necessary to provide a more familiar and equitable situation for both genders, since each one uses digital resources differently. While females resort to new technologies to increase their social and family relationships (within a more "expressive-community" setting), males act within more playful contexts, "(...) related to action (and) games (...)" (Sabater & Fernández, 2015, p. 243).

In the academic world and, specifically, in Compulsory Secondary Education, girls prefer easy-to-use electronic devices that help them improve their class work (Heemskerk, Admiraal, & Ten Dam, 2011). However, with regard to the relationship between gender and teacher attitudes towards ICT, the results indicate there are no differences between males and females when it comes to using them in the classroom, with their existing digital skills being the factor that determines the level of use (Fernández & Torres, 2015).

Based on the above, this paper focused on a Year 1 class of Compulsory Secondary Education in a public school in the Community of Cantabria, to examine how the music curriculum established in Decree 38/2015 was covered using a virtual platform and, at the same time, to discover if any gender differences existed when learning this content.