Chapter 15
Exploring Singing Vocal Pedagogy in the Greek Elementary School through Interactive Technologies

Sofia Stavropoulou
University of Athens, Greece

Anastasia Georgaki
University of Athens, Greece

ABSTRACT
A growing body of interdisciplinary research suggests that children’s structured engagement in musical activities may have a positive impact on social inclusion by means of offering opportunities for social bonding, developing interpersonal relationships and empowering self-expression, health and well-being. In this paper we investigate the amelioration of children’s voice accuracy and quality in signing through a visual feedback software. The research took place in two public elementary schools in Athens in a total of sixty children aged 6-9 years old and with a different cultural background. The statistical analysis on the effectiveness of the software has proved the amelioration of the children’s voice quality before and after its use.

INTRODUCTION
A growing body of interdisciplinary research suggests that children’s structured engagement in musical activities may have a positive impact on social inclusion by means of offering opportunities for social bonding, developing interpersonal relationships and empowering self-expression, health and well-being (Welch, Himonides, Saunders, Papoageorgi, & Sarazin, 2014). Within a school-based context, in particular, research reports evidence connected to a number of social benefits as a result of children’s participation in musical activities, including developing their creativity, enhancing their cognitive and social skills, and supporting their self-esteem and overall sense of achievement (Costa-Giomi, 2004;...
Rickard, Appleman, James, Murphy, Gill, & Bambrick, 2013; Welch et al., 2014), all of which may be important for their future engagement with the wider social culture and structure.

Within the national curriculum of the Greek Elementary School, which forms the context of the research study, music education is mainly offered during the first six years of schooling. And it is described as “the development of the ability for the aesthetic enjoyment while hearing, while performing and creating music as an artistic manifestation and creativeness of every person”1. Among the skills that are important for the fulfillment of this aim is singing ability. However, there is lack of a well-structured program for vocal acoustic pedagogy aiming towards cultivating children’s ability to listen, understand and perform music systematically. For example, until recently, the only well-organized source for the elementary school was a digital musical anthology of songs for the teacher2. This online resource contains songs categorized for every occasion and is accompanied by some historical information around the particular song and the musical score. A new online platform has now been made available for use by music teachers throughout Greece, the “Euterpe: Greek songs for schools - Digital Music Anthology” repository 3. This is a digital collection of songs (from the 19th and early 20th centuries including Greek folk songs and songs from contemporary music composers and educators) which offers teachers the opportunity to get more familiar with the pedagogy of the singing process in the classroom by selecting classified songs according to different topics and variant degrees of difficulty. Although this tool is very useful to the music teacher from the point of view of selecting a song according to specific requirements (such as by composer, education level and subject) it still offers no instruction for the purposes of vocal acoustic pedagogy.

In addition, the typical form of singing instruction is based on students’ learning to sing on their own by voice imitation and musical accompaniment rather than together with others. As a result, teachers who try to create a chorus in their school for celebration purposes encounter a number of recurrent issues that include voice pitch inaccuracy, difficulty in using the right vocal register and diction problems. Furthermore, music teachers have a limited amount of time to focus on these musical activities and are often faced with a difficulty to select the right songs for the voice of their pupils.

In view of the lack of formal vocal acoustic pedagogy within the context of the Greek elementary school, this chapter aims to present a new methodology for the purposes of singing instruction by means of investigating the vocal acoustic characteristics (such as pitch, intensity, timber) of elementary school children and helping them improve their singing performance at school with the help of a visual feedback music software tool4. Tonal accuracy and subordinate characteristics such as intensity, breathing, proper articulation and vocal expression are some of the problems that can be addressed with the help of music technology and can change children’s voice quality.

BACKGROUND OF THE RESEARCH

Singing Pedagogy

Children sing from their pre-preschool age and they either improvise or reproduce melodies in or out of tune and maternal speaking and singing are very affective to a child’s development (Nakata & Trehub, 2004). At preschool age many children prefer to sing activity songs and rhymes because their vocal range is very restricted (Welch, 2002). However, at elementary school and especially between the ages of 6-9 years old, they can sing a variety of songs according to their age and grade.