AN ICT-BASED APPROACH TO IMPROVE THE PEDAGOGY OF MUSICAL ARTS EDUCATION

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Abstract
Concerning to music education, there are two types of public education in Portugal: Music Education (ME) and Specialized Artistic Education in Music (SAEM). The pedagogy used in SAEM is unique, being an individualized and personalized teaching approach when compared to the generalist approach used in ME. This pedagogical uniqueness, and the need to adapt to the digital era, have contributed to a wider range of possibilities to explore in terms of the teaching and learning processes. This work mainly aimed to study the availability and the usage of mobile applications (apps) for SAEM, and the continuous learning through the usage of an online platform. The research was made within an universe of 10 students of trumpet in a semiprivate arts school (Águeda Conservatory of Music) during 2015/2016 (study held over 20 lessons, with each lesson lasting for 45 minutes).

The results suggest that the usage of mobile applications allows students to improve their performance, mainly in the auditory training field, and the proprioception of the student to a higher detection and correction of errors made during the instrument study. Moreover, the usage of an online platform for continuous learning had a clear positive impact on the student’s intrinsic motivation to study during their school vacations.

Keywords: Specialized Artistic Education in Music, mobile apps for music education, M-Learning, ICT for music education, pedagogy.

ICT in musical arts education
Goals: to study the usage of new ICT in the teaching/learning process for SAEM, by analyzing the students’ feedback and their efficiency in solving problems inherent to the practice of the instrument and the interpretation of training repertoires.

Apps selection methodology
From a spectrum of 500 apps analyzed by an observational process, a set of 100 apps were selected in a first step. In a second step, and based on 3 of the 8 parameters established by the ISO/IEC 25010:2011 standard (Functional suitability, Usability, and Efficiency), a subset of 10 apps were selected from the Apple’s App Store (since students used the Mini IPAD in the classes during this study) [1].

Selection of study participants
Selection of 10 trumpet students from Águeda Conservatory of Music, aged between 10 and 15 years old, from the 1st until the 5th grade.

Plan of the study activities

Questions

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<th>Questions</th>
<th>Comprehension</th>
<th>Students’ knowledge</th>
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<tr>
<td>10 lessons</td>
<td>Online lessons supported by the online platform (during the school vacations)</td>
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Questions

<table>
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<tr>
<th>Questions</th>
<th>Feedback from students about the online classes</th>
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<tbody>
<tr>
<td>10 lessons</td>
<td>Feedback from students about the usage of mobile applications</td>
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Questions

| Questions | Feedback from students and other teachers about the usage of mobile applications |

Data collection
To analyze the results of this study, we used three different types of data (figure 3) [2]. The 20 lessons were videotaped, allowing a rigorous observational analysis of the behavior of the teacher and student in the teaching/learning process. Parallel to the observational technique of the collected video data, semi-structured interviews and questionnaires were conducted. Additionally, the official assessment exams were used to evaluate the results of the study activities.

Results analysis
The results confirmed the initial hypothesis: the applications for mobile devices, and the online platform used during the school vacations, were considered useful by the students and constitute a practice to be applied.

On the other hand, students have become more active and participatory during the instrument lessons. It was noted an increase in the level of the intrinsic and extrinsic student motivation. Therefore, the lessons started to be more effective.

Upcoming work
Concerning the applications question, one consider that there is a need to create more specific applications for SAEM, which can promote the autonomous study in order to optimize the practice of the instrument out of school. So, as future work, one plan to develop the following research lines:

- Conception and development of 5 videogames;
- Conception and development of 4 applications (both for ME and management of activities related to the musical field).

References