

Learning Byzantine Music in a Sensory-Motor Based Environment

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ABSTRACT

One of the main expressions of cultural identity is music; therefore, it is a widely popular attribute. Yet, although common and widespread, it is not an attribute simple to attain. The ability to perform music requires the development and synchronization of gestural skills with musicality. The presented research describes the development of a learning environment, based on sensory-motor learning principles, aiming to propose a contemporary learning method of vocal music. The learning method used, combines music reproduction with gestural movement. The student reproduces the music notation while executing a variety of gestures. Each gesture corresponds to a specific music track. The vocal sounds and gestures performed by the student are compared with a pre-recorded sample generated by the teacher in order to extract feedback. Such feedback is provided in the form of an optical signal which signifies the deviation of the student's sounds and gestures from those of the pre-recorded teacher's performance. The learning method used for the development of the sensory-motor based environment was particularly designed and implemented for the Byzantine music gender whose complexity and variety offered new challenges in testing the existing gesture and sound recognition algorithms. The captured hymns were recorded in four Byzantine modes, which were «1st authentic», «1st plagal», «4th authentic» and «4th plagal» along with their corresponding gestures.

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