Preliminary results on the evaluation of different feedback methods for the operation of a muscle-controlled serious game

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Abstract: Muscle-controlled serious games can improve the ability of a targeted muscle control. This aspect is important for controlling muscle-controlled prostheses or for (re-)learning motor movements. Although there are more options, all muscle-controlled serious games are using visual feedback for providing information of the current muscle activity. The aim of this study is to compare the feedback methods visual, auditory and haptic feedback for motor learning with a muscle-controlled serious game. Due to the current status of the study, in this paper only the results of visual and auditory feedback will be analysed. Subjects were divided into two groups – visual or auditory feedback. A muscle-controlled serious game was played on three days in a row by three subjects in each group. For the visual group the game provided only visual and for the auditory group it provided only auditory feedback. At the end of each session one set without any feedback was played to control the learning status. Preliminary results show a slightly better performance of the auditory group. As the results aren't significant, more subjects are needed to get further information about the most promising feedback method for motor learning with muscle-controlled serious games.