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The effects of instructions on motor learning of a relaxed phonation task

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Traditionally, it is believed that providing instructions to learners about how to perform a motor task is necessary to facilitate the learning process. However, evidence from the general motor learning literature suggests that provision of task instructions to learners may degrade their learning when compared to others who are not informed about the rules/strategies of the skill. The present study examined the effects of instructions on learning the “relaxed phonation” task in a group of vocally healthy individuals. It investigated whether providing learners with specific and detailed instructions about how to produce relaxed phonation would facilitate or degrade learning of the skill.

Twenty-six vocally healthy individuals were randomly assigned into two groups: INSTRUCTION group and NO-INSTRUCTION group. Participants in the INSTRUCTION group were provided with detailed instructions about how to phonate in a relaxed manner. They were introduced the chant-talk technique which has been demonstrated to be effective in reducing vocal hyperfunction. Participants in the NO-INSTRUCTION group were not introduced any information on how to phonate with relaxed mode. All participants practiced a reading aloud task. The muscle activities over perilaryngeal region during practice were measured using surface electromyography (EMG), which were then provided to participants as biofeedback. The participants were required to minimize the EMG waveform amplitude. A delayed retention test was conducted one week after training to evaluate motor learning.

Results revealed that for the NO-INSTRUCTION group, there was a significant decrease in EMG levels (hence, more relaxed) between baseline and delayed retention tests. However, similar improvement was not observed in the INSTRUCTION group. The results suggest that provision of task instructions can influence the way an individual learns a voice motor skill.